



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : 192\_168\_39\_135-11\_47\_38-MERGED.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #12326812.05 & #12326812.09

[TESTLAB] UL Verification Services Inc.

[ISSUEDATE] 15-MAR-2021

[MANUFAC] WILLIAMS INDOOR

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

[LUMCAT] 8CRDI-L25-9DWU-L25-9DWD-xxx-DIM-UNV-ON-CSU-LM-WHD-WM

[LUMINAIRE] 8" DIA. ALUMINUM CYLINDER

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

[BALLAST]

[OTHER]

[OTHER] This test was performed using the calibrated photodetector met

[MORE] hod of absolute photometry.

[\_ CONVERT] Photometric web converted from original test data

[\_ CONVERT] Luminaire test position and photometric web converted from original test data for upright orientation and clear glass

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	4590
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	61
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	8561	8561	8561
55	6269	6269	6269
65	5108	5108	5108
75	4157	4157	4157
85	2735	2735	2735

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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>	5393.574	5393.574	5393.574	5393.574	5393.574	5393.574	5393.574	5393.574	5393.574	5393.574
<b>2.5</b>	5336.381	5336.381	5336.381	5336.381	5336.381	5336.381	5336.381	5336.381	5336.381	5336.381
<b>5.0</b>	5182.208	5182.208	5182.208	5182.208	5182.208	5182.208	5182.208	5182.208	5182.208	5182.208
<b>7.5</b>	4928.568	4928.568	4928.568	4928.568	4928.568	4928.568	4928.568	4928.568	4928.568	4928.568
<b>10.0</b>	4551.838	4551.838	4551.838	4551.838	4551.838	4551.838	4551.838	4551.838	4551.838	4551.838
<b>12.5</b>	4037.099	4037.099	4037.099	4037.099	4037.099	4037.099	4037.099	4037.099	4037.099	4037.099
<b>15.0</b>	3391.810	3391.810	3391.810	3391.810	3391.810	3391.810	3391.810	3391.810	3391.810	3391.810
<b>17.5</b>	2699.274	2699.274	2699.274	2699.274	2699.274	2699.274	2699.274	2699.274	2699.274	2699.274
<b>20.0</b>	2036.578	2036.578	2036.578	2036.578	2036.578	2036.578	2036.578	2036.578	2036.578	2036.578
<b>22.5</b>	1484.538	1484.538	1484.538	1484.538	1484.538	1484.538	1484.538	1484.538	1484.538	1484.538
<b>25.0</b>	1053.102	1053.102	1053.102	1053.102	1053.102	1053.102	1053.102	1053.102	1053.102	1053.102
<b>27.5</b>	742.767	742.767	742.767	742.767	742.767	742.767	742.767	742.767	742.767	742.767
<b>30.0</b>	527.794	527.794	527.794	527.794	527.794	527.794	527.794	527.794	527.794	527.794
<b>32.5</b>	378.843	378.843	378.843	378.843	378.843	378.843	378.843	378.843	378.843	378.843
<b>35.0</b>	275.398	275.398	275.398	275.398	275.398	275.398	275.398	275.398	275.398	275.398
<b>37.5</b>	205.647	205.647	205.647	205.647	205.647	205.647	205.647	205.647	205.647	205.647
<b>40.0</b>	160.638	160.638	160.638	160.638	160.638	160.638	160.638	160.638	160.638	160.638
<b>42.5</b>	131.047	131.047	131.047	131.047	131.047	131.047	131.047	131.047	131.047	131.047
<b>45.0</b>	110.532	110.532	110.532	110.532	110.532	110.532	110.532	110.532	110.532	110.532
<b>47.5</b>	95.488	95.488	95.488	95.488	95.488	95.488	95.488	95.488	95.488	95.488
<b>50.0</b>	83.801	83.801	83.801	83.801	83.801	83.801	83.801	83.801	83.801	83.801
<b>52.5</b>	74.103	74.103	74.103	74.103	74.103	74.103	74.103	74.103	74.103	74.103
<b>55.0</b>	65.648	65.648	65.648	65.648	65.648	65.648	65.648	65.648	65.648	65.648
<b>57.5</b>	58.064	58.064	58.064	58.064	58.064	58.064	58.064	58.064	58.064	58.064
<b>60.0</b>	51.474	51.474	51.474	51.474	51.474	51.474	51.474	51.474	51.474	51.474
<b>62.5</b>	45.257	45.257	45.257	45.257	45.257	45.257	45.257	45.257	45.257	45.257
<b>65.0</b>	39.414	39.414	39.414	39.414	39.414	39.414	39.414	39.414	39.414	39.414
<b>67.5</b>	33.943	33.943	33.943	33.943	33.943	33.943	33.943	33.943	33.943	33.943
<b>70.0</b>	28.845	28.845	28.845	28.845	28.845	28.845	28.845	28.845	28.845	28.845
<b>72.5</b>	24.121	24.121	24.121	24.121	24.121	24.121	24.121	24.121	24.121	24.121
<b>75.0</b>	19.645	19.645	19.645	19.645	19.645	19.645	19.645	19.645	19.645	19.645
<b>77.5</b>	15.417	15.417	15.417	15.417	15.417	15.417	15.417	15.417	15.417	15.417
<b>80.0</b>	11.439	11.439	11.439	11.439	11.439	11.439	11.439	11.439	11.439	11.439
<b>82.5</b>	7.709	7.709	7.709	7.709	7.709	7.709	7.709	7.709	7.709	7.709
<b>85.0</b>	4.352	4.352	4.352	4.352	4.352	4.352	4.352	4.352	4.352	4.352
<b>87.5</b>	1.741	1.741	1.741	1.741	1.741	1.741	1.741	1.741	1.741	1.741
<b>90.0</b>	0.373	0.373	0.373	0.373	0.373	0.373	0.373	0.373	0.373	0.373
<b>92.5</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>95.0</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>97.5</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>100.0</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>102.5</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>105.0</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>107.5</b>	1.112	1.112	1.112	1.112	1.112	1.112	1.112	1.112	1.112	1.112
<b>110.0</b>	1.112	1.112	1.112	1.112	1.112	1.112	1.112	1.112	1.112	1.112
<b>112.5</b>	1.112	1.112	1.112	1.112	1.112	1.112	1.112	1.112	1.112	1.112
<b>115.0</b>	1.112	1.112	1.112	1.112	1.112	1.112	1.112	1.112	1.112	1.112
<b>117.5</b>	2.224	2.224	2.224	2.224	2.224	2.224	2.224	2.224	2.224	2.224
<b>120.0</b>	2.224	2.224	2.224	2.224	2.224	2.224	2.224	2.224	2.224	2.224
<b>122.5</b>	3.336	3.336	3.336	3.336	3.336	3.336	3.336	3.336	3.336	3.336
<b>125.0</b>	4.448	4.448	4.448	4.448	4.448	4.448	4.448	4.448	4.448	4.448
<b>127.5</b>	5.560	5.560	5.560	5.560	5.560	5.560	5.560	5.560	5.560	5.560
<b>130.0</b>	8.897	8.897	8.897	8.897	8.897	8.897	8.897	8.897	8.897	8.897
<b>132.5</b>	11.121	11.121	11.121	11.121	11.121	11.121	11.121	11.121	11.121	11.121

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**CANDELA TABULATION - (Cont.)**

135.0	14.457	14.457	14.457	14.457	14.457	14.457	14.457	14.457	14.457	14.457
137.5	18.905	18.905	18.905	18.905	18.905	18.905	18.905	18.905	18.905	18.905
140.0	23.354	23.354	23.354	23.354	23.354	23.354	23.354	23.354	23.354	23.354
142.5	42.259	42.259	42.259	42.259	42.259	42.259	42.259	42.259	42.259	42.259
145.0	269.123	269.123	269.123	269.123	269.123	269.123	269.123	269.123	269.123	269.123
147.5	602.747	602.747	602.747	602.747	602.747	602.747	602.747	602.747	602.747	602.747
150.0	839.620	839.620	839.620	839.620	839.620	839.620	839.620	839.620	839.620	839.620
152.5	915.242	915.242	915.242	915.242	915.242	915.242	915.242	915.242	915.242	915.242
155.0	1135.434	1135.434	1135.434	1135.434	1135.434	1135.434	1135.434	1135.434	1135.434	1135.434
157.5	1466.834	1466.834	1466.834	1466.834	1466.834	1466.834	1466.834	1466.834	1466.834	1466.834
160.0	1732.621	1732.621	1732.621	1732.621	1732.621	1732.621	1732.621	1732.621	1732.621	1732.621
162.5	1948.364	1948.364	1948.364	1948.364	1948.364	1948.364	1948.364	1948.364	1948.364	1948.364
165.0	2259.747	2259.747	2259.747	2259.747	2259.747	2259.747	2259.747	2259.747	2259.747	2259.747
167.5	2811.338	2811.338	2811.338	2811.338	2811.338	2811.338	2811.338	2811.338	2811.338	2811.338
170.0	3921.194	3921.194	3921.194	3921.194	3921.194	3921.194	3921.194	3921.194	3921.194	3921.194
172.5	6150.924	6150.924	6150.924	6150.924	6150.924	6150.923	6150.923	6150.923	6150.923	6150.923
175.0	10931.768	10931.768	10931.768	10931.768	10931.768	10931.766	10931.766	10931.766	10931.766	10931.766
177.5	19272.364	19272.364	19272.364	19272.363	19272.363	19272.363	19272.362	19272.362	19272.362	19272.362
180.0	24465.761	24465.761	24465.761	24465.761	24465.761	24465.761	24465.761	24465.761	24465.761	24465.761

**Vert. 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	5393.574	5393.574	5393.574	5393.574	5393.574	5393.574	5393.574
2.5	5336.381	5336.381	5336.381	5336.381	5336.381	5336.381	5336.381
5.0	5182.208	5182.208	5182.208	5182.208	5182.208	5182.208	5182.208
7.5	4928.568	4928.568	4928.568	4928.568	4928.568	4928.568	4928.568
10.0	4551.838	4551.838	4551.838	4551.838	4551.838	4551.838	4551.838
12.5	4037.099	4037.099	4037.099	4037.099	4037.099	4037.099	4037.099
15.0	3391.810	3391.810	3391.810	3391.810	3391.810	3391.810	3391.810
17.5	2699.274	2699.274	2699.274	2699.274	2699.274	2699.274	2699.274
20.0	2036.578	2036.578	2036.578	2036.578	2036.578	2036.578	2036.578
22.5	1484.538	1484.538	1484.538	1484.538	1484.538	1484.538	1484.538
25.0	1053.102	1053.102	1053.102	1053.102	1053.102	1053.102	1053.102
27.5	742.767	742.767	742.767	742.767	742.767	742.767	742.767
30.0	527.794	527.794	527.794	527.794	527.794	527.794	527.794
32.5	378.843	378.843	378.843	378.843	378.843	378.843	378.843
35.0	275.398	275.398	275.398	275.398	275.398	275.398	275.398
37.5	205.647	205.647	205.647	205.647	205.647	205.647	205.647
40.0	160.638	160.638	160.638	160.638	160.638	160.638	160.638
42.5	131.047	131.047	131.047	131.047	131.047	131.047	131.047
45.0	110.532	110.532	110.532	110.532	110.532	110.532	110.532
47.5	95.488	95.488	95.488	95.488	95.488	95.488	95.488
50.0	83.801	83.801	83.801	83.801	83.801	83.801	83.801
52.5	74.103	74.103	74.103	74.103	74.103	74.103	74.103
55.0	65.648	65.648	65.648	65.648	65.648	65.648	65.648
57.5	58.064	58.064	58.064	58.064	58.064	58.064	58.064
60.0	51.474	51.474	51.474	51.474	51.474	51.474	51.474
62.5	45.257	45.257	45.257	45.257	45.257	45.257	45.257
65.0	39.414	39.414	39.414	39.414	39.414	39.414	39.414
67.5	33.943	33.943	33.943	33.943	33.943	33.943	33.943
70.0	28.845	28.845	28.845	28.845	28.845	28.845	28.845
72.5	24.121	24.121	24.121	24.121	24.121	24.121	24.121
75.0	19.645	19.645	19.645	19.645	19.645	19.645	19.645
77.5	15.417	15.417	15.417	15.417	15.417	15.417	15.417
80.0	11.439	11.439	11.439	11.439	11.439	11.439	11.439

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82.5	7.709	7.709	7.709	7.709	7.709	7.709	7.709
85.0	4.352	4.352	4.352	4.352	4.352	4.352	4.352
87.5	1.741	1.741	1.741	1.741	1.741	1.741	1.741
90.0	0.373	0.373	0.373	0.373	0.373	0.373	0.373
92.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
95.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
97.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
100.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
102.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
105.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
107.5	1.112	1.112	1.112	1.112	1.112	1.112	1.112
110.0	1.112	1.112	1.112	1.112	1.112	1.112	1.112
112.5	1.112	1.112	1.112	1.112	1.112	1.112	1.112
115.0	1.112	1.112	1.112	1.112	1.112	1.112	1.112
117.5	2.224	2.224	2.224	2.224	2.224	2.224	2.224
120.0	2.224	2.224	2.224	2.224	2.224	2.224	2.224
122.5	3.336	3.336	3.336	3.336	3.336	3.336	3.336
125.0	4.448	4.448	4.448	4.448	4.448	4.448	4.448
127.5	5.560	5.560	5.560	5.560	5.560	5.560	5.560
130.0	8.897	8.897	8.897	8.897	8.897	8.897	8.897
132.5	11.121	11.121	11.121	11.121	11.121	11.121	11.121
135.0	14.457	14.457	14.457	14.457	14.457	14.457	14.457
137.5	18.905	18.905	18.905	18.905	18.905	18.905	18.905
140.0	23.354	23.354	23.354	23.354	23.354	23.354	23.354
142.5	42.259	42.259	42.259	42.259	42.259	42.259	42.259
145.0	269.123	269.123	269.123	269.123	269.123	269.123	269.123
147.5	602.747	602.747	602.747	602.747	602.747	602.747	602.747
150.0	839.620	839.620	839.620	839.620	839.620	839.620	839.620
152.5	915.242	915.242	915.242	915.242	915.242	915.242	915.242
155.0	1135.434	1135.434	1135.434	1135.434	1135.434	1135.434	1135.434
157.5	1466.834	1466.834	1466.834	1466.834	1466.834	1466.834	1466.834
160.0	1732.621	1732.621	1732.621	1732.621	1732.621	1732.621	1732.621
162.5	1948.364	1948.364	1948.364	1948.364	1948.364	1948.364	1948.364
165.0	2259.747	2259.747	2259.747	2259.747	2259.747	2259.747	2259.747
167.5	2811.338	2811.338	2811.338	2811.338	2811.338	2811.338	2811.338
170.0	3921.194	3921.194	3921.194	3921.194	3921.194	3921.194	3921.194
172.5	6150.923	6150.923	6150.924	6150.924	6150.924	6150.924	6150.924
175.0	10931.766	10931.766	10931.768	10931.768	10931.768	10931.768	10931.768
177.5	19272.362	19272.363	19272.363	19272.363	19272.364	19272.364	19272.364
180.0	24465.761	24465.761	24465.761	24465.761	24465.761	24465.761	24465.761

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**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	1388.91	N.A.	30.30
0-30	1896.55	N.A.	41.30
0-40	2081.25	N.A.	45.30
0-60	2228.65	N.A.	48.60
0-80	2288.82	N.A.	49.90
0-90	2294.18	N.A.	50.00
10-90	1819.25	N.A.	39.60
20-40	692.35	N.A.	15.10
20-50	780.48	N.A.	17.00
40-70	186.65	N.A.	4.10
60-80	60.17	N.A.	1.30
70-80	20.91	N.A.	0.50
80-90	5.36	N.A.	0.10
90-110	0.49	N.A.	0.00
90-120	1.99	N.A.	0.00
90-130	6.18	N.A.	0.10
90-150	217.58	N.A.	4.70
90-180	2295.49	N.A.	50.00
110-180	2295.00	N.A.	50.00
0-180	4589.67	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	474.93
10-20	913.98
20-30	507.65
30-40	184.70
40-50	88.13
50-60	59.26
60-70	39.26
70-80	20.91
80-90	5.36
90-100	0.05
100-110	0.43
110-120	1.51
120-130	4.19
130-140	11.58
140-150	199.82
150-160	542.61
160-170	668.82
170-180	866.47

# IES INDOOR REPORT

PHOTOMETRIC FILENAME : 192\_168\_39\_135-11\_47\_38-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	99	99	99	99	83	83	83	69	69	69	56	56	56	50
1	100	97	94	91	93	90	87	85	77	75	73	65	63	62	53	53	52	47
2	94	88	83	80	87	82	78	75	71	68	66	60	59	57	51	50	49	44
3	88	81	75	71	82	75	71	67	66	62	59	57	54	52	48	47	46	42
4	83	74	68	63	77	70	64	60	61	57	54	53	51	49	46	44	43	40
5	78	69	62	58	72	65	59	55	57	53	50	50	47	45	44	42	40	38
6	73	64	57	53	68	60	55	51	54	50	47	48	45	42	42	40	38	36
7	69	60	53	49	65	57	51	47	51	47	44	45	42	40	40	38	37	34
8	66	56	50	46	62	53	48	44	48	44	41	43	40	38	39	36	35	33
9	62	53	47	43	59	50	45	41	46	41	39	41	38	36	37	35	33	31
10	59	50	44	40	56	48	42	39	43	39	37	39	36	34	36	33	32	30

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## 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	7.4	8.0	8.4	9.0	10.3	7.4	8.0	8.4	9.0	10.3
	3H	8.8	9.4	9.8	10.4	11.7	8.8	9.4	9.8	10.4	11.7
	4H	9.3	9.8	10.3	10.8	12.2	9.3	9.8	10.3	10.8	12.2
	6H	9.6	10.1	10.6	11.1	12.5	9.6	10.1	10.6	11.1	12.5
	8H	9.7	10.2	10.7	11.2	12.5	9.7	10.2	10.7	11.2	12.5
	12H	9.7	10.2	10.8	11.2	12.5	9.7	10.2	10.8	11.2	12.5

### UGR Viewed Endwise

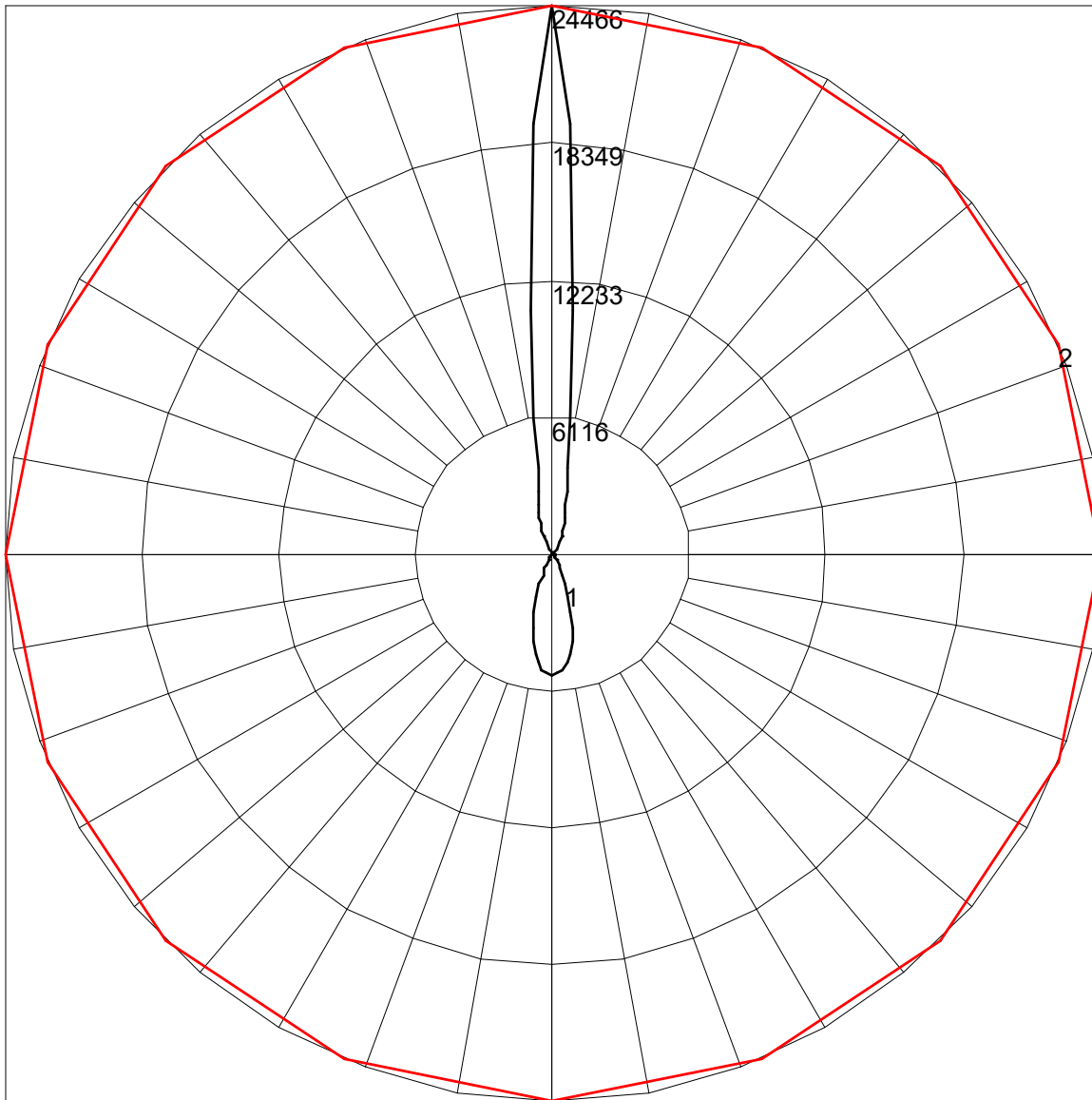
4H	2H	7.8	8.3	8.8	9.3	10.7	7.8	8.3	8.8	9.3	10.7
	3H	9.4	9.8	10.4	10.9	12.2	9.4	9.8	10.4	10.9	12.2
	4H	10.0	10.4	11.0	11.4	12.8	10.0	10.4	11.0	11.4	12.8
	6H	10.5	10.8	11.5	11.8	13.2	10.5	10.8	11.5	11.8	13.2
	8H	10.6	10.9	11.6	11.9	13.3	10.6	10.9	11.6	11.9	13.3
	12H	10.6	10.9	11.7	12.0	13.4	10.6	10.9	11.7	12.0	13.4

8H	4H	10.2	10.5	11.2	11.5	12.9	10.2	10.5	11.2	11.5	12.9
	6H	10.7	11.0	11.8	12.1	13.4	10.7	11.0	11.8	12.1	13.4
	8H	10.9	11.2	12.0	12.2	13.6	10.9	11.2	12.0	12.2	13.6
	12H	11.0	11.3	12.1	12.3	13.7	11.0	11.3	12.1	12.3	13.7

12H	4H	10.1	10.4	11.2	11.5	12.9	10.1	10.4	11.2	11.5	12.9
	6H	10.8	11.0	11.8	12.0	13.4	10.8	11.0	11.8	12.0	13.4
	8H	11.0	11.2	12.0	12.2	13.7	11.0	11.2	12.0	12.2	13.7

Maximum UGR = 13.7

POLAR GRAPH



Maximum Candela = 24465.761 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.)