



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 192_168_39_135-10_21_46-MERGED.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #12326812.04 & BALLABS 20687.0

[TESTLAB]

[ISSUEDATE] 15-MAR-2021

[MANUFAC] WILLIAMS INDOOR

[OTHER] H.E. WILLIAMS, INC. - CARTHAGE, MO.

[LUMCAT] 8CRDI-TL-L25-9DWU-L25-9DWD-DIM-UNV-OM-CSU-OW-CSD-WM

[LUMINAIRE] 8" DIA. CYLINDER

[MORE]

[LAMP] Two white LEDs, one up/ one down

[_SEARCH_SOURCETYPE] LED

[_SEARCH_APPLICATION] INDOOR, DIRECT, INDIRECT

[_SEARCH_MOUNTING] WALL

CHARACTERISTICS

| | |
|---------------------------------|--------------------|
| Lumens Per Lamp | N.A. (absolute) |
| Total Lamp Lumens | N.A. (absolute) |
| Luminaire Lumens | 4750 |
| Total Luminaire Efficiency | N.A. |
| Luminaire Efficacy Rating (LER) | 63 |
| Total Luminaire Watts | 75.4 |
| Ballast Factor | 1.00 |
| CIE Type | General Diffuse |
| Spacing Criterion (0-180) | N.A. |
| Spacing Criterion (90-270) | N.A. |
| Spacing Criterion (Diagonal) | N.A. |
| Basic Luminous Shape | Circular |
| Luminous Length (0-180) | 0.50 ft (Diameter) |
| Luminous Width (90-270) | 0.50 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 | 4200 | 4200 | 4200 |
| 55 | 1463 | 1463 | 1463 |
| 65 | 306 | 306 | 306 |
| 75 | 0 | 0 | 0 |
| 85 | 0 | 0 | 0 |

IES INDOOR REPORT
PHOTOMETRIC FILENAME : 192_168_39_135-10_21_46-MERGED.IES

CANDELA TABULATION

| | <u>0.0</u> | <u>22.5</u> | <u>45.0</u> | <u>67.5</u> | <u>90.0</u> | <u>112.5</u> | <u>135.0</u> | <u>157.5</u> | <u>180.0</u> | <u>202.5</u> |
|-----|------------|-------------|-------------|-------------|-------------|--------------|--------------|--------------|--------------|--------------|
| 0 | 1971.141 | 1971.141 | 1971.141 | 1971.141 | 1971.141 | 1971.141 | 1971.141 | 1971.141 | 1971.141 | 1971.141 |
| 5 | 1861.502 | 1861.502 | 1861.502 | 1861.502 | 1861.502 | 1861.502 | 1861.502 | 1861.502 | 1861.502 | 1861.502 |
| 10 | 2048.949 | 2048.949 | 2048.949 | 2048.949 | 2048.949 | 2048.949 | 2048.949 | 2048.949 | 2048.949 | 2048.949 |
| 15 | 2045.412 | 2045.412 | 2045.412 | 2045.412 | 2045.412 | 2045.412 | 2045.412 | 2045.412 | 2045.412 | 2045.412 |
| 20 | 2136.189 | 2136.189 | 2136.189 | 2136.189 | 2136.189 | 2136.189 | 2136.189 | 2136.189 | 2136.189 | 2136.189 |
| 25 | 2336.604 | 2336.604 | 2336.604 | 2336.604 | 2336.604 | 2336.604 | 2336.604 | 2336.604 | 2336.604 | 2336.604 |
| 30 | 2295.342 | 2295.342 | 2295.342 | 2295.342 | 2295.342 | 2295.342 | 2295.342 | 2295.342 | 2295.342 | 2295.342 |
| 35 | 712.063 | 712.063 | 712.063 | 712.063 | 712.063 | 712.063 | 712.063 | 712.063 | 712.063 | 712.063 |
| 40 | 97.850 | 97.850 | 97.850 | 97.850 | 97.850 | 97.850 | 97.850 | 97.850 | 97.850 | 97.850 |
| 45 | 54.230 | 54.230 | 54.230 | 54.230 | 54.230 | 54.230 | 54.230 | 54.230 | 54.230 | 54.230 |
| 50 | 31.831 | 31.831 | 31.831 | 31.831 | 31.831 | 31.831 | 31.831 | 31.831 | 31.831 | 31.831 |
| 55 | 15.326 | 15.326 | 15.326 | 15.326 | 15.326 | 15.326 | 15.326 | 15.326 | 15.326 | 15.326 |
| 60 | 8.252 | 8.252 | 8.252 | 8.252 | 8.252 | 8.252 | 8.252 | 8.252 | 8.252 | 8.252 |
| 65 | 2.358 | 2.358 | 2.358 | 2.358 | 2.358 | 2.358 | 2.358 | 2.358 | 2.358 | 2.358 |
| 70 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 75 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 80 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 85 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 90 | 0.113 | 0.113 | 0.113 | 0.113 | 0.113 | 0.113 | 0.113 | 0.113 | 0.113 | 0.113 |
| 95 | 0.338 | 0.338 | 0.338 | 0.338 | 0.338 | 0.338 | 0.338 | 0.338 | 0.338 | 0.338 |
| 100 | 0.678 | 0.678 | 0.678 | 0.678 | 0.678 | 0.678 | 0.678 | 0.678 | 0.678 | 0.678 |
| 105 | 1.241 | 1.241 | 1.241 | 1.241 | 1.241 | 1.241 | 1.241 | 1.241 | 1.241 | 1.241 |
| 110 | 2.483 | 2.483 | 2.483 | 2.483 | 2.483 | 2.483 | 2.483 | 2.483 | 2.483 | 2.483 |
| 115 | 4.514 | 4.514 | 4.514 | 4.514 | 4.514 | 4.514 | 4.514 | 4.514 | 4.514 | 4.514 |
| 120 | 8.238 | 8.238 | 8.238 | 8.238 | 8.238 | 8.238 | 8.238 | 8.238 | 8.238 | 8.238 |
| 125 | 15.575 | 15.575 | 15.575 | 15.575 | 15.575 | 15.575 | 15.575 | 15.575 | 15.575 | 15.575 |
| 130 | 30.246 | 30.246 | 30.246 | 30.246 | 30.246 | 30.246 | 30.246 | 30.246 | 30.246 | 30.246 |
| 135 | 52.140 | 52.140 | 52.140 | 52.140 | 52.140 | 52.140 | 52.140 | 52.140 | 52.140 | 52.140 |
| 140 | 130.689 | 130.689 | 130.689 | 130.689 | 130.689 | 130.689 | 130.689 | 130.689 | 130.689 | 130.689 |
| 145 | 446.352 | 446.352 | 446.352 | 446.352 | 446.352 | 446.352 | 446.352 | 446.352 | 446.352 | 446.352 |
| 150 | 1131.961 | 1131.961 | 1131.961 | 1131.961 | 1131.961 | 1131.961 | 1131.961 | 1131.961 | 1131.961 | 1131.961 |
| 155 | 1593.548 | 1593.548 | 1593.548 | 1593.548 | 1593.548 | 1593.548 | 1593.548 | 1593.548 | 1593.548 | 1593.548 |
| 160 | 2157.835 | 2157.835 | 2157.835 | 2157.835 | 2157.835 | 2157.835 | 2157.835 | 2157.835 | 2157.835 | 2157.835 |
| 165 | 2623.937 | 2623.937 | 2623.937 | 2623.937 | 2623.937 | 2623.937 | 2623.937 | 2623.937 | 2623.937 | 2623.937 |
| 170 | 3377.825 | 3377.825 | 3377.825 | 3377.825 | 3377.825 | 3377.825 | 3377.825 | 3377.825 | 3377.825 | 3377.825 |
| 175 | 4482.701 | 4482.701 | 4482.701 | 4482.701 | 4482.701 | 4482.701 | 4482.701 | 4482.701 | 4482.701 | 4482.701 |
| 180 | 4527.927 | 4527.927 | 4527.927 | 4527.927 | 4527.927 | 4527.927 | 4527.927 | 4527.927 | 4527.927 | 4527.927 |

Vert. Angles **Horizontal Angles**

| | <u>225.0</u> | <u>247.5</u> | <u>270.0</u> | <u>292.5</u> | <u>315.0</u> | <u>337.5</u> | <u>360.0</u> |
|----|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| 0 | 1971.141 | 1971.141 | 1971.141 | 1971.141 | 1971.141 | 1971.141 | 1971.141 |
| 5 | 1861.502 | 1861.502 | 1861.502 | 1861.502 | 1861.502 | 1861.502 | 1861.502 |
| 10 | 2048.949 | 2048.949 | 2048.949 | 2048.949 | 2048.949 | 2048.949 | 2048.949 |
| 15 | 2045.412 | 2045.412 | 2045.412 | 2045.412 | 2045.412 | 2045.412 | 2045.412 |
| 20 | 2136.189 | 2136.189 | 2136.189 | 2136.189 | 2136.189 | 2136.189 | 2136.189 |
| 25 | 2336.604 | 2336.604 | 2336.604 | 2336.604 | 2336.604 | 2336.604 | 2336.604 |
| 30 | 2295.342 | 2295.342 | 2295.342 | 2295.342 | 2295.342 | 2295.342 | 2295.342 |
| 35 | 712.063 | 712.063 | 712.063 | 712.063 | 712.063 | 712.063 | 712.063 |
| 40 | 97.850 | 97.850 | 97.850 | 97.850 | 97.850 | 97.850 | 97.850 |
| 45 | 54.230 | 54.230 | 54.230 | 54.230 | 54.230 | 54.230 | 54.230 |
| 50 | 31.831 | 31.831 | 31.831 | 31.831 | 31.831 | 31.831 | 31.831 |
| 55 | 15.326 | 15.326 | 15.326 | 15.326 | 15.326 | 15.326 | 15.326 |
| 60 | 8.252 | 8.252 | 8.252 | 8.252 | 8.252 | 8.252 | 8.252 |

IES INDOOR REPORT
PHOTOMETRIC FILENAME : 192_168_39_135-10_21_46-MERGED.IES

CANDELA TABULATION - (Cont.)

| | | | | | | | |
|------------|----------|----------|----------|----------|----------|----------|----------|
| 65 | 2.358 | 2.358 | 2.358 | 2.358 | 2.358 | 2.358 | 2.358 |
| 70 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 75 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 80 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 85 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 90 | 0.113 | 0.113 | 0.113 | 0.113 | 0.113 | 0.113 | 0.113 |
| 95 | 0.338 | 0.338 | 0.338 | 0.338 | 0.338 | 0.338 | 0.338 |
| 100 | 0.678 | 0.678 | 0.678 | 0.678 | 0.678 | 0.678 | 0.678 |
| 105 | 1.241 | 1.241 | 1.241 | 1.241 | 1.241 | 1.241 | 1.241 |
| 110 | 2.483 | 2.483 | 2.483 | 2.483 | 2.483 | 2.483 | 2.483 |
| 115 | 4.514 | 4.514 | 4.514 | 4.514 | 4.514 | 4.514 | 4.514 |
| 120 | 8.238 | 8.238 | 8.238 | 8.238 | 8.238 | 8.238 | 8.238 |
| 125 | 15.575 | 15.575 | 15.575 | 15.575 | 15.575 | 15.575 | 15.575 |
| 130 | 30.246 | 30.246 | 30.246 | 30.246 | 30.246 | 30.246 | 30.246 |
| 135 | 52.140 | 52.140 | 52.140 | 52.140 | 52.140 | 52.140 | 52.140 |
| 140 | 130.689 | 130.689 | 130.689 | 130.689 | 130.689 | 130.689 | 130.689 |
| 145 | 446.352 | 446.352 | 446.352 | 446.352 | 446.352 | 446.352 | 446.352 |
| 150 | 1131.961 | 1131.961 | 1131.961 | 1131.961 | 1131.961 | 1131.961 | 1131.961 |
| 155 | 1593.548 | 1593.548 | 1593.548 | 1593.548 | 1593.548 | 1593.548 | 1593.548 |
| 160 | 2157.835 | 2157.835 | 2157.835 | 2157.835 | 2157.835 | 2157.835 | 2157.835 |
| 165 | 2623.937 | 2623.937 | 2623.937 | 2623.937 | 2623.937 | 2623.937 | 2623.937 |
| 170 | 3377.825 | 3377.825 | 3377.825 | 3377.825 | 3377.825 | 3377.825 | 3377.825 |
| 175 | 4482.701 | 4482.701 | 4482.701 | 4482.701 | 4482.701 | 4482.701 | 4482.701 |
| 180 | 4527.927 | 4527.927 | 4527.927 | 4527.927 | 4527.927 | 4527.927 | 4527.927 |

IES INDOOR REPORT
PHOTOMETRIC FILENAME : 192_168_39_135-10_21_46-MERGED.IES

ZONAL LUMEN SUMMARY

| Zone | Lumens | %Lamp | %Fixt |
|---------|---------|-------|--------|
| 0-20 | 773.20 | N.A. | 16.30 |
| 0-30 | 1828.49 | N.A. | 38.50 |
| 0-40 | 2406.48 | N.A. | 50.70 |
| 0-60 | 2467.74 | N.A. | 52.00 |
| 0-80 | 2470.91 | N.A. | 52.00 |
| 0-90 | 2470.94 | N.A. | 52.00 |
| 10-90 | 2285.24 | N.A. | 48.10 |
| 20-40 | 1633.28 | N.A. | 34.40 |
| 20-50 | 1678.83 | N.A. | 35.30 |
| 40-70 | 64.43 | N.A. | 1.40 |
| 60-80 | 3.18 | N.A. | 0.10 |
| 70-80 | 0.00 | N.A. | 0.00 |
| 80-90 | 0.03 | N.A. | 0.00 |
| 90-110 | 1.89 | N.A. | 0.00 |
| 90-120 | 6.76 | N.A. | 0.10 |
| 90-130 | 22.23 | N.A. | 0.50 |
| 90-150 | 401.42 | N.A. | 8.50 |
| 90-180 | 2278.8 | N.A. | 48.00 |
| 110-180 | 2276.92 | N.A. | 47.90 |
| 0-180 | 4749.75 | N.A. | 100.00 |

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

| Zone | Lumens |
|---------|---------|
| 0-10 | 185.71 |
| 10-20 | 587.50 |
| 20-30 | 1055.29 |
| 30-40 | 577.99 |
| 40-50 | 45.55 |
| 50-60 | 15.70 |
| 60-70 | 3.18 |
| 70-80 | 0.00 |
| 80-90 | 0.03 |
| 90-100 | 0.40 |
| 100-110 | 1.49 |
| 110-120 | 4.87 |
| 120-130 | 15.47 |
| 130-140 | 50.50 |
| 140-150 | 328.69 |
| 150-160 | 738.37 |
| 160-170 | 750.11 |
| 170-180 | 388.92 |

IES INDOOR REPORT
PHOTOMETRIC FILENAME : 192_168_39_135-10_21_46-MERGED.IES

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 | 108 | 108 | 108 | 108 | 100 | 100 | 100 | 100 | 84 | 84 | 84 | 71 | 71 | 71 | 58 | 58 | 58 | 52 |
| 1 | 101 | 97 | 94 | 92 | 93 | 90 | 88 | 86 | 78 | 76 | 74 | 66 | 65 | 64 | 55 | 54 | 54 | 49 |
| 2 | 94 | 88 | 83 | 79 | 87 | 82 | 78 | 75 | 71 | 68 | 66 | 61 | 59 | 58 | 52 | 51 | 50 | 45 |
| 3 | 88 | 80 | 74 | 70 | 82 | 75 | 70 | 66 | 66 | 62 | 59 | 57 | 54 | 52 | 49 | 47 | 46 | 42 |
| 4 | 82 | 73 | 67 | 62 | 76 | 69 | 63 | 59 | 61 | 57 | 53 | 53 | 50 | 48 | 46 | 44 | 42 | 39 |
| 5 | 77 | 67 | 61 | 56 | 72 | 63 | 58 | 53 | 56 | 52 | 49 | 49 | 46 | 44 | 43 | 41 | 39 | 36 |
| 6 | 72 | 62 | 55 | 50 | 67 | 58 | 53 | 48 | 52 | 48 | 44 | 46 | 43 | 40 | 41 | 38 | 36 | 34 |
| 7 | 67 | 57 | 50 | 46 | 63 | 54 | 48 | 44 | 48 | 44 | 41 | 43 | 40 | 37 | 38 | 36 | 34 | 32 |
| 8 | 63 | 53 | 46 | 42 | 59 | 50 | 44 | 40 | 45 | 41 | 37 | 40 | 37 | 34 | 36 | 33 | 32 | 29 |
| 9 | 60 | 49 | 43 | 38 | 56 | 47 | 41 | 37 | 42 | 38 | 35 | 38 | 34 | 32 | 34 | 31 | 29 | 28 |
| 10 | 56 | 46 | 40 | 35 | 53 | 44 | 38 | 34 | 40 | 35 | 32 | 36 | 32 | 30 | 32 | 29 | 28 | 26 |

IES INDOOR REPORT
PHOTOMETRIC FILENAME : 192_168_39_135-10_21_46-MERGED.IES

UGR TABLE - CORRECTED

Reflectances

| | | | | | | | | | | |
|----------------|----|----|----|----|----|----|----|----|----|----|
| Ceiling Cavity | 70 | 70 | 50 | 50 | 30 | 70 | 70 | 50 | 50 | 30 |
| Walls | 50 | 30 | 50 | 30 | 30 | 50 | 30 | 50 | 30 | 30 |
| Floor Cavity | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 |

Room Size UGR Viewed Crosswise

| | | | | | | | | | | | |
|------|------|-----|-----|-----|-----|-----|--------------------|-----|-----|-----|-----|
| X=2H | Y=2H | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | UGR Viewed Endwise | | | | |
| | 3H | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 |
| | 4H | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 |
| | 6H | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 |
| | 8H | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 |
| | 12H | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 |

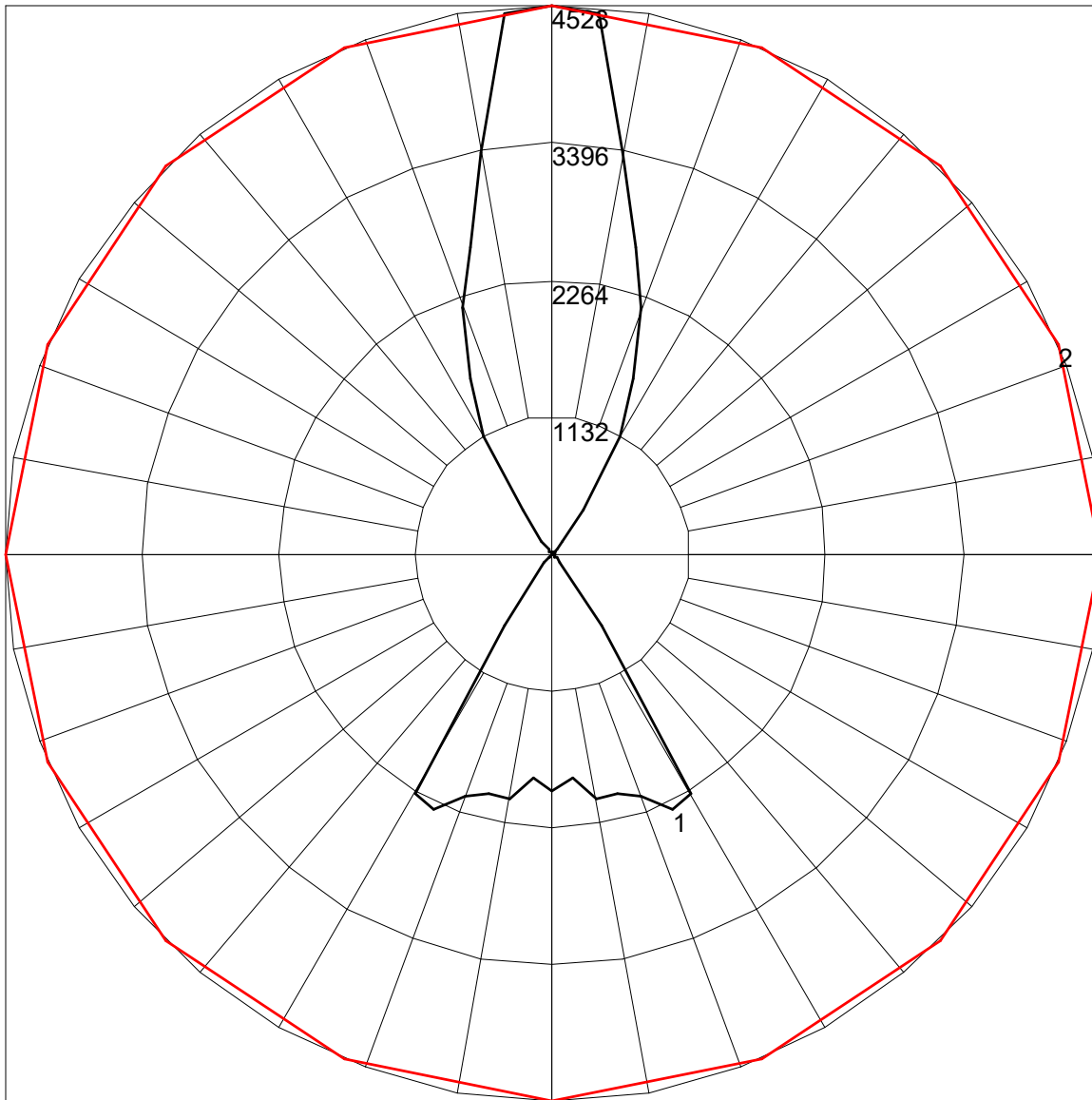
| | | | | | | | | | | | |
|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 4H | 2H | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 |
| | 3H | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 |
| | 4H | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 |
| | 6H | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 |
| | 8H | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 |
| | 12H | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 |

| | | | | | | | | | | | |
|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 8H | 4H | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 |
| | 6H | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 |
| | 8H | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 |
| | 12H | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 |

| | | | | | | | | | | | |
|-----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 12H | 4H | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 |
| | 6H | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 |
| | 8H | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 |

Maximum UGR = 5.4

POLAR GRAPH



Maximum Candela = 4527.927 Located At Horizontal Angle = 0, Vertical Angle = 180
1 - Vertical Plane Through Horizontal Angles (90 - 270)
2 - Horizontal Cone Through Vertical Angle (180) (Through Max. Cd.)