

TOMAR Electronics, Inc.

IES INDOOR REPORT

PHOTOMETRIC FILENAME : TLB96NHNPGR SERIES NARROW ANGLE HI EFFICACY 120-277VAC 250VDC.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST]17758-G

[TESTLAB]Cree Inc. - Durham Technology Center

[ISSUEDATE] 4/30/2015

[MANUFAC]Tomar Electronics - High Bay

[LUMCAT]TLB96NHNPGRD

[LUMINAIRE]8 x Metalized Reflector Arrays with 12 LEDs Each and Clear Flat Glass Lens

[LAMP]96 x Cree LED

[LAMP]Cree X-Lamp XM-L2. LUMINAIRE OUTPUT = 39623 LM

[OTHER]Tested at 120 VAC at 60Hz and 363.01 Watts

CHARACTERISTICS

| | |
|---------------------------------|--------------------|
| Lumens Per Lamp | N.A. (absolute) |
| Total Lamp Lumens | N.A. (absolute) |
| Luminaire Lumens | 39669 |
| Total Luminaire Efficiency | N.A. |
| Luminaire Efficacy Rating (LER) | 109 |
| Total Luminaire Watts | 363 |
| Ballast Factor | 1.00 |
| CIE Type | Direct |
| Spacing Criterion (0-180) | 1.16 |
| Spacing Criterion (90-270) | 1.16 |
| Spacing Criterion (Diagonal) | 1.64 |
| Basic Luminous Shape | Circular |
| Luminous Length (0-180) | 1.75 ft (Diameter) |
| Luminous Width (90-270) | 1.75 ft (Diameter) |
| Luminous Height | 0.00 ft |

LUMINANCE DATA (cd/sq.m)

| Angle In Degrees | Average 0-Deg | Average 45-Deg | Average 90-Deg |
|------------------|---------------|----------------|----------------|
| 45 | 91146 | 92174 | 90192 |
| 55 | 53465 | 52375 | 53050 |
| 65 | 32313 | 32884 | 32405 |
| 75 | 13227 | 13275 | 13123 |
| 85 | 1729 | 1636 | 1698 |

IES INDOOR REPORT**PHOTOMETRIC FILENAME : TLB96NHNPGR SERIES NARROW ANGLE HI EFFICACY 120-277VAC 250VDC.IES****CANDELA TABULATION**

| | <u>0.0</u> | <u>22.5</u> | <u>45.0</u> | <u>67.5</u> | <u>90.0</u> |
|-------------|------------|-------------|-------------|-------------|-------------|
| 0.0 | 13933.4 | 13933.4 | 13933.4 | 13933.4 | 13933.4 |
| 2.5 | 13912.0 | 13936.2 | 13949.6 | 13937.9 | 13982.2 |
| 5.0 | 13891.0 | 13918.1 | 13934.5 | 13927.0 | 13959.5 |
| 7.5 | 13809.6 | 13832.5 | 13883.2 | 13861.4 | 13889.9 |
| 10.0 | 13566.9 | 13567.0 | 13616.2 | 13653.6 | 13657.2 |
| 12.5 | 12919.9 | 12952.4 | 12993.3 | 12993.3 | 12991.1 |
| 15.0 | 12065.3 | 12121.5 | 12145.2 | 12127.5 | 12136.5 |
| 17.5 | 11144.5 | 11244.2 | 11252.4 | 11224.6 | 11185.7 |
| 20.0 | 10467.7 | 10622.7 | 10584.2 | 10525.7 | 10474.8 |
| 22.5 | 10246.8 | 10415.2 | 10357.8 | 10368.1 | 10278.5 |
| 25.0 | 10329.8 | 10529.8 | 10426.1 | 10524.7 | 10386.0 |
| 27.5 | 10506.5 | 10894.3 | 10557.2 | 10808.0 | 10501.7 |
| 30.0 | 10706.0 | 11412.5 | 10728.5 | 11227.8 | 10675.5 |
| 32.5 | 11143.1 | 12002.8 | 11160.3 | 11807.8 | 10992.7 |
| 35.0 | 11845.2 | 12683.3 | 11953.2 | 12423.8 | 11682.8 |
| 37.5 | 12896.0 | 13881.2 | 13100.0 | 13551.5 | 12770.2 |
| 40.0 | 13987.2 | 15586.0 | 14211.5 | 15166.1 | 13716.7 |
| 42.5 | 14496.5 | 16466.9 | 14731.5 | 16137.5 | 14316.9 |
| 45.0 | 14415.3 | 16382.5 | 14578.0 | 16168.6 | 14264.5 |
| 47.5 | 13578.8 | 15361.3 | 13587.2 | 15259.2 | 13355.8 |
| 50.0 | 11721.3 | 13115.2 | 11493.9 | 13020.3 | 11475.4 |
| 52.5 | 9062.8 | 9916.7 | 8821.7 | 9970.6 | 8913.1 |
| 55.0 | 6859.0 | 6946.0 | 6719.2 | 7028.5 | 6805.8 |
| 57.5 | 5670.0 | 5351.4 | 5655.4 | 5407.2 | 5663.6 |
| 60.0 | 4805.2 | 4467.9 | 4843.9 | 4497.2 | 4808.9 |
| 62.5 | 3857.0 | 3798.9 | 3958.2 | 3806.4 | 3891.1 |
| 65.0 | 3054.4 | 3178.8 | 3108.4 | 3166.1 | 3063.1 |
| 67.5 | 2361.8 | 2493.4 | 2345.4 | 2464.1 | 2314.3 |
| 70.0 | 1646.6 | 1748.3 | 1619.8 | 1718.6 | 1596.9 |
| 72.5 | 1085.2 | 1195.8 | 1090.3 | 1195.1 | 1082.1 |
| 75.0 | 765.7 | 776.9 | 768.5 | 785.2 | 759.7 |
| 77.5 | 567.9 | 533.3 | 564.0 | 541.0 | 554.9 |
| 80.0 | 381.2 | 293.5 | 368.9 | 284.8 | 366.8 |
| 82.5 | 146.4 | 121.8 | 141.0 | 119.0 | 142.0 |
| 85.0 | 33.7 | 35.2 | 31.9 | 31.5 | 33.1 |
| 87.5 | 6.9 | 7.5 | 6.3 | 8.1 | 7.2 |
| 90.0 | 1.4 | 1.5 | 1.4 | 1.4 | 1.1 |

IES INDOOR REPORT**PHOTOMETRIC FILENAME : TLB96NHNPGR SERIES NARROW ANGLE HI EFFICACY 120-277VAC 250VDC.IES****ZONAL LUMEN SUMMARY**

| Zone | Lumens | %Lamp | %Fixt |
|---------|----------|-------|--------|
| 0-20 | 4703.77 | N.A. | 11.90 |
| 0-30 | 9604.18 | N.A. | 24.20 |
| 0-40 | 17488.5 | N.A. | 44.10 |
| 0-60 | 35566.26 | N.A. | 89.70 |
| 0-80 | 39577.48 | N.A. | 99.80 |
| 0-90 | 39669.16 | N.A. | 100.00 |
| 10-90 | 38348.63 | N.A. | 96.70 |
| 20-40 | 12784.73 | N.A. | 32.20 |
| 20-50 | 24131.51 | N.A. | 60.80 |
| 40-70 | 21176.76 | N.A. | 53.40 |
| 60-80 | 4011.24 | N.A. | 10.10 |
| 70-80 | 912.24 | N.A. | 2.30 |
| 80-90 | 91.66 | N.A. | 0.20 |
| 90-110 | 0.00 | N.A. | 0.00 |
| 90-120 | 0.00 | N.A. | 0.00 |
| 90-130 | 0.00 | N.A. | 0.00 |
| 90-150 | 0.00 | N.A. | 0.00 |
| 90-180 | 0.00 | N.A. | 0.00 |
| 110-180 | 0.00 | N.A. | 0.00 |
| 0-180 | 39669.16 | N.A. | 100.00 |

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

| Zone | Lumens |
|---------|----------|
| 0-10 | 1320.52 |
| 10-20 | 3383.25 |
| 20-30 | 4900.41 |
| 30-40 | 7884.32 |
| 40-50 | 11346.78 |
| 50-60 | 6730.98 |
| 60-70 | 3099.00 |
| 70-80 | 912.24 |
| 80-90 | 91.66 |
| 90-100 | 0.00 |
| 100-110 | 0.00 |
| 110-120 | 0.00 |
| 120-130 | 0.00 |
| 130-140 | 0.00 |
| 140-150 | 0.00 |
| 150-160 | 0.00 |
| 160-170 | 0.00 |
| 170-180 | 0.00 |

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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

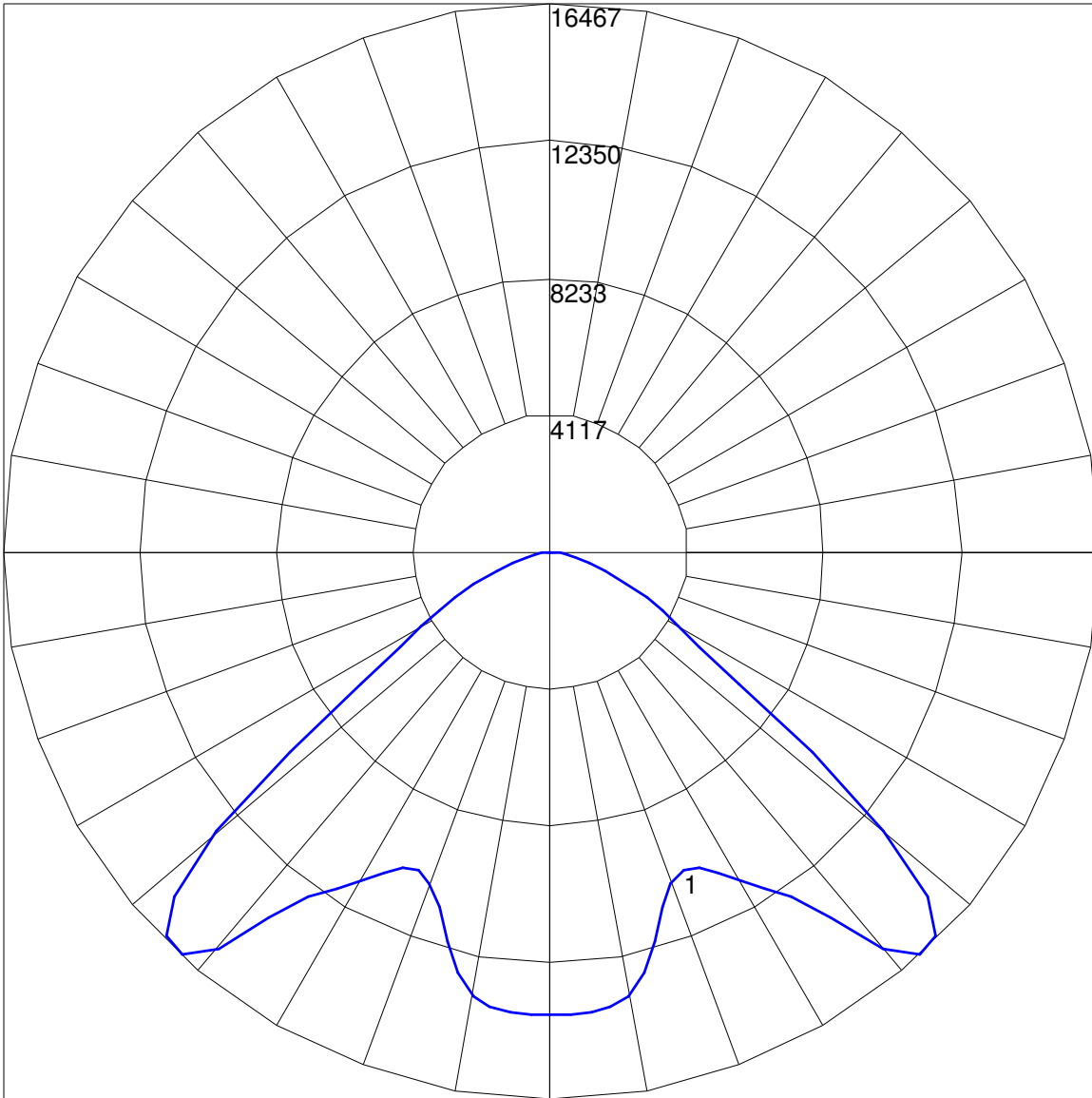
Effective Floor Cavity Reflectance 0.20

| RC | 80 | | | | 70 | | | | 50 | | | 30 | | | 10 | | | 0 |
|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| RW | 70 | 50 | 30 | 10 | 70 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 0 |
| 0 | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 |
| 1 | 110 | 106 | 103 | 99 | 108 | 104 | 101 | 98 | 100 | 97 | 95 | 96 | 94 | 92 | 92 | 91 | 89 | 87 |
| 2 | 101 | 94 | 88 | 82 | 99 | 92 | 86 | 81 | 88 | 84 | 80 | 85 | 81 | 78 | 82 | 79 | 76 | 74 |
| 3 | 92 | 83 | 75 | 69 | 90 | 81 | 74 | 68 | 78 | 72 | 67 | 76 | 70 | 66 | 73 | 69 | 65 | 63 |
| 4 | 85 | 73 | 65 | 59 | 82 | 72 | 64 | 58 | 70 | 63 | 57 | 67 | 61 | 57 | 65 | 60 | 56 | 54 |
| 5 | 78 | 65 | 57 | 50 | 76 | 64 | 56 | 50 | 62 | 55 | 49 | 60 | 54 | 49 | 58 | 53 | 48 | 46 |
| 6 | 72 | 59 | 50 | 44 | 70 | 58 | 49 | 43 | 56 | 48 | 43 | 54 | 48 | 43 | 53 | 47 | 42 | 40 |
| 7 | 66 | 53 | 44 | 38 | 64 | 52 | 44 | 38 | 50 | 43 | 38 | 49 | 42 | 37 | 48 | 42 | 37 | 35 |
| 8 | 61 | 48 | 39 | 34 | 60 | 47 | 39 | 34 | 46 | 39 | 33 | 45 | 38 | 33 | 43 | 37 | 33 | 31 |
| 9 | 57 | 44 | 35 | 30 | 56 | 43 | 35 | 30 | 42 | 35 | 30 | 41 | 34 | 30 | 40 | 34 | 29 | 28 |
| 10 | 53 | 40 | 32 | 27 | 52 | 39 | 32 | 27 | 38 | 31 | 27 | 38 | 31 | 27 | 37 | 31 | 26 | 25 |

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POLAR GRAPH



Maximum Candela = 16466.9 Located At Horizontal Angle = 22.5, Vertical Angle = 42.5
1 - Vertical Plane Through Horizontal Angles (22.5 - 202.5) (Through Max. Cd.)