

Photometric Report - (ecs-slt4-mn-232-unv-12n-cbl1) - Page 1 of 4

Sun Apr 29 17:08:07 2012

IESNA:LM-63-1995

Photopia 2.0.0.17 PHOTOMETRIC REPORT

PROJECT: ecs-slt4-mn-232-unv-12n-cbl1

OPTIONS:

Spawning 1 rays for each reaction.
Random number generator seed: 8.
Tracing 5 reflections.
Stop tracing ray at 1.0% of initial magnitude.
Tracing 500092 initial lamp rays.
Photometric test distance of 20.00 feet.

LUMENS EXITING SYSTEM:

| Lumens(%) | Reflection |
|--------------|------------|
| 1804(31.1%) | 0 |
| 1180(20.3%) | 1 |
| 550(9.5%) | 2 |
| 392(6.8%) | 3 |
| 237(4.1%) | 4 |
| 170(2.9%) | 5 |
| 4335(74.8%) | Total |

LUMEN INTERACTION WITH SYSTEM:

| Absorbed(%) | Incident(%) | Layer Name |
|-------------|---------------|--------------|
| 201(3.5%) | 3062(52.8%) | LAMP-F032311 |
| 11(0.2%) | 171(3.0%) | LAMP-F032312 |
| 153(2.7%) | 2704(46.6%) | Refl-Poly1 |
| 466(8.0%) | 4322(74.5%) | Refl-Poly2 |
| 832(14.3%) | 10261(176.9%) | Total |

| Absorbed(%) | Incident(%) | Material Name |
|-------------|---------------|---------------|
| 212(3.7%) | 3234(55.8%) | PHOSGLAS |
| 153(2.7%) | 2704(46.6%) | ALMIRO04 |
| 466(8.0%) | 4322(74.5%) | PAINT006 |
| 832(14.3%) | 10261(176.9%) | Total |

UNACCOUNTED LUMENS:

reached interreflection limit: 631.88 (10.9%)
fell below continuation minimum: 0.00 (0.0%)
could not find in/out refractor facet: 0.00 (0.0%)
reached try limit for scatter bounce: 0.00 (0.0%)
lost elsewhere(i.e. outside distrib): 0.00 (0.0%)

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Number of Lamps: 2 Lumens per Lamp: 2900
 Ballast Factor: 1.00 Ballast-Lamp Photometric Factor: 1.00
 Luminaire Width: 0.4792 Length: 4.0000 Height: 0.2426
 Photometry Type: C Units: feet

Candela Distribution:

| | 0.00 | 22.50 | 45.00 | 67.50 | 90.00 |
|--------|-------|-------|-------|-------|-------|
| 0.00 | 1010 | 1010 | 1010 | 1010 | 1010 |
| 5.00 | 974 | 956 | 898 | 980 | 901 |
| 10.00 | 874 | 912 | 916 | 1028 | 1024 |
| 15.00 | 863 | 902 | 942 | 1034 | 1081 |
| 20.00 | 774 | 855 | 973 | 1092 | 1132 |
| 25.00 | 740 | 826 | 972 | 1090 | 1155 |
| 30.00 | 666 | 770 | 915 | 1104 | 1195 |
| 35.00 | 619 | 694 | 891 | 1080 | 1188 |
| 40.00 | 529 | 647 | 831 | 1060 | 1207 |
| 45.00 | 467 | 549 | 764 | 998 | 1114 |
| 50.00 | 375 | 461 | 639 | 910 | 1069 |
| 55.00 | 278 | 365 | 567 | 861 | 1028 |
| 60.00 | 229 | 290 | 477 | 819 | 994 |
| 65.00 | 185 | 237 | 415 | 755 | 932 |
| 70.00 | 147 | 199 | 375 | 656 | 805 |
| 75.00 | 100 | 148 | 339 | 629 | 755 |
| 80.00 | 63.9 | 122 | 300 | 564 | 653 |
| 85.00 | 42.6 | 97.2 | 251 | 434 | 487 |
| 90.00 | 15.1 | 75.1 | 207 | 355 | 372 |
| 95.00 | 12.1 | 66.9 | 213 | 380 | 431 |
| 100.00 | 13.0 | 63.7 | 198 | 387 | 451 |
| 105.00 | 11.5 | 56.6 | 173 | 323 | 370 |
| 110.00 | 8.22 | 51.7 | 137 | 256 | 290 |
| 115.00 | 10.2 | 45.6 | 112 | 201 | 229 |
| 120.00 | 7.73 | 44.2 | 89.9 | 142 | 158 |
| 125.00 | 7.49 | 31.4 | 71.7 | 94.2 | 87.9 |
| 130.00 | 5.05 | 29.3 | 58.8 | 55.2 | 22.6 |
| 135.00 | 4.56 | 23.6 | 47.2 | 36.5 | 14.4 |
| 140.00 | 3.04 | 18.1 | 34.2 | 29.2 | 6.71 |
| 145.00 | 3.16 | 15.3 | 22.0 | 18.5 | 5.82 |
| 150.00 | 1.97 | 13.0 | 16.4 | 12.9 | 5.10 |
| 155.00 | 0.290 | 7.22 | 10.1 | 9.89 | 2.84 |
| 160.00 | 1.21 | 5.13 | 6.46 | 4.83 | 1.51 |
| 165.00 | 0.000 | 3.25 | 1.62 | 4.18 | 2.02 |
| 170.00 | 0.000 | 1.07 | 1.88 | 1.15 | 0.000 |
| 175.00 | 0.000 | 0.000 | 0.660 | 0.000 | 0.000 |
| 180.00 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

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| Zonal Lumens | | |
|--------------|-------------|--------|
| Cone | Between | Lumens |
| 0.0 | 0.0- 2.5 | 6.04 |
| 5.0 | 2.5- 7.5 | 45.06 |
| 10.0 | 7.5- 12.5 | 90.54 |
| 15.0 | 12.5- 17.5 | 136.55 |
| 20.0 | 17.5- 22.5 | 181.47 |
| 25.0 | 22.5- 27.5 | 222.14 |
| 30.0 | 27.5- 32.5 | 254.84 |
| 35.0 | 32.5- 37.5 | 280.52 |
| 40.0 | 37.5- 42.5 | 299.97 |
| 45.0 | 42.5- 47.5 | 300.53 |
| 50.0 | 47.5- 52.5 | 286.83 |
| 55.0 | 52.5- 57.5 | 274.47 |
| 60.0 | 57.5- 62.5 | 260.79 |
| 65.0 | 62.5- 67.5 | 244.06 |
| 70.0 | 67.5- 72.5 | 219.70 |
| 75.0 | 72.5- 77.5 | 204.18 |
| 80.0 | 77.5- 82.5 | 181.45 |
| 85.0 | 82.5- 87.5 | 143.01 |
| 90.0 | 87.5- 92.5 | 113.87 |
| 95.0 | 92.5- 97.5 | 120.40 |
| 100.0 | 97.5-102.5 | 118.78 |
| 105.0 | 102.5-107.5 | 98.38 |
| 110.0 | 107.5-112.5 | 76.45 |
| 115.0 | 112.5-117.5 | 59.44 |
| 120.0 | 117.5-122.5 | 42.67 |
| 125.0 | 122.5-127.5 | 27.51 |
| 130.0 | 127.5-132.5 | 16.49 |
| 135.0 | 132.5-137.5 | 11.32 |
| 140.0 | 137.5-142.5 | 7.61 |
| 145.0 | 142.5-147.5 | 4.74 |
| 150.0 | 147.5-152.5 | 3.14 |
| 155.0 | 152.5-157.5 | 1.67 |
| 160.0 | 157.5-162.5 | 0.83 |
| 165.0 | 162.5-167.5 | 0.36 |
| 170.0 | 167.5-172.5 | 0.10 |
| 175.0 | 172.5-177.5 | 0.01 |
| 180.0 | 177.5-180.0 | 0.00 |

Zonal Lumen Summary

| Zone | Lumens | %Lamp | %Fixt |
|--------|--------|-------|-------|
| 0- 30 | 804 | 13.9 | 18.6 |
| 0- 40 | 1363 | 23.5 | 31.4 |
| 0- 60 | 2508 | 43.2 | 57.8 |
| 0- 90 | 3689 | 63.6 | 85.1 |
| 90-120 | 552 | 9.5 | 12.7 |
| 90-130 | 609 | 10.5 | 14.0 |
| 90-150 | 642 | 11.1 | 14.8 |
| 90-180 | 647 | 11.2 | 14.9 |
| 0-180 | 4336 | 74.8 | 100.0 |

Total Luminaire Optical Efficiency = 74.8%

Luminaire Spacing Criterion:

| | |
|-------|--------|
| 0 deg | 90 deg |
| 1.01 | 1.74 |

Average Luminaire Luminance (cd/m²):

| | | | |
|----|---------|---------|---------|
| | 0 | 45 | 90 |
| 0 | 5670.20 | 5670.20 | 5670.20 |
| 45 | 3495.41 | 4330.97 | 5872.91 |
| 50 | 3058.99 | 3777.76 | 5826.91 |
| 55 | 2502.00 | 3530.17 | 5841.66 |
| 60 | 2325.98 | 3161.45 | 5946.08 |
| 65 | 2176.26 | 2967.31 | 5939.19 |
| 70 | 2072.79 | 2926.87 | 5528.33 |
| 75 | 1774.32 | 2942.62 | 5669.13 |
| 80 | 1537.23 | 2964.66 | 5458.16 |
| 85 | 1620.42 | 2900.25 | 4623.20 |

Coefficients of Utilization - Zonal Cavity Method:

pfc = 0.20

| | | | | | | | | | | | | | | | | | | |
|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| pcc | .8 | | | .7 | | | .5 | | | .3 | | | .1 | | | 0 | | |
| pw | .7 | .5 | .3 | .1 | .7 | .5 | .3 | .1 | .5 | .3 | .1 | .5 | .3 | .1 | .5 | .3 | .1 | 0 |
| RCR | | | | | | | | | | | | | | | | | | |
| 0 | 86 | 86 | 86 | 86 | 83 | 83 | 83 | 83 | 77 | 77 | 77 | 71 | 71 | 71 | 66 | 66 | 66 | 63 |
| 1 | 76 | 72 | 68 | 65 | 73 | 69 | 66 | 63 | 64 | 61 | 59 | 59 | 57 | 55 | 55 | 53 | 51 | 49 |
| 2 | 69 | 62 | 56 | 51 | 66 | 59 | 54 | 50 | 55 | 51 | 47 | 51 | 47 | 44 | 47 | 44 | 41 | 39 |
| 3 | 62 | 54 | 47 | 42 | 59 | 52 | 45 | 41 | 48 | 43 | 38 | 44 | 40 | 36 | 41 | 37 | 34 | 32 |
| 4 | 57 | 47 | 40 | 35 | 54 | 45 | 39 | 34 | 42 | 37 | 32 | 39 | 34 | 31 | 36 | 32 | 29 | 27 |
| 5 | 52 | 42 | 35 | 29 | 49 | 40 | 34 | 29 | 37 | 32 | 27 | 35 | 30 | 26 | 32 | 28 | 25 | 23 |
| 6 | 48 | 37 | 30 | 25 | 46 | 36 | 30 | 25 | 34 | 28 | 24 | 31 | 26 | 23 | 29 | 25 | 22 | 20 |
| 7 | 44 | 34 | 27 | 22 | 42 | 33 | 26 | 22 | 30 | 25 | 21 | 28 | 23 | 20 | 26 | 22 | 19 | 17 |
| 8 | 41 | 31 | 24 | 20 | 39 | 30 | 23 | 19 | 28 | 22 | 18 | 26 | 21 | 18 | 24 | 20 | 17 | 15 |
| 9 | 38 | 28 | 22 | 17 | 36 | 27 | 21 | 17 | 25 | 20 | 16 | 24 | 19 | 16 | 22 | 18 | 15 | 14 |
| 10 | 36 | 26 | 20 | 16 | 34 | 25 | 19 | 15 | 23 | 18 | 15 | 22 | 17 | 14 | 21 | 16 | 14 | 12 |