



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : 192\_168\_37\_234-10\_37\_2-MERGED.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #12326812.04 & #12326812.07

[TESTLAB]

[ISSUEDATE] 3-MAR-2021

[MANUFAC] WILLIAMS INDOOR

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

[LUMCAT] 8CRDI-TL-P29-835U-P29-835D-xxx-PoE PR-OM-CSU-LW-WHD-WM

[LUMINAIRE] White formed aluminum housing, specular reflector, cover glass

[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	5057
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	101
Total Luminaire Watts	50
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	34218	34218	34218
55	28488	28488	28488
65	21643	21643	21643
75	15695	15695	15695
85	10228	10228	10228

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**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>
<b>0.0</b>	1560.537	1560.537	1560.537	1560.537	1560.537	1560.537	1560.537	1560.537	1560.537	1560.537
<b>2.5</b>	1551.582	1551.582	1551.582	1551.582	1551.582	1551.582	1551.582	1551.582	1551.582	1551.582
<b>5.0</b>	1535.871	1535.871	1535.871	1535.871	1535.871	1535.871	1535.871	1535.871	1535.871	1535.871
<b>7.5</b>	1525.345	1525.345	1525.345	1525.345	1525.345	1525.345	1525.345	1525.345	1525.345	1525.345
<b>10.0</b>	1516.390	1516.390	1516.390	1516.390	1516.390	1516.390	1516.390	1516.390	1516.390	1516.390
<b>12.5</b>	1511.206	1511.206	1511.206	1511.206	1511.206	1511.206	1511.206	1511.206	1511.206	1511.206
<b>15.0</b>	1499.265	1499.265	1499.265	1499.265	1499.265	1499.265	1499.265	1499.265	1499.265	1499.265
<b>17.5</b>	1478.999	1478.999	1478.999	1478.999	1478.999	1478.999	1478.999	1478.999	1478.999	1478.999
<b>20.0</b>	1449.620	1449.620	1449.620	1449.620	1449.620	1449.620	1449.620	1449.620	1449.620	1449.620
<b>22.5</b>	1391.491	1391.491	1391.491	1391.491	1391.491	1391.491	1391.491	1391.491	1391.491	1391.491
<b>25.0</b>	1292.828	1292.828	1292.828	1292.828	1292.828	1292.828	1292.828	1292.828	1292.828	1292.828
<b>27.5</b>	1158.816	1158.816	1158.816	1158.816	1158.816	1158.816	1158.816	1158.816	1158.816	1158.816
<b>30.0</b>	989.770	989.770	989.770	989.770	989.770	989.770	989.770	989.770	989.770	989.770
<b>32.5</b>	804.856	804.856	804.856	804.856	804.856	804.856	804.856	804.856	804.856	804.856
<b>35.0</b>	660.475	660.475	660.475	660.475	660.475	660.475	660.475	660.475	660.475	660.475
<b>37.5</b>	572.810	572.810	572.810	572.810	572.810	572.810	572.810	572.810	572.810	572.810
<b>40.0</b>	517.979	517.979	517.979	517.979	517.979	517.979	517.979	517.979	517.979	517.979
<b>42.5</b>	477.446	477.446	477.446	477.446	477.446	477.446	477.446	477.446	477.446	477.446
<b>45.0</b>	441.783	441.783	441.783	441.783	441.783	441.783	441.783	441.783	441.783	441.783
<b>47.5</b>	407.220	407.220	407.220	407.220	407.220	407.220	407.220	407.220	407.220	407.220
<b>50.0</b>	371.556	371.556	371.556	371.556	371.556	371.556	371.556	371.556	371.556	371.556
<b>52.5</b>	334.951	334.951	334.951	334.951	334.951	334.951	334.951	334.951	334.951	334.951
<b>55.0</b>	298.345	298.345	298.345	298.345	298.345	298.345	298.345	298.345	298.345	298.345
<b>57.5</b>	262.525	262.525	262.525	262.525	262.525	262.525	262.525	262.525	262.525	262.525
<b>60.0</b>	227.804	227.804	227.804	227.804	227.804	227.804	227.804	227.804	227.804	227.804
<b>62.5</b>	196.069	196.069	196.069	196.069	196.069	196.069	196.069	196.069	196.069	196.069
<b>65.0</b>	167.004	167.004	167.004	167.004	167.004	167.004	167.004	167.004	167.004	167.004
<b>67.5</b>	140.092	140.092	140.092	140.092	140.092	140.092	140.092	140.092	140.092	140.092
<b>70.0</b>	115.127	115.127	115.127	115.127	115.127	115.127	115.127	115.127	115.127	115.127
<b>72.5</b>	93.195	93.195	93.195	93.195	93.195	93.195	93.195	93.195	93.195	93.195
<b>75.0</b>	74.170	74.170	74.170	74.170	74.170	74.170	74.170	74.170	74.170	74.170
<b>77.5</b>	57.344	57.344	57.344	57.344	57.344	57.344	57.344	57.344	57.344	57.344
<b>80.0</b>	42.387	42.387	42.387	42.387	42.387	42.387	42.387	42.387	42.387	42.387
<b>82.5</b>	28.798	28.798	28.798	28.798	28.798	28.798	28.798	28.798	28.798	28.798
<b>85.0</b>	16.276	16.276	16.276	16.276	16.276	16.276	16.276	16.276	16.276	16.276
<b>87.5</b>	5.672	5.672	5.672	5.672	5.672	5.672	5.672	5.672	5.672	5.672
<b>90.0</b>	1.010	1.010	1.010	1.010	1.010	1.010	1.010	1.010	1.010	1.010
<b>92.5</b>	0.261	0.261	0.261	0.261	0.261	0.261	0.261	0.261	0.261	0.261
<b>95.0</b>	0.392	0.392	0.392	0.392	0.392	0.392	0.392	0.392	0.392	0.392
<b>97.5</b>	0.522	0.522	0.522	0.522	0.522	0.522	0.522	0.522	0.522	0.522
<b>100.0</b>	0.785	0.785	0.785	0.785	0.785	0.785	0.785	0.785	0.785	0.785
<b>102.5</b>	1.046	1.046	1.046	1.046	1.046	1.046	1.046	1.046	1.046	1.046
<b>105.0</b>	1.438	1.438	1.438	1.438	1.438	1.438	1.438	1.438	1.438	1.438
<b>107.5</b>	2.093	2.093	2.093	2.093	2.093	2.093	2.093	2.093	2.093	2.093
<b>110.0</b>	2.876	2.876	2.876	2.876	2.876	2.876	2.876	2.876	2.876	2.876
<b>112.5</b>	3.792	3.792	3.792	3.792	3.792	3.792	3.792	3.792	3.792	3.792
<b>115.0</b>	5.230	5.230	5.230	5.230	5.230	5.230	5.230	5.230	5.230	5.230
<b>117.5</b>	7.060	7.060	7.060	7.060	7.060	7.060	7.060	7.060	7.060	7.060
<b>120.0</b>	9.544	9.544	9.544	9.544	9.544	9.544	9.544	9.544	9.544	9.544
<b>122.5</b>	13.075	13.075	13.075	13.075	13.075	13.075	13.075	13.075	13.075	13.075
<b>125.0</b>	18.043	18.043	18.043	18.043	18.043	18.043	18.043	18.043	18.043	18.043
<b>127.5</b>	25.364	25.364	25.364	25.364	25.364	25.364	25.364	25.364	25.364	25.364
<b>130.0</b>	35.040	35.040	35.040	35.040	35.040	35.040	35.040	35.040	35.040	35.040
<b>132.5</b>	46.807	46.807	46.807	46.807	46.807	46.807	46.807	46.807	46.807	46.807

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**CANDELA TABULATION - (Cont.)**

135.0	60.404	60.404	60.404	60.404	60.404	60.404	60.404	60.404	60.404	60.404
137.5	85.377	85.377	85.377	85.377	85.377	85.377	85.377	85.377	85.377	85.377
140.0	151.404	151.404	151.404	151.404	151.404	151.404	151.404	151.404	151.404	151.404
142.5	225.537	225.537	225.537	225.537	225.537	225.537	225.537	225.537	225.537	225.537
145.0	517.100	517.100	517.100	517.100	517.100	517.100	517.100	517.100	517.100	517.100
147.5	929.864	929.864	929.864	929.864	929.864	929.864	929.864	929.864	929.864	929.864
150.0	1311.380	1311.380	1311.380	1311.380	1311.380	1311.380	1311.380	1311.380	1311.380	1311.380
152.5	1538.878	1538.878	1538.878	1538.878	1538.878	1538.878	1538.878	1538.878	1538.878	1538.878
155.0	1846.131	1846.131	1846.131	1846.131	1846.131	1846.131	1846.131	1846.131	1846.131	1846.131
157.5	2191.300	2191.300	2191.300	2191.300	2191.300	2191.300	2191.300	2191.300	2191.300	2191.300
160.0	2499.860	2499.860	2499.860	2499.860	2499.860	2499.860	2499.860	2499.860	2499.860	2499.860
162.5	2753.507	2753.507	2753.507	2753.507	2753.507	2753.507	2753.507	2753.507	2753.507	2753.507
165.0	3039.840	3039.840	3039.840	3039.840	3039.840	3039.840	3039.840	3039.840	3039.840	3039.840
167.5	3404.621	3404.621	3404.621	3404.621	3404.621	3404.621	3404.621	3404.621	3404.621	3404.621
170.0	3913.222	3913.222	3913.222	3913.222	3913.222	3913.222	3913.222	3913.222	3913.222	3913.222
172.5	4670.242	4670.242	4670.242	4670.242	4670.242	4670.242	4670.242	4670.242	4670.242	4670.242
175.0	5193.225	5193.225	5193.225	5193.225	5193.225	5193.225	5193.225	5193.225	5193.225	5193.225
177.5	5310.895	5310.895	5310.895	5310.895	5310.895	5310.895	5310.895	5310.895	5310.895	5310.895
180.0	5245.619	5245.619	5245.619	5245.619	5245.619	5245.619	5245.619	5245.619	5245.619	5245.619

**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>
0.0	1560.537	1560.537	1560.537	1560.537	1560.537	1560.537	1560.537
2.5	1551.582	1551.582	1551.582	1551.582	1551.582	1551.582	1551.582
5.0	1535.871	1535.871	1535.871	1535.871	1535.871	1535.871	1535.871
7.5	1525.345	1525.345	1525.345	1525.345	1525.345	1525.345	1525.345
10.0	1516.390	1516.390	1516.390	1516.390	1516.390	1516.390	1516.390
12.5	1511.206	1511.206	1511.206	1511.206	1511.206	1511.206	1511.206
15.0	1499.265	1499.265	1499.265	1499.265	1499.265	1499.265	1499.265
17.5	1478.999	1478.999	1478.999	1478.999	1478.999	1478.999	1478.999
20.0	1449.620	1449.620	1449.620	1449.620	1449.620	1449.620	1449.620
22.5	1391.491	1391.491	1391.491	1391.491	1391.491	1391.491	1391.491
25.0	1292.828	1292.828	1292.828	1292.828	1292.828	1292.828	1292.828
27.5	1158.816	1158.816	1158.816	1158.816	1158.816	1158.816	1158.816
30.0	989.770	989.770	989.770	989.770	989.770	989.770	989.770
32.5	804.856	804.856	804.856	804.856	804.856	804.856	804.856
35.0	660.475	660.475	660.475	660.475	660.475	660.475	660.475
37.5	572.810	572.810	572.810	572.810	572.810	572.810	572.810
40.0	517.979	517.979	517.979	517.979	517.979	517.979	517.979
42.5	477.446	477.446	477.446	477.446	477.446	477.446	477.446
45.0	441.783	441.783	441.783	441.783	441.783	441.783	441.783
47.5	407.220	407.220	407.220	407.220	407.220	407.220	407.220
50.0	371.556	371.556	371.556	371.556	371.556	371.556	371.556
52.5	334.951	334.951	334.951	334.951	334.951	334.951	334.951
55.0	298.345	298.345	298.345	298.345	298.345	298.345	298.345
57.5	262.525	262.525	262.525	262.525	262.525	262.525	262.525
60.0	227.804	227.804	227.804	227.804	227.804	227.804	227.804
62.5	196.069	196.069	196.069	196.069	196.069	196.069	196.069
65.0	167.004	167.004	167.004	167.004	167.004	167.004	167.004
67.5	140.092	140.092	140.092	140.092	140.092	140.092	140.092
70.0	115.127	115.127	115.127	115.127	115.127	115.127	115.127
72.5	93.195	93.195	93.195	93.195	93.195	93.195	93.195
75.0	74.170	74.170	74.170	74.170	74.170	74.170	74.170
77.5	57.344	57.344	57.344	57.344	57.344	57.344	57.344
80.0	42.387	42.387	42.387	42.387	42.387	42.387	42.387

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**CANDELA TABULATION - (Cont.)**

<b>82.5</b>	28.798	28.798	28.798	28.798	28.798	28.798	28.798
<b>85.0</b>	16.276	16.276	16.276	16.276	16.276	16.276	16.276
<b>87.5</b>	5.672	5.672	5.672	5.672	5.672	5.672	5.672
<b>90.0</b>	1.010	1.010	1.010	1.010	1.010	1.010	1.010
<b>92.5</b>	0.261	0.261	0.261	0.261	0.261	0.261	0.261
<b>95.0</b>	0.392	0.392	0.392	0.392	0.392	0.392	0.392
<b>97.5</b>	0.522	0.522	0.522	0.522	0.522	0.522	0.522
<b>100.0</b>	0.785	0.785	0.785	0.785	0.785	0.785	0.785
<b>102.5</b>	1.046	1.046	1.046	1.046	1.046	1.046	1.046
<b>105.0</b>	1.438	1.438	1.438	1.438	1.438	1.438	1.438
<b>107.5</b>	2.093	2.093	2.093	2.093	2.093	2.093	2.093
<b>110.0</b>	2.876	2.876	2.876	2.876	2.876	2.876	2.876
<b>112.5</b>	3.792	3.792	3.792	3.792	3.792	3.792	3.792
<b>115.0</b>	5.230	5.230	5.230	5.230	5.230	5.230	5.230
<b>117.5</b>	7.060	7.060	7.060	7.060	7.060	7.060	7.060
<b>120.0</b>	9.544	9.544	9.544	9.544	9.544	9.544	9.544
<b>122.5</b>	13.075	13.075	13.075	13.075	13.075	13.075	13.075
<b>125.0</b>	18.043	18.043	18.043	18.043	18.043	18.043	18.043
<b>127.5</b>	25.364	25.364	25.364	25.364	25.364	25.364	25.364
<b>130.0</b>	35.040	35.040	35.040	35.040	35.040	35.040	35.040
<b>132.5</b>	46.807	46.807	46.807	46.807	46.807	46.807	46.807
<b>135.0</b>	60.404	60.404	60.404	60.404	60.404	60.404	60.404
<b>137.5</b>	85.377	85.377	85.377	85.377	85.377	85.377	85.377
<b>140.0</b>	151.404	151.404	151.404	151.404	151.404	151.404	151.404
<b>142.5</b>	225.537	225.537	225.537	225.537	225.537	225.537	225.537
<b>145.0</b>	517.100	517.100	517.100	517.100	517.100	517.100	517.100
<b>147.5</b>	929.864	929.864	929.864	929.864	929.864	929.864	929.864
<b>150.0</b>	1311.380	1311.380	1311.380	1311.380	1311.380	1311.380	1311.380
<b>152.5</b>	1538.878	1538.878	1538.878	1538.878	1538.878	1538.878	1538.878
<b>155.0</b>	1846.131	1846.131	1846.131	1846.131	1846.131	1846.131	1846.131
<b>157.5</b>	2191.300	2191.300	2191.300	2191.300	2191.300	2191.300	2191.300
<b>160.0</b>	2499.860	2499.860	2499.860	2499.860	2499.860	2499.860	2499.860
<b>162.5</b>	2753.507	2753.507	2753.507	2753.507	2753.507	2753.507	2753.507
<b>165.0</b>	3039.840	3039.840	3039.840	3039.840	3039.840	3039.840	3039.840
<b>167.5</b>	3404.621	3404.621	3404.621	3404.621	3404.621	3404.621	3404.621
<b>170.0</b>	3913.222	3913.222	3913.222	3913.222	3913.222	3913.222	3913.222
<b>172.5</b>	4670.242	4670.242	4670.242	4670.242	4670.242	4670.242	4670.242
<b>175.0</b>	5193.225	5193.225	5193.225	5193.225	5193.225	5193.225	5193.225
<b>177.5</b>	5310.895	5310.895	5310.895	5310.895	5310.895	5310.895	5310.895
<b>180.0</b>	5245.619	5245.619	5245.619	5245.619	5245.619	5245.619	5245.619

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**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	568.39	N.A.	11.20
0-30	1147.99	N.A.	22.70
0-40	1580.72	N.A.	31.30
0-60	2189.03	N.A.	43.30
0-80	2435.71	N.A.	48.20
0-90	2455.42	N.A.	48.60
10-90	2309.33	N.A.	45.70
20-40	1012.34	N.A.	20.00
20-50	1353.74	N.A.	26.80
40-70	775.01	N.A.	15.30
60-80	246.68	N.A.	4.90
70-80	79.98	N.A.	1.60
80-90	19.70	N.A.	0.40
90-110	2.25	N.A.	0.00
90-120	7.74	N.A.	0.20
90-130	25.19	N.A.	0.50
90-150	441.54	N.A.	8.70
90-180	2601.78	N.A.	51.40
110-180	2599.53	N.A.	51.40
0-180	5057.19	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	146.09
10-20	422.30
20-30	579.60
30-40	432.73
40-50	341.41
50-60	266.90
60-70	166.70
70-80	79.98
80-90	19.70
90-100	0.57
100-110	1.69
110-120	5.49
120-130	17.45
130-140	54.27
140-150	362.08
150-160	849.05
160-170	859.30
170-180	451.89

**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : 192\_168\_37\_234-10\_37\_2-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	107	107	107	107	98	98	98	98	83	83	83	68	68	68	55	55	55	49
1	98	95	91	88	91	87	84	82	74	72	70	61	60	59	50	49	48	43
2	91	84	78	74	83	78	73	69	66	62	59	55	53	51	45	44	42	38
3	83	75	68	63	77	69	63	59	59	55	51	50	47	44	41	39	37	33
4	77	67	60	54	71	62	56	51	53	49	45	45	42	39	38	35	33	30
5	71	60	53	47	66	56	50	45	48	43	40	41	38	35	35	32	30	27
6	66	55	47	42	61	51	44	40	44	39	35	38	34	31	32	29	27	24
7	61	50	42	37	57	47	40	35	41	35	32	35	31	28	30	27	25	22
8	57	46	38	33	53	43	36	32	37	32	29	32	28	26	27	25	22	20
9	53	42	35	30	50	39	33	29	35	30	26	30	26	23	26	23	21	19
10	50	39	32	27	47	36	30	26	32	27	24	28	24	21	24	21	19	17

**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : 192\_168\_37\_234-10\_37\_2-MERGED.IES**

**UGR TABLE - CORRECTED**

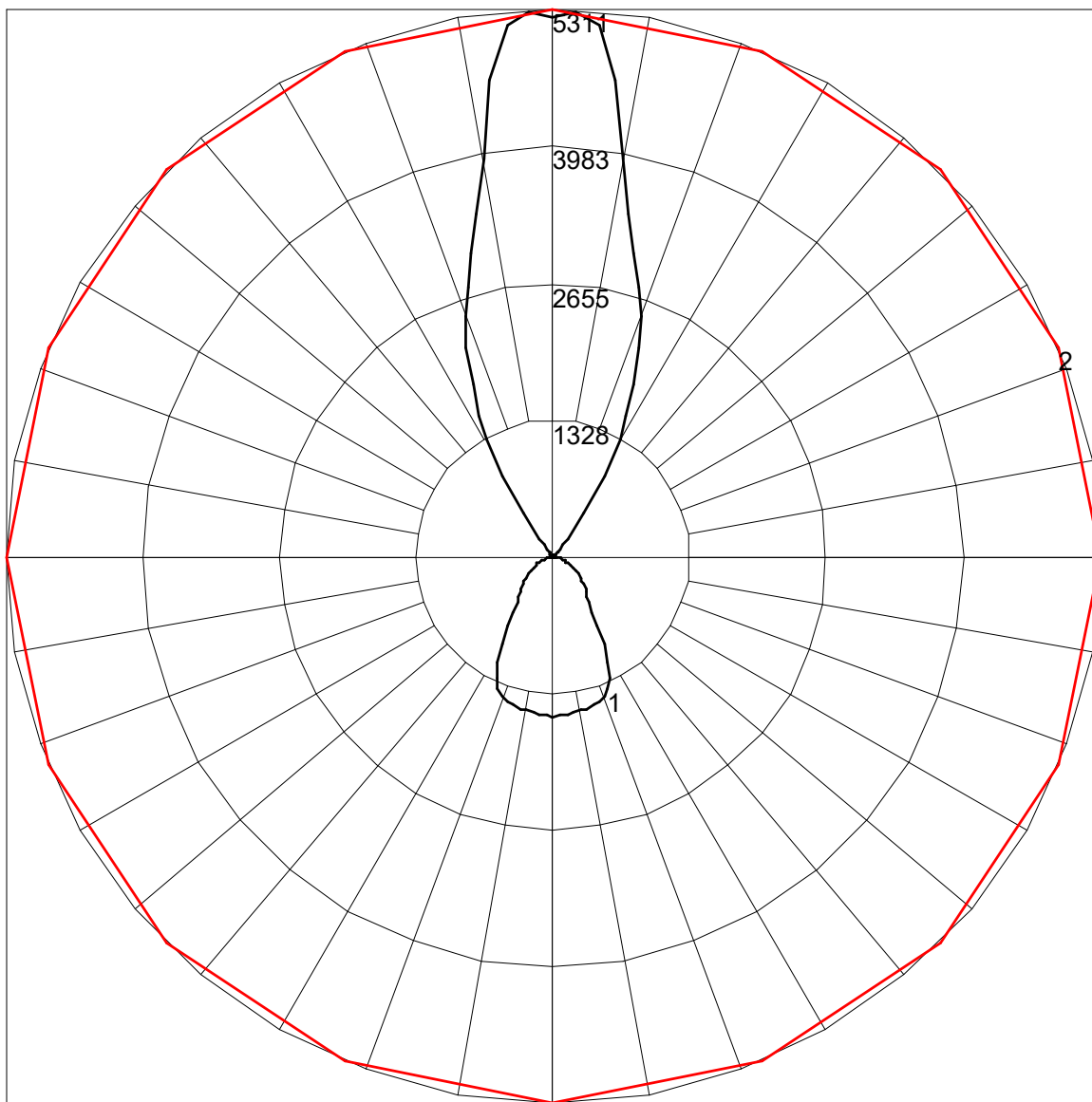
Reflectances

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					UGR Viewed Endwise				
X=2H	Y=2H	17.4	18.2	18.4	19.2	20.5	17.4	18.2	18.4	19.2	20.5
	3H	18.6	19.3	19.6	20.3	21.6	18.6	19.3	19.6	20.3	21.6
	4H	19.0	19.6	20.0	20.6	21.9	19.0	19.6	20.0	20.6	21.9
	6H	19.2	19.8	20.2	20.8	22.1	19.2	19.8	20.2	20.8	22.1
	8H	19.3	19.8	20.3	20.8	22.2	19.3	19.8	20.3	20.8	22.2
	12H	19.3	19.8	20.3	20.8	22.2	19.3	19.8	20.3	20.8	22.2
4H	2H	17.8	18.4	18.8	19.4	20.7	17.8	18.4	18.8	19.4	20.7
	3H	19.1	19.7	20.1	20.7	22.0	19.1	19.7	20.1	20.7	22.0
	4H	19.6	20.1	20.6	21.1	22.5	19.6	20.1	20.6	21.1	22.5
	6H	19.9	20.4	21.0	21.4	22.8	19.9	20.4	21.0	21.4	22.8
	8H	20.0	20.4	21.1	21.5	22.8	20.0	20.4	21.1	21.5	22.8
	12H	20.1	20.4	21.1	21.5	22.9	20.1	20.4	21.1	21.5	22.9
8H	4H	19.7	20.1	20.8	21.2	22.5	19.7	20.1	20.8	21.2	22.5
	6H	20.2	20.5	21.2	21.6	22.9	20.2	20.5	21.2	21.6	22.9
	8H	20.3	20.6	21.4	21.7	23.1	20.3	20.6	21.4	21.7	23.1
	12H	20.4	20.7	21.5	21.7	23.2	20.4	20.7	21.5	21.7	23.2
12H	4H	19.7	20.0	20.8	21.1	22.5	19.7	20.0	20.8	21.1	22.5
	6H	20.2	20.5	21.2	21.5	22.9	20.2	20.5	21.2	21.5	22.9
	8H	20.4	20.6	21.4	21.7	23.1	20.4	20.6	21.4	21.7	23.1

Maximum UGR = 23.2

POLAR GRAPH



Maximum Candela = 5310.895 Located At Horizontal Angle = 0, Vertical Angle = 177.5  
# 1 - Vertical Plane Through Horizontal Angles (90 - 270)  
# 2 - Horizontal Cone Through Vertical Angle (177.5) (Through Max. Cd.)