



SURFACE MOUNT

PROJECT INFORMATION

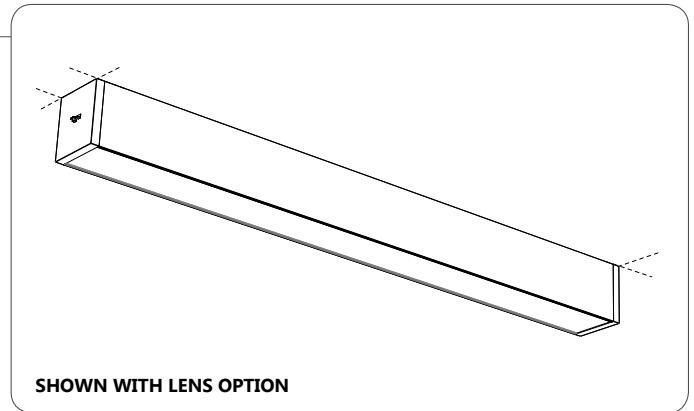
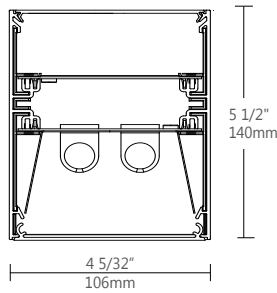
Project:

Type:

Notes:

DIMENSIONS

SECTION VIEWS



ORDERING CODE

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|

PRODUCT SPECIFICATIONS

| 1 PRODUCT ID | 2 OPTICS DIRECT | 3 LENGTH/FT | 4 SPECIFY LENGTH | 5 LAMP | 6 LAMP CONFIGURATION |
|--------------------------------------------|---------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|----------------------------------------------------------------------------------------------|
| BBS surface | S satin lens F frosted lens ⁽¹⁾ PL semi spec. para. louvers B blank | 2 2' 3 3' 4 4' 5 5' 6 6' 8 8' 12 12' S# System Run | NL nominal (3' & 4' lamps) NL4 nominal (4' lamps only) EX exact (3' & 4' lamps) EX4 exact (4' lamps only) | T5 T5 T5HO T5HO T8 T8 | 0 0 lamp 1 1 lamp 2 2 lamps +S staggered ⁽²⁾ |
| (1) not recommended with staggered lamping | | | | | (2) available with 1 lamp only |

| 7 MR | 8 FINISH | 9 VOLTAGE | 10 BALLAST | 11 CIRCUITS | 12 MOUNTING/SUSPENSION |
|-------------------------------------------------------|-----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|
| M16# MR 16 halogen M16LED# MR 16 LED | AP aluminum paint W white BLK black C custom | 120 120V 277 277V 347 347V ⁽³⁾ UNV universal | D dimming E instant start ⁽⁴⁾ ERS program start BI bi-level dimming | 1 1 regular 2 2 regular 2A/B 2 alternating +E(#) emergency section +NL(#) night light section +GTD(#) generator transfer device +M MR | S surface drywall ceiling SB surface t-bar ceiling SC surface solid ceiling |
| Add 9" per lamp Requires 120V or 277V | | (3) Please consult factory | (4) Available with T8 lamp only | | |

| 13 BATTERY (OPTIONAL) | 14 OTHER (OPTIONAL) | 15 IC CONTROLS (OPTIONAL) | 16 CUSTOM (OPTIONAL) |
|------------------------------------|------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|
| B# battery pack 4' sections | F fuse EF end feed FW(#) flex whip (6' std) | DS# daylight sensor OS# occupancy sensor DS+OS# daylight+occupancy sensor DOS# daylight&occupancy sensor See integrated controls guide for further details | C custom Please specify |



● CONSTRUCTION

| | |
|--------------------------|----------------------------------------------------------------------------|
| Housing | Extruded Aluminum (0.075" nominal) up to 70% Recycled Content |
| End Cap | Sheet Steel (18 ga) |
| Interior Brackets | Die Formed Sheet Steel (18 ga) |
| Reflectors | White Powder Coated Sheet Steel (22 ga) |
| Louvers | Die Formed Semi-Specular Aluminum (22 ga) |
| White Louver | Die Formed Aluminum Painted White (22 ga) |
| Blank | Extruded Aluminum (0.075" nominal) |
| Lenses | Extruded Acrylic (0.070" nominal) Satin: 68% trans. Frosted: 85% trans. |

● WEIGHT

| | |
|--------------|--------------------|
| 4 ft | 14.5 lbs / 6.6 kg |
| 8 ft | 29.0 lbs / 13.2 Kg |
| 12 ft | 43.5 lbs / 19.7 Kg |

● SYSTEM (S#)

BEAM 4 linear systems, with the use of a strong profile, allow for a nearly hair thin connection system of continuous runs. Lengths of 4', 8', 12' as well as custom lengths are available. Runs of BEAM 4 that are greater than 12' in length are designated as systems (S#). This means that the run is comprised of a combination 4', 8' and/or 12' sections to be assembled on site using our joining system. For more information on systems and joining, please refer to the BEAM installation sheets available for download at www.axislighting.com.

● ELECTRICAL

| | |
|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| Ballast | Electronic IS, Electronic Rapid Start, Dimming (0-10V, Line, EcoSystem, DALI), BI-level dimming With preinstalled ballast disconnect as per NEC & CEC |
| Emergency | Emergency battery pack or emergency circuit |
| Voltage | 120V, 277V, 347V, UNV |

i Incorporating these components may have limitations or effect the length of the luminaire, please contact factory for more details.

● FINISH

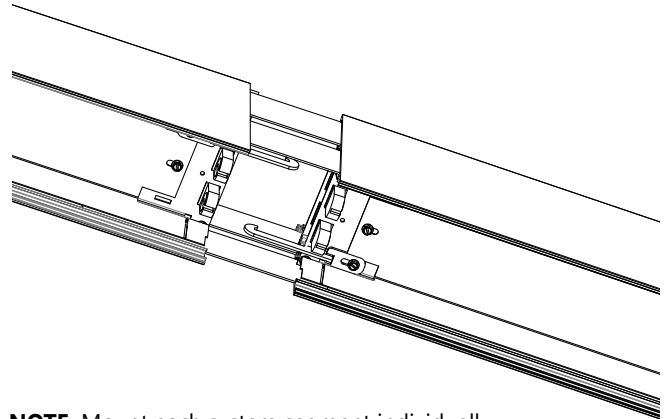
Aluminium paint, Powder Coated and custom finishes are also available.

● APPROVALS

Certified to UL and CUL standards
 Meets NYC requirements
 Suitable for damp locations.

● JOINERS

In order to allow very long runs of BEAM 4 luminaires, Axis has developed a number of different joining systems. Special care has been taken to maximize the performance of the joiner for each BEAM option.

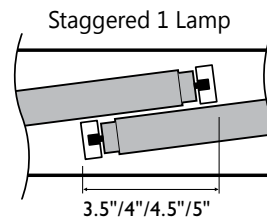


NOTE: Mount each system segment individually. Do not assemble system prior to mounting.

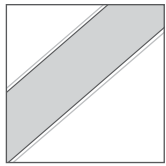
● STAGGERED LAMPING

When BEAM 4 is used in continuous runs longer than 4', staggered lamping can be used to eliminate the appearance of socket shadows at the ends of the lamps. BEAM 4 uses a staggered overlap of 4 different overlapping bracket lengths (3.5", 4", 4.5" and 5"), along with 3' and 4' lamps, allows us to match almost any row length requirements with optimal results. For example 3 x 3' T5 lamps can be used to completely illuminate the lens of an 8' luminaire.

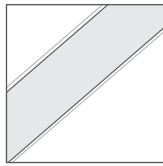
| LAMP TYPE | T5 | T5HO | T8 |
|-----------|----|------|----|
| 1 lamp | • | • | • |



OPTICS



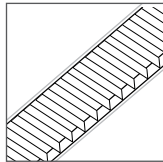
S satin lens



F frosted lens

SATIN & FROSTED LENS

(acrylic snap-in lens)
 satin: 68% trans.
 frosted: 85% trans.



PL semi-specular parabolic louvers

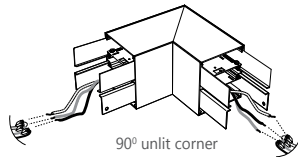
LOUVERS

(semi-spec. parabolic louver/white soli)
 9/16" deep blades – 5/8" spacing
 72 blades per 4'

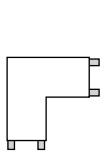
CORNERS

Unlit Corners - BEAM4

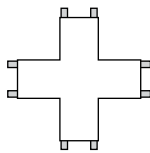
features a multitude of layout patterns with the use of a number of corners, 90° corner, T or X junctions.



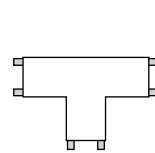
90° unlit corner



90° corner

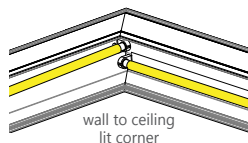


X junction



T junction

Lit Corners - In addition Axis offers Lit 90° Corners including Ceiling to Ceiling, Wall to Ceiling and Ceiling to Wall.



wall to ceiling lit corner

i For custom corner angles, please consult factory. Specifications sheets for all corners are available at: www.axislighting.com

MR16

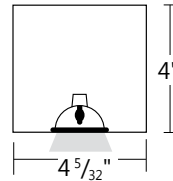
Blank MR16 Halogens
MR16 LED
Quantity

Extruded Aluminum (0.075" nominal)
 2.0" diameter (35W / 50W)
 2.0" diameter

For every 4' fluorescent lamp section, there may be up to a maximum of 4 x MR16 lamps.

Spacing

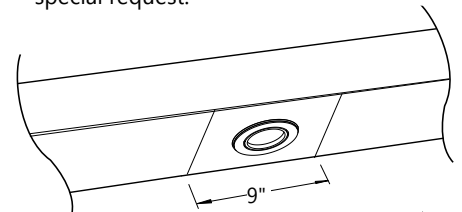
Each MR16 is placed centered on a blank section 9" in length.



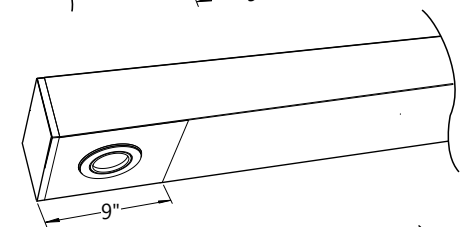
For a series of MR16's within a given section length, they will be spaced evenly on a longer blank section. The directed light of MR16 Halogen lamps are fixed downward.

Custom spacing may be available on special request.

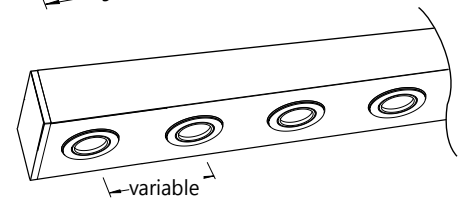
Between fluorescent lamps sections



At luminaire ends



Several in a long blank section



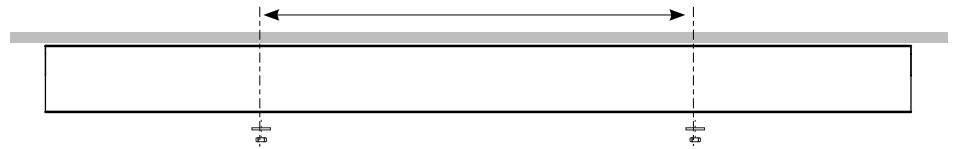
● **MOUNTING OPTIONS**

STAGGERED

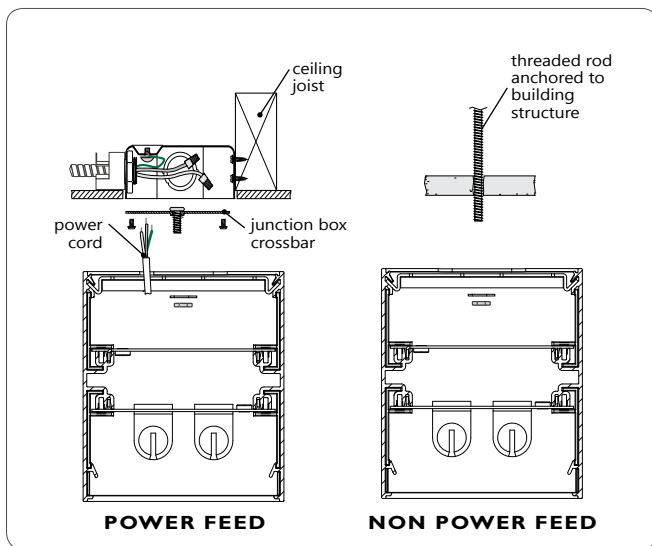
| | |
|-------------------------------------------------------------|------------------------------|
| 1 T5/T5HO LAMP | 1 T8 LAMP |
| BEAM4 8' (72 ⁵ / ₈ " C.C.) | BEAM4 8' (76" C.C.) |
| BEAM4 12' (114 ¹⁵ / ₁₆ " C.C.) | BEAM4 12' (120" C.C.) |
| 2 T5/T5HO LAMP | 2 T8 LAMP |
| BEAM4 8' (80 ⁵ / ₈ " C.C.) | BEAM4 8' (84" C.C.) |
| BEAM4 12' (126 ¹⁵ / ₁₆ " C.C.) | BEAM4 12' (132" C.C.) |

END TO END

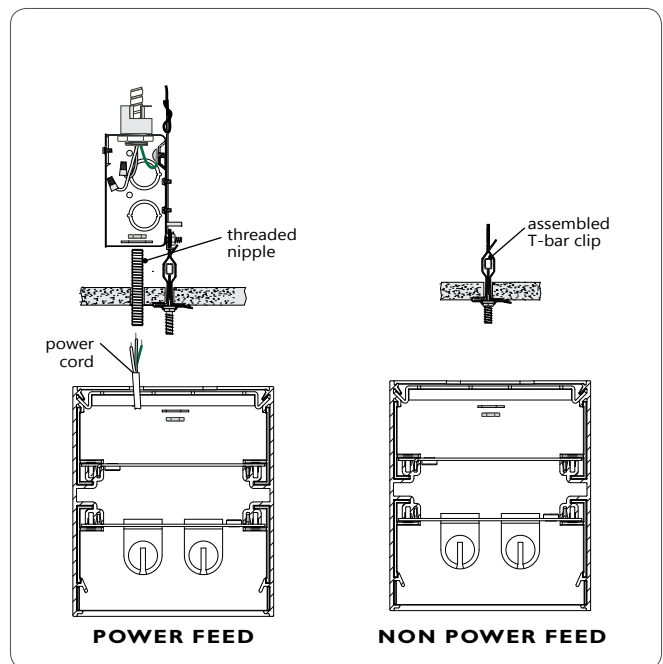
| | |
|-------------------------------------------------------------|------------------------------|
| T5/T5HO LAMP | T8 LAMP |
| BEAM4 4' (38 ⁵ / ₁₆ " C.C.) | BEAM4 4' (40" C.C.) |
| BEAM4 8' (84 ⁵ / ₈ " C.C.) | BEAM4 8' (88" C.C.) |
| BEAM4 12' (130 ¹⁵ / ₁₆ " C.C.) | BEAM4 12' (136" C.C.) |



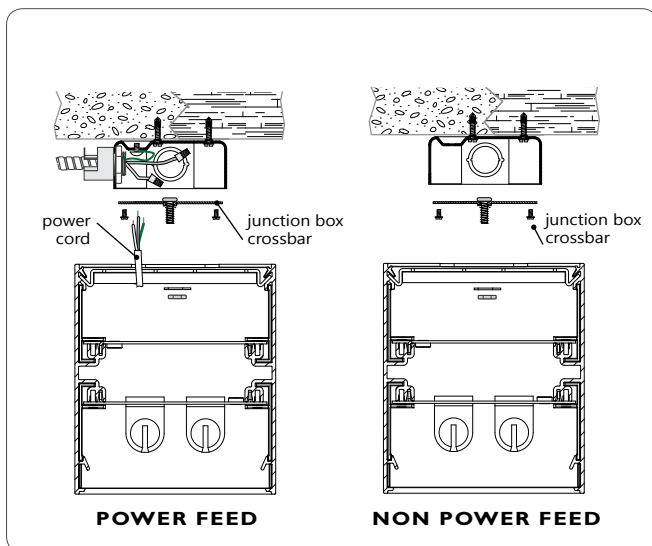
● **MOUNTING DETAILS**



S SURFACE MOUNT DRYWALL CEILING



SB SURFACE MOUNT T-BAR CEILING



SC SURFACE MOUNT SOLID CEILING

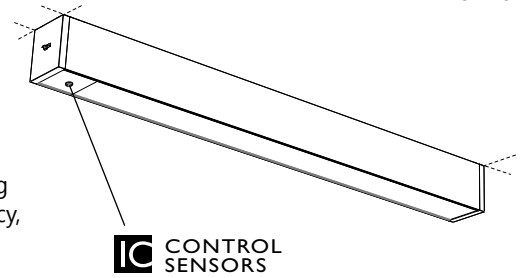
● **OTHER MOUNTING OPTIONS**

BEAM 4 is also available with recessed, pendant, wall, asymmetric recessed wall and wall wash mounted options.

i Specification sheets and Installation sheets for all mounting for BEAM luminaires are available for download at www.axislighting.com

● INTEGRATED CONTROL OPTIONS

BEAM 4 luminaires allow the use of integrated controls such as daylight sensors (DS), occupancy sensors (OS), individual daylight sensors and occupancy sensors (DS+OS), and combination daylight/occupancy sensors (DOS). These options can be seamlessly integrated into our luminaires. The control system could be used to optimize the lighting of the space by reducing energy consumption through daylight harvesting and occupancy, thereby improving the overall interior environment and allowing for LEED credits.

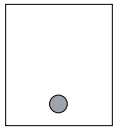


- Consult factory for other options.
- Refer to IC brochure for more information.

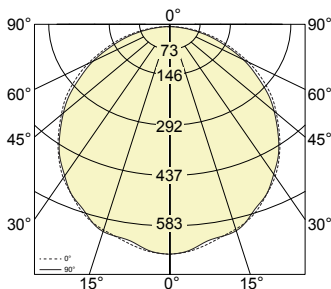
| SENSORS | BRAND | Model | TYPE | CODE | COMPATIBLE DIMMING BALLAST |
|------------------------------------|-------------|-----------|--------------------------|------|----------------------------|
| Daylight Sensor (DS) | Lutron | EC-DIR-WH | Daylight | LD | EcoSystem |
| | Wattstopper | FD-301 | Daylight | WD | 0-10V |
| | Philips | Luxsense | Daylight | PL | 0-10V |
| Occupancy Sensor (OS) | Wattstopper | FS-205 | PIR Occupancy | WP1 | Programmed Rapid Start |
| | | FS-355 | PIR Occupancy | WP2 | Programmed Rapid Start |
| | | FM-105 | High Frequency Occupancy | WH | Programmed Rapid Start |
| Daylight & Occupancy Sensors (DOS) | Philips | Actilume | Daylight & PIR Occupancy | PA | DALI or 0-10V |

● PHOTOMETRIC DATA

I T5



PHOTOMETRIC CURVE



Test Lamp: 1xT5
 IES FILE: BB-S-FL-4-T5-1-0

Efficiency: 66.7%

CANDELA DISTRIBUTION

| Vertical Angle | Horizontal Angles | | | | | Zonal Lumens |
|----------------|-------------------|------|-----|------|-----|--------------|
| | 0 | 22.5 | 45 | 67.5 | 90 | |
| 0 | 656 | 656 | 656 | 656 | 656 | |
| 5 | 650 | 653 | 646 | 648 | 648 | 35 |
| 15 | 621 | 624 | 631 | 626 | 623 | 150 |
| 25 | 589 | 591 | 590 | 584 | 581 | 250 |
| 35 | 530 | 530 | 524 | 522 | 522 | 318 |
| 45 | 449 | 451 | 447 | 444 | 443 | 345 |
| 55 | 362 | 359 | 353 | 348 | 350 | 328 |
| 65 | 258 | 251 | 249 | 242 | 243 | 267 |
| 75 | 149 | 143 | 136 | 133 | 131 | 172 |
| 85 | 47 | 42 | 36 | 33 | 31 | 67 |
| 90 | 6 | 4 | 2 | 1 | 1 | |

LUMINANCE DATA (CD/M²)

| Vertical Angle | Horizontal Angles | | |
|----------------|-------------------|------|------|
| | 0 | 45 | 90 |
| 45 | 4490 | 2528 | 2181 |
| 55 | 4290 | 2032 | 1717 |
| 65 | 3888 | 1508 | 1222 |
| 75 | 3200 | 900 | 701 |
| 85 | 1864 | 273 | 184 |

COEFFICIENTS OF UTILIZATION (%)

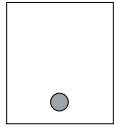
| Ceiling | 80 | | | 70 | | | 50 | | | | |
|---------|----|----|----|----|----|----|----|----|----|----|----|
| | 70 | 50 | 30 | 10 | 70 | 50 | 30 | 10 | 50 | 30 | 10 |
| Wall | 70 | 50 | 30 | 10 | 70 | 50 | 30 | 10 | 50 | 30 | 10 |
| 0 | 80 | 80 | 80 | 80 | 78 | 78 | 78 | 78 | 74 | 74 | 74 |
| 1 | 73 | 69 | 66 | 64 | 71 | 68 | 65 | 63 | 65 | 63 | 61 |
| 2 | 66 | 60 | 55 | 52 | 64 | 59 | 55 | 51 | 56 | 53 | 50 |
| 3 | 60 | 53 | 47 | 43 | 58 | 52 | 46 | 42 | 50 | 45 | 41 |
| 4 | 55 | 47 | 41 | 36 | 53 | 46 | 40 | 36 | 44 | 39 | 35 |
| 5 | 50 | 42 | 35 | 31 | 49 | 41 | 35 | 31 | 39 | 34 | 30 |
| 6 | 46 | 37 | 31 | 27 | 45 | 37 | 31 | 27 | 35 | 30 | 27 |
| 7 | 43 | 34 | 28 | 24 | 42 | 33 | 28 | 24 | 32 | 27 | 23 |
| 8 | 40 | 31 | 25 | 21 | 39 | 30 | 25 | 21 | 29 | 24 | 21 |
| 9 | 37 | 28 | 23 | 19 | 36 | 28 | 23 | 19 | 27 | 22 | 19 |
| 10 | 35 | 26 | 21 | 17 | 34 | 26 | 21 | 17 | 25 | 20 | 17 |

Based on floor reflectance of 20

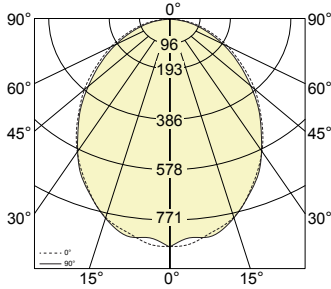
i All IES files for other lamping are available for download at: www.axislighting.com

● PHOTOMETRIC DATA

1 T5



PHOTOMETRIC CURVE



Test Lamp: 1xF28T5
 IES FILE: BB-F-FL-4-T5-1-0
Efficiency: 72.7%

CANDELA DISTRIBUTION

| Vertical Angle | Horizontal Angles | | | | | Zonal Lumens |
|----------------|-------------------|------|-----|------|-----|--------------|
| | 0 | 22.5 | 45 | 67.5 | 90 | |
| 0 | 868 | 868 | 868 | 868 | 868 | |
| 5 | 861 | 847 | 866 | 857 | 837 | 46 |
| 15 | 810 | 808 | 818 | 816 | 819 | 196 |
| 25 | 722 | 725 | 722 | 730 | 726 | 314 |
| 35 | 611 | 609 | 608 | 609 | 608 | 375 |
| 45 | 483 | 483 | 482 | 475 | 475 | 378 |
| 55 | 358 | 354 | 350 | 341 | 338 | 330 |
| 65 | 240 | 237 | 230 | 223 | 219 | 250 |
| 75 | 133 | 132 | 124 | 117 | 115 | 155 |
| 85 | 47 | 41 | 36 | 32 | 30 | 63 |
| 90 | 6 | 4 | 2 | 1 | 1 | |

LUMINANCE DATA (CD/M²)

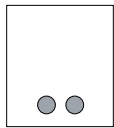
| Vertical Angle | Horizontal Angles | | |
|----------------|-------------------|------|------|
| | 0 | 45 | 90 |
| 45 | 4829 | 2721 | 2338 |
| 55 | 4231 | 2014 | 1659 |
| 65 | 3613 | 1391 | 1104 |
| 75 | 2867 | 816 | 612 |
| 85 | 1886 | 268 | 174 |

COEFFICIENTS OF UTILIZATION (%)

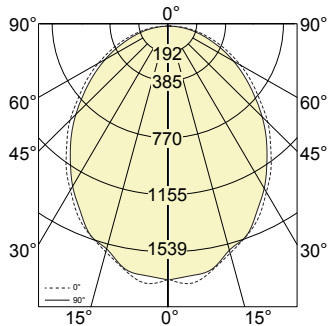
| Ceiling | 80 | | | 70 | | | 50 | | | | |
|---------|----|----|----|----|----|----|----|----|----|----|----|
| | 70 | 50 | 30 | 10 | 70 | 50 | 30 | 10 | 50 | 30 | 10 |
| Wall | 70 | 50 | 30 | 10 | 70 | 50 | 30 | 10 | 50 | 30 | 10 |
| 0 | 87 | 87 | 87 | 87 | 85 | 85 | 85 | 85 | 81 | 81 | 81 |
| 1 | 80 | 76 | 73 | 70 | 78 | 75 | 72 | 69 | 71 | 69 | 67 |
| 2 | 73 | 67 | 62 | 58 | 71 | 65 | 61 | 57 | 63 | 59 | 56 |
| 3 | 66 | 59 | 53 | 49 | 65 | 58 | 52 | 48 | 56 | 51 | 47 |
| 4 | 61 | 53 | 46 | 42 | 59 | 52 | 46 | 41 | 50 | 45 | 41 |
| 5 | 56 | 47 | 41 | 36 | 55 | 46 | 40 | 36 | 45 | 39 | 35 |
| 6 | 52 | 43 | 36 | 32 | 51 | 42 | 36 | 32 | 41 | 35 | 31 |
| 7 | 48 | 39 | 33 | 28 | 47 | 38 | 32 | 28 | 37 | 32 | 28 |
| 8 | 45 | 35 | 29 | 25 | 44 | 35 | 29 | 25 | 34 | 29 | 25 |
| 9 | 42 | 33 | 27 | 23 | 41 | 32 | 27 | 23 | 31 | 26 | 23 |
| 10 | 40 | 30 | 25 | 21 | 39 | 30 | 24 | 21 | 29 | 24 | 21 |

Based on floor reflectance of 20

2 T5



PHOTOMETRIC CURVE



Test Lamp: 2xF28T5
 IES FILE: BBD-F-FL-4-T5-2-0
Efficiency: 69.1%

CANDELA DISTRIBUTION

| Vertical Angle | Horizontal Angles | | | | | Zonal Lumens |
|----------------|-------------------|------|------|------|------|--------------|
| | 0 | 22.5 | 45 | 67.5 | 90 | |
| 0 | 1703 | 1703 | 1703 | 1703 | 1703 | |
| 5 | 1732 | 1692 | 1659 | 1681 | 1681 | 91 |
| 15 | 1575 | 1573 | 1577 | 1577 | 1554 | 379 |
| 25 | 1413 | 1404 | 1390 | 1390 | 1378 | 604 |
| 35 | 1182 | 1171 | 1159 | 1149 | 1135 | 715 |
| 45 | 935 | 917 | 907 | 897 | 882 | 714 |
| 55 | 680 | 677 | 655 | 632 | 628 | 620 |
| 65 | 454 | 450 | 434 | 412 | 406 | 471 |
| 75 | 253 | 248 | 231 | 221 | 214 | 292 |
| 85 | 89 | 80 | 68 | 58 | 59 | 120 |
| 90 | 10 | 7 | 4 | 2 | 2 | |

LUMINANCE DATA (CD/M²)

| Vertical Angle | Horizontal Angles | | |
|----------------|-------------------|------|------|
| | 0 | 45 | 90 |
| 45 | 9355 | 5124 | 4342 |
| 55 | 8042 | 3770 | 3077 |
| 65 | 6832 | 2625 | 2046 |
| 75 | 5442 | 1526 | 1144 |
| 85 | 3552 | 512 | 345 |

COEFFICIENTS OF UTILIZATION (%)

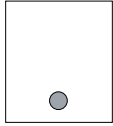
| Ceiling | 80 | | | 70 | | | 50 | | | | |
|---------|----|----|----|----|----|----|----|----|----|----|----|
| | 70 | 50 | 30 | 10 | 70 | 50 | 30 | 10 | 50 | 30 | 10 |
| Wall | 70 | 50 | 30 | 10 | 70 | 50 | 30 | 10 | 50 | 30 | 10 |
| 0 | 83 | 83 | 83 | 83 | 81 | 81 | 81 | 81 | 77 | 77 | 77 |
| 1 | 76 | 73 | 70 | 67 | 74 | 71 | 68 | 66 | 68 | 66 | 64 |
| 2 | 69 | 64 | 59 | 55 | 67 | 62 | 58 | 55 | 60 | 56 | 53 |
| 3 | 63 | 56 | 51 | 46 | 62 | 55 | 50 | 46 | 53 | 49 | 45 |
| 4 | 58 | 50 | 44 | 40 | 57 | 49 | 44 | 39 | 47 | 43 | 39 |
| 5 | 54 | 45 | 39 | 34 | 52 | 44 | 39 | 34 | 43 | 38 | 34 |
| 6 | 50 | 41 | 35 | 30 | 48 | 40 | 34 | 30 | 39 | 34 | 30 |
| 7 | 46 | 37 | 31 | 27 | 45 | 37 | 31 | 27 | 35 | 30 | 27 |
| 8 | 43 | 34 | 28 | 24 | 42 | 33 | 28 | 24 | 33 | 28 | 24 |
| 9 | 40 | 31 | 26 | 22 | 39 | 31 | 26 | 22 | 30 | 25 | 22 |
| 10 | 38 | 29 | 24 | 20 | 37 | 29 | 23 | 20 | 28 | 23 | 20 |

Based on floor reflectance of 20

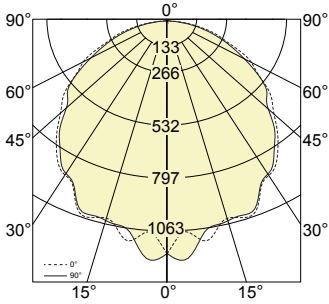
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● PHOTOMETRIC DATA

I T5HO



PHOTOMETRIC CURVE



Test Lamp: 1xF54T5HO
 IES FILE: BB-S-FL-4-T5HO-1-0

Efficiency: 66.60%

CANDELA DISTRIBUTION

| Vertical Angle | Horizontal Angles | | | | | Zonal Lumens |
|----------------|-------------------|------|------|------|------|--------------|
| | 0 | 22.5 | 45 | 67.5 | 90 | |
| 0 | 1168 | 1168 | 1168 | 1168 | 1168 | |
| 5 | 1062 | 1095 | 1057 | 1084 | 1196 | 59 |
| 15 | 1047 | 1082 | 1079 | 1073 | 1053 | 255 |
| 25 | 1053 | 1024 | 993 | 1020 | 1040 | 432 |
| 35 | 922 | 917 | 878 | 895 | 910 | 548 |
| 45 | 781 | 766 | 772 | 762 | 760 | 597 |
| 55 | 628 | 631 | 624 | 607 | 609 | 567 |
| 65 | 451 | 441 | 435 | 420 | 407 | 464 |
| 75 | 250 | 249 | 235 | 225 | 222 | 293 |
| 85 | 74 | 77 | 62 | 55 | 54 | 113 |
| 90 | 8 | 6 | 4 | 2 | 1 | |

COEFFICIENTS OF UTILIZATION (%)

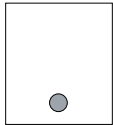
| Ceiling | 80 | | | 70 | | | 50 | | | | |
|---------|----|----|----|----|----|----|----|----|----|----|----|
| | 70 | 50 | 30 | 10 | 70 | 50 | 30 | 10 | 50 | 30 | 10 |
| Wall | 70 | 50 | 30 | 10 | 70 | 50 | 30 | 10 | 50 | 30 | 10 |
| 0 | 80 | 80 | 80 | 80 | 78 | 78 | 78 | 78 | 74 | 74 | 74 |
| 1 | 73 | 69 | 66 | 64 | 71 | 68 | 65 | 63 | 65 | 63 | 61 |
| 2 | 66 | 60 | 55 | 52 | 64 | 59 | 55 | 51 | 56 | 53 | 50 |
| 3 | 60 | 53 | 47 | 43 | 58 | 52 | 46 | 42 | 50 | 45 | 41 |
| 4 | 55 | 47 | 41 | 36 | 53 | 46 | 40 | 36 | 44 | 39 | 35 |
| 5 | 50 | 42 | 35 | 31 | 49 | 41 | 35 | 31 | 39 | 34 | 30 |
| 6 | 46 | 37 | 31 | 27 | 45 | 37 | 31 | 27 | 35 | 30 | 26 |
| 7 | 43 | 34 | 28 | 24 | 42 | 33 | 28 | 24 | 32 | 27 | 23 |
| 8 | 40 | 31 | 25 | 21 | 39 | 30 | 25 | 21 | 29 | 24 | 21 |
| 9 | 37 | 28 | 23 | 19 | 36 | 28 | 22 | 19 | 27 | 22 | 19 |
| 10 | 35 | 26 | 21 | 17 | 34 | 26 | 21 | 17 | 25 | 20 | 17 |

Based on floor reflectance of 20

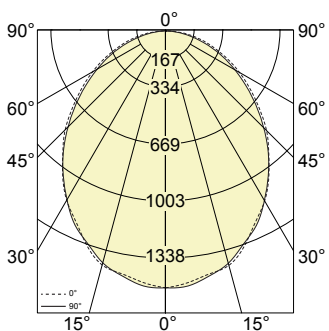
LUMINANCE DATA (CD/M²)

| Vertical Angle | Horizontal Angles | | |
|----------------|-------------------|------|------|
| | 0 | 45 | 90 |
| 45 | 7810 | 4362 | 3743 |
| 55 | 7434 | 3592 | 2986 |
| 65 | 6781 | 2635 | 2048 |
| 75 | 5381 | 1552 | 1188 |
| 85 | 2969 | 461 | 316 |

I T5HO



PHOTOMETRIC CURVE



Test Lamp: 1xF54T5HO
 IES FILE: BB-F-FL-4-T5HO-1-0

Efficiency: 72.7%

CANDELA DISTRIBUTION

| Vertical Angle | Horizontal Angles | | | | | Zonal Lumens |
|----------------|-------------------|------|------|------|------|--------------|
| | 0 | 22.5 | 45 | 67.5 | 90 | |
| 0 | 1503 | 1503 | 1503 | 1503 | 1503 | |
| 5 | 1479 | 1505 | 1460 | 1470 | 1498 | 80 |
| 15 | 1422 | 1400 | 1394 | 1414 | 1409 | 338 |
| 25 | 1238 | 1251 | 1244 | 1243 | 1255 | 539 |
| 35 | 1051 | 1047 | 1049 | 1053 | 1045 | 647 |
| 45 | 837 | 832 | 824 | 823 | 815 | 651 |
| 55 | 610 | 610 | 602 | 592 | 583 | 568 |
| 65 | 410 | 408 | 399 | 382 | 381 | 431 |
| 75 | 234 | 227 | 212 | 202 | 196 | 268 |
| 85 | 79 | 72 | 61 | 56 | 52 | 108 |
| 90 | 10 | 6 | 4 | 2 | 2 | |

COEFFICIENTS OF UTILIZATION (%)

| Ceiling | 80 | | | 70 | | | 50 | | | | |
|---------|----|----|----|----|----|----|----|----|----|----|----|
| | 70 | 50 | 30 | 10 | 70 | 50 | 30 | 10 | 50 | 30 | 10 |
| Wall | 70 | 50 | 30 | 10 | 70 | 50 | 30 | 10 | 50 | 30 | 10 |
| 0 | 87 | 87 | 87 | 87 | 85 | 85 | 85 | 85 | 81 | 81 | 81 |
| 1 | 80 | 76 | 73 | 70 | 78 | 74 | 72 | 69 | 71 | 69 | 67 |
| 2 | 73 | 67 | 62 | 58 | 71 | 65 | 61 | 57 | 63 | 59 | 56 |
| 3 | 66 | 59 | 53 | 49 | 65 | 58 | 52 | 48 | 56 | 51 | 47 |
| 4 | 61 | 52 | 46 | 42 | 59 | 52 | 46 | 41 | 50 | 45 | 41 |
| 5 | 56 | 47 | 41 | 36 | 55 | 46 | 40 | 36 | 45 | 39 | 35 |
| 6 | 52 | 43 | 36 | 32 | 51 | 42 | 36 | 32 | 41 | 35 | 31 |
| 7 | 48 | 39 | 33 | 28 | 47 | 38 | 32 | 28 | 37 | 32 | 28 |
| 8 | 45 | 35 | 29 | 25 | 44 | 35 | 29 | 25 | 34 | 29 | 25 |
| 9 | 42 | 33 | 27 | 23 | 41 | 32 | 27 | 23 | 31 | 26 | 23 |
| 10 | 40 | 30 | 25 | 21 | 39 | 30 | 24 | 21 | 29 | 24 | 21 |

Based on floor reflectance of 20

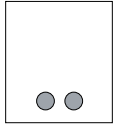
LUMINANCE DATA (CD/M²)

| Vertical Angle | Horizontal Angles | | |
|----------------|-------------------|------|------|
| | 0 | 45 | 90 |
| 45 | 8373 | 4660 | 4012 |
| 55 | 7217 | 3467 | 2861 |
| 65 | 6162 | 2416 | 1919 |
| 75 | 5032 | 1398 | 1047 |
| 85 | 3171 | 455 | 307 |

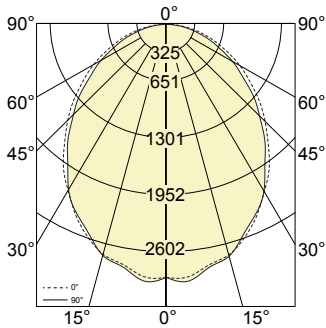
i All IES files for other lamping are available for download at: www.axislighting.com

● **PHOTOMETRIC DATA**

2 T5HO



PHOTOMETRIC CURVE



Test Lamp: 2x F54T5HO

IES FILE: BBD-F-FL-4-T5HO-2-0

Efficiency: 69.1%

CANDELA DISTRIBUTION

| Vertical Angle | Horizontal Angles | | | | | Zonal Lumens |
|----------------|-------------------|------|------|------|------|--------------|
| | 0 | 22.5 | 45 | 67.5 | 90 | |
| 0 | 2874 | 2874 | 2874 | 2874 | 2874 | |
| 5 | 2878 | 2900 | 2924 | 2880 | 2928 | 156 |
| 15 | 2716 | 2725 | 2704 | 2710 | 2732 | 652 |
| 25 | 2415 | 2395 | 2396 | 2399 | 2389 | 1037 |
| 35 | 2032 | 2021 | 1999 | 1978 | 1952 | 1234 |
| 45 | 1593 | 1596 | 1558 | 1539 | 1505 | 1232 |
| 55 | 1173 | 1164 | 1129 | 1099 | 1071 | 1071 |
| 65 | 789 | 773 | 737 | 720 | 693 | 810 |
| 75 | 446 | 429 | 401 | 381 | 367 | 506 |
| 85 | 151 | 139 | 118 | 101 | 99 | 206 |
| 90 | 19 | 12 | 6 | 4 | 3 | |

COEFFICIENTS OF UTILIZATION (%)

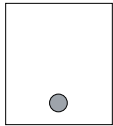
| Ceiling | 80 | | | 70 | | | 50 | | | | |
|---------|----|----|----|----|----|----|----|----|----|----|----|
| | 70 | 50 | 30 | 10 | 70 | 50 | 30 | 10 | 50 | 30 | 10 |
| Wall | 70 | 50 | 30 | 10 | 70 | 50 | 30 | 10 | 50 | 30 | 10 |
| 0 | 83 | 83 | 83 | 83 | 81 | 81 | 81 | 81 | 77 | 77 | 77 |
| 1 | 76 | 72 | 70 | 67 | 74 | 71 | 68 | 66 | 68 | 66 | 64 |
| 2 | 69 | 64 | 59 | 55 | 67 | 62 | 58 | 55 | 60 | 56 | 53 |
| 3 | 63 | 56 | 51 | 46 | 62 | 55 | 50 | 46 | 53 | 49 | 45 |
| 4 | 58 | 50 | 44 | 40 | 57 | 49 | 44 | 39 | 47 | 43 | 39 |
| 5 | 54 | 45 | 39 | 34 | 52 | 44 | 39 | 34 | 43 | 38 | 34 |
| 6 | 50 | 41 | 35 | 30 | 48 | 40 | 34 | 30 | 39 | 34 | 30 |
| 7 | 46 | 37 | 31 | 27 | 45 | 36 | 31 | 27 | 35 | 30 | 27 |
| 8 | 43 | 34 | 28 | 24 | 42 | 33 | 28 | 24 | 33 | 28 | 24 |
| 9 | 40 | 31 | 26 | 22 | 39 | 31 | 25 | 22 | 30 | 25 | 22 |
| 10 | 38 | 29 | 24 | 20 | 37 | 29 | 23 | 20 | 28 | 23 | 20 |

Based on floor reflectance of 20

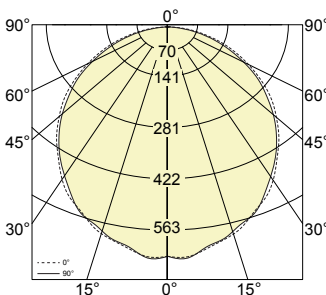
LUMINANCE DATA (CD/M²)

| Vertical Angle | Horizontal Angles | | |
|----------------|-------------------|------|------|
| | 0 | 45 | 90 |
| 45 | 15935 | 8807 | 7413 |
| 55 | 13887 | 6500 | 5253 |
| 65 | 11863 | 4462 | 3489 |
| 75 | 9598 | 2642 | 1961 |
| 85 | 6059 | 885 | 581 |

1 T8



PHOTOMETRIC CURVE



Test Lamp: 1x F32T8

IES FILE: BB-S-FL-4-T8-1-0

Efficiency: 63.5%

CANDELA DISTRIBUTION

| Vertical Angle | Horizontal Angles | | | | | Zonal Lumens |
|----------------|-------------------|------|-----|------|-----|--------------|
| | 0 | 22.5 | 45 | 67.5 | 90 | |
| 0 | 626 | 626 | 626 | 626 | 626 | |
| 5 | 630 | 626 | 620 | 615 | 633 | 34 |
| 15 | 600 | 594 | 601 | 595 | 598 | 143 |
| 25 | 557 | 556 | 560 | 557 | 561 | 238 |
| 35 | 504 | 501 | 498 | 493 | 493 | 302 |
| 45 | 429 | 424 | 427 | 421 | 420 | 328 |
| 55 | 347 | 341 | 338 | 334 | 330 | 312 |
| 65 | 244 | 242 | 236 | 232 | 230 | 255 |
| 75 | 141 | 137 | 130 | 127 | 126 | 164 |
| 85 | 44 | 40 | 35 | 32 | 31 | 64 |
| 90 | 5 | 3 | 2 | 1 | 1 | |

COEFFICIENTS OF UTILIZATION (%)

| Ceiling | 80 | | | 70 | | | 50 | | | | |
|---------|----|----|----|----|----|----|----|----|----|----|----|
| | 70 | 50 | 30 | 10 | 70 | 50 | 30 | 10 | 50 | 30 | 10 |
| Wall | 70 | 50 | 30 | 10 | 70 | 50 | 30 | 10 | 50 | 30 | 10 |
| 0 | 76 | 76 | 76 | 76 | 74 | 74 | 74 | 74 | 71 | 71 | 71 |
| 1 | 69 | 66 | 63 | 61 | 67 | 64 | 62 | 60 | 62 | 60 | 58 |
| 2 | 63 | 57 | 53 | 49 | 61 | 56 | 52 | 48 | 54 | 50 | 47 |
| 3 | 57 | 50 | 45 | 41 | 55 | 49 | 44 | 40 | 47 | 43 | 39 |
| 4 | 52 | 44 | 39 | 34 | 51 | 43 | 38 | 34 | 42 | 37 | 33 |
| 5 | 48 | 40 | 34 | 29 | 46 | 39 | 33 | 29 | 37 | 33 | 29 |
| 6 | 44 | 36 | 30 | 26 | 43 | 35 | 29 | 25 | 34 | 29 | 25 |
| 7 | 41 | 32 | 27 | 23 | 40 | 32 | 26 | 22 | 31 | 26 | 22 |
| 8 | 38 | 29 | 24 | 20 | 37 | 29 | 24 | 20 | 28 | 23 | 20 |
| 9 | 36 | 27 | 22 | 18 | 35 | 27 | 21 | 18 | 26 | 21 | 18 |
| 10 | 33 | 25 | 20 | 16 | 32 | 24 | 20 | 16 | 24 | 19 | 16 |

Based on floor reflectance of 20

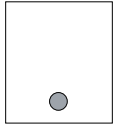
LUMINANCE DATA (CD/M²)

| Vertical Angle | Horizontal Angles | | |
|----------------|-------------------|------|------|
| | 0 | 45 | 90 |
| 45 | 4163 | 2334 | 1997 |
| 55 | 3980 | 1883 | 1564 |
| 65 | 3566 | 1384 | 1120 |
| 75 | 2951 | 832 | 648 |
| 85 | 1744 | 254 | 175 |

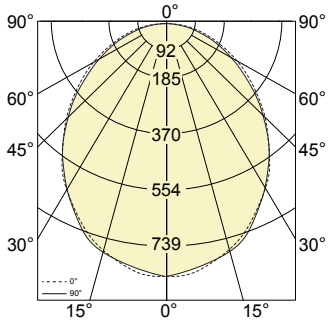
i All IES files for other lamping are available for download at: www.axislighting.com

● **PHOTOMETRIC DATA**

1 T8



PHOTOMETRIC CURVE



Test Lamp: 1xF32T8

IES FILE: BB-F-FL-4-T8-1-0

Efficiency: 69.9%

CANDELA DISTRIBUTION

| Vertical Angle | Horizontal Angles | | | | | Zonal Lumens |
|----------------|-------------------|------|-----|------|-----|--------------|
| | 0 | 22.5 | 45 | 67.5 | 90 | |
| 0 | 830 | 830 | 830 | 830 | 830 | |
| 5 | 827 | 832 | 829 | 823 | 815 | 44 |
| 15 | 774 | 775 | 774 | 775 | 779 | 186 |
| 25 | 688 | 688 | 697 | 699 | 695 | 300 |
| 35 | 589 | 586 | 581 | 588 | 582 | 360 |
| 45 | 464 | 466 | 459 | 459 | 456 | 363 |
| 55 | 343 | 343 | 335 | 328 | 325 | 317 |
| 65 | 230 | 227 | 223 | 217 | 211 | 242 |
| 75 | 131 | 127 | 119 | 114 | 111 | 151 |
| 85 | 44 | 41 | 35 | 31 | 28 | 61 |
| 90 | 6 | 4 | 2 | 1 | 1 | |

LUMINANCE DATA (CD/M²)

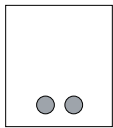
| Vertical Angle | Horizontal Angles | | |
|----------------|-------------------|------|------|
| | 0 | 45 | 90 |
| 45 | 4499 | 2510 | 2168 |
| 55 | 3938 | 1865 | 1541 |
| 65 | 3358 | 1306 | 1025 |
| 75 | 2745 | 761 | 574 |
| 85 | 1753 | 254 | 160 |

COEFFICIENTS OF UTILIZATION (%)

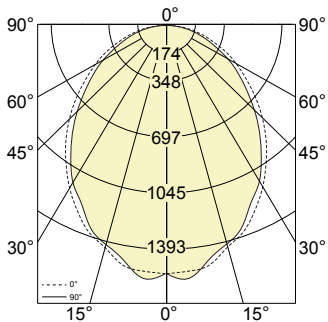
| Ceiling | 80 | | | 70 | | | 50 | | | | |
|---------|----|----|----|----|----|----|----|----|----|----|----|
| | 70 | 50 | 30 | 10 | 70 | 50 | 30 | 10 | 50 | 30 | 10 |
| Wall | 70 | 50 | 30 | 10 | 70 | 50 | 30 | 10 | 50 | 30 | 10 |
| 0 | 83 | 83 | 83 | 83 | 81 | 81 | 81 | 81 | 78 | 78 | 78 |
| 1 | 76 | 73 | 70 | 68 | 75 | 72 | 69 | 67 | 69 | 66 | 64 |
| 2 | 70 | 64 | 59 | 56 | 68 | 63 | 59 | 55 | 60 | 57 | 54 |
| 3 | 64 | 57 | 51 | 47 | 62 | 56 | 50 | 46 | 53 | 49 | 45 |
| 4 | 59 | 50 | 44 | 40 | 57 | 49 | 44 | 40 | 48 | 43 | 39 |
| 5 | 54 | 45 | 39 | 35 | 53 | 44 | 39 | 34 | 43 | 38 | 34 |
| 6 | 50 | 41 | 35 | 30 | 49 | 40 | 34 | 30 | 39 | 34 | 30 |
| 7 | 46 | 37 | 31 | 27 | 45 | 37 | 31 | 27 | 36 | 30 | 27 |
| 8 | 43 | 34 | 28 | 24 | 42 | 34 | 28 | 24 | 33 | 28 | 24 |
| 9 | 41 | 31 | 26 | 22 | 40 | 31 | 26 | 22 | 30 | 25 | 22 |
| 10 | 38 | 29 | 24 | 20 | 37 | 29 | 23 | 20 | 28 | 23 | 20 |

Based on floor reflectance of 20

2 T8



PHOTOMETRIC CURVE



Test Lamp: 2xF32T8

IES FILE: BBD-F-FL-4-T8-2-0

Efficiency: 61.8%

CANDELA DISTRIBUTION

| Vertical Angle | Horizontal Angles | | | | | Zonal Lumens |
|----------------|-------------------|------|------|------|------|--------------|
| | 0 | 22.5 | 45 | 67.5 | 90 | |
| 0 | 1532 | 1532 | 1532 | 1532 | 1532 | |
| 5 | 1523 | 1537 | 1528 | 1521 | 1567 | 82 |
| 15 | 1423 | 1440 | 1425 | 1421 | 1402 | 344 |
| 25 | 1273 | 1266 | 1247 | 1240 | 1219 | 542 |
| 35 | 1065 | 1053 | 1034 | 1024 | 1016 | 641 |
| 45 | 842 | 828 | 809 | 780 | 775 | 638 |
| 55 | 612 | 603 | 579 | 555 | 551 | 550 |
| 65 | 415 | 404 | 378 | 362 | 353 | 418 |
| 75 | 230 | 221 | 206 | 195 | 194 | 260 |
| 85 | 78 | 72 | 61 | 52 | 50 | 107 |
| 90 | 10 | 6 | 3 | 2 | 2 | |

LUMINANCE DATA (CD/M²)

| Vertical Angle | Horizontal Angles | | |
|----------------|-------------------|------|------|
| | 0 | 45 | 90 |
| 45 | 8161 | 4419 | 3686 |
| 55 | 7026 | 3222 | 2612 |
| 65 | 6071 | 2213 | 1716 |
| 75 | 4834 | 1316 | 1002 |
| 85 | 3091 | 442 | 285 |

COEFFICIENTS OF UTILIZATION (%)

| Ceiling | 80 | | | 70 | | | 50 | | | | |
|---------|----|----|----|----|----|----|----|----|----|----|----|
| | 70 | 50 | 30 | 10 | 70 | 50 | 30 | 10 | 50 | 30 | 10 |
| Wall | 70 | 50 | 30 | 10 | 70 | 50 | 30 | 10 | 50 | 30 | 10 |
| 0 | 74 | 74 | 74 | 74 | 72 | 72 | 72 | 72 | 69 | 69 | 69 |
| 1 | 68 | 65 | 62 | 60 | 66 | 63 | 61 | 59 | 61 | 59 | 57 |
| 2 | 62 | 57 | 53 | 49 | 60 | 56 | 52 | 49 | 54 | 50 | 48 |
| 3 | 57 | 50 | 45 | 42 | 55 | 49 | 45 | 41 | 47 | 44 | 40 |
| 4 | 52 | 45 | 40 | 36 | 51 | 44 | 39 | 35 | 42 | 38 | 35 |
| 5 | 48 | 40 | 35 | 31 | 47 | 40 | 35 | 31 | 38 | 34 | 30 |
| 6 | 44 | 36 | 31 | 27 | 43 | 36 | 31 | 27 | 35 | 30 | 27 |
| 7 | 41 | 33 | 28 | 24 | 40 | 33 | 28 | 24 | 32 | 27 | 24 |
| 8 | 39 | 30 | 25 | 22 | 38 | 30 | 25 | 22 | 29 | 25 | 22 |
| 9 | 36 | 28 | 23 | 20 | 35 | 28 | 23 | 20 | 27 | 23 | 20 |
| 10 | 34 | 26 | 21 | 18 | 33 | 26 | 21 | 18 | 25 | 21 | 18 |

Based on floor reflectance of 20

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