



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : 192\_168\_37\_234-14\_7\_6-MERGED.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #12326812.05 #12326812.1

[TESTLAB] UL Verification Services Inc.

[ISSUEDATE] 1-MAR-2021

[MANUFAC] WILLIAMS INDOOR

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

[LUMCAT] 8CRDI-TL-P29-8TWU-P29-8TWD-xxx-PoE PR-ON-CSU-LN-WHD-WM 4000k

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

[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	4787
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	96
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	7775	7775	7775
55	5690	5690	5690
65	4626	4626	4626
75	3777	3777	3777
85	2446	2446	2446

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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>	9215.844	9215.844	9215.844	9215.844	9215.844	9215.844	9215.844	9215.844	9215.844	9215.844
<b>2.5</b>	8987.695	8987.695	8987.695	8987.695	8987.695	8987.695	8987.695	8987.695	8987.695	8987.695
<b>5.0</b>	8340.828	8340.828	8340.828	8340.828	8340.828	8340.828	8340.828	8340.828	8340.828	8340.828
<b>7.5</b>	7357.107	7357.107	7357.107	7357.107	7357.107	7357.107	7357.107	7357.107	7357.107	7357.107
<b>10.0</b>	6134.501	6134.501	6134.501	6134.501	6134.501	6134.501	6134.501	6134.501	6134.501	6134.501
<b>12.5</b>	4821.978	4821.978	4821.978	4821.978	4821.978	4821.978	4821.978	4821.978	4821.978	4821.978
<b>15.0</b>	3581.926	3581.926	3581.926	3581.926	3581.926	3581.926	3581.926	3581.926	3581.926	3581.926
<b>17.5</b>	2564.654	2564.654	2564.654	2564.654	2564.654	2564.654	2564.654	2564.654	2564.654	2564.654
<b>20.0</b>	1803.713	1803.713	1803.713	1803.713	1803.713	1803.713	1803.713	1803.713	1803.713	1803.713
<b>22.5</b>	1246.360	1246.360	1246.360	1246.360	1246.360	1246.360	1246.360	1246.360	1246.360	1246.360
<b>25.0</b>	851.395	851.395	851.395	851.395	851.395	851.395	851.395	851.395	851.395	851.395
<b>27.5</b>	583.254	583.254	583.254	583.254	583.254	583.254	583.254	583.254	583.254	583.254
<b>30.0</b>	408.251	408.251	408.251	408.251	408.251	408.251	408.251	408.251	408.251	408.251
<b>32.5</b>	294.982	294.982	294.982	294.982	294.982	294.982	294.982	294.982	294.982	294.982
<b>35.0</b>	220.901	220.901	220.901	220.901	220.901	220.901	220.901	220.901	220.901	220.901
<b>37.5</b>	172.185	172.185	172.185	172.185	172.185	172.185	172.185	172.185	172.185	172.185
<b>40.0</b>	139.573	139.573	139.573	139.573	139.573	139.573	139.573	139.573	139.573	139.573
<b>42.5</b>	117.027	117.027	117.027	117.027	117.027	117.027	117.027	117.027	117.027	117.027
<b>45.0</b>	100.385	100.385	100.385	100.385	100.385	100.385	100.385	100.385	100.385	100.385
<b>47.5</b>	87.367	87.367	87.367	87.367	87.367	87.367	87.367	87.367	87.367	87.367
<b>50.0</b>	76.497	76.497	76.497	76.497	76.497	76.497	76.497	76.497	76.497	76.497
<b>52.5</b>	67.371	67.371	67.371	67.371	67.371	67.371	67.371	67.371	67.371	67.371
<b>55.0</b>	59.587	59.587	59.587	59.587	59.587	59.587	59.587	59.587	59.587	59.587
<b>57.5</b>	52.742	52.742	52.742	52.742	52.742	52.742	52.742	52.742	52.742	52.742
<b>60.0</b>	46.569	46.569	46.569	46.569	46.569	46.569	46.569	46.569	46.569	46.569
<b>62.5</b>	40.932	40.932	40.932	40.932	40.932	40.932	40.932	40.932	40.932	40.932
<b>65.0</b>	35.698	35.698	35.698	35.698	35.698	35.698	35.698	35.698	35.698	35.698
<b>67.5</b>	30.733	30.733	30.733	30.733	30.733	30.733	30.733	30.733	30.733	30.733
<b>70.0</b>	26.036	26.036	26.036	26.036	26.036	26.036	26.036	26.036	26.036	26.036
<b>72.5</b>	21.741	21.741	21.741	21.741	21.741	21.741	21.741	21.741	21.741	21.741
<b>75.0</b>	17.849	17.849	17.849	17.849	17.849	17.849	17.849	17.849	17.849	17.849
<b>77.5</b>	13.957	13.957	13.957	13.957	13.957	13.957	13.957	13.957	13.957	13.957
<b>80.0</b>	10.468	10.468	10.468	10.468	10.468	10.468	10.468	10.468	10.468	10.468
<b>82.5</b>	7.113	7.113	7.113	7.113	7.113	7.113	7.113	7.113	7.113	7.113
<b>85.0</b>	3.892	3.892	3.892	3.892	3.892	3.892	3.892	3.892	3.892	3.892
<b>87.5</b>	1.476	1.476	1.476	1.476	1.476	1.476	1.476	1.476	1.476	1.476
<b>90.0</b>	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268
<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>	1.117	1.117	1.117	1.117	1.117	1.117	1.117	1.117	1.117	1.117
<b>110.0</b>	1.117	1.117	1.117	1.117	1.117	1.117	1.117	1.117	1.117	1.117
<b>112.5</b>	1.117	1.117	1.117	1.117	1.117	1.117	1.117	1.117	1.117	1.117
<b>115.0</b>	1.117	1.117	1.117	1.117	1.117	1.117	1.117	1.117	1.117	1.117
<b>117.5</b>	2.235	2.235	2.235	2.235	2.235	2.235	2.235	2.235	2.235	2.235
<b>120.0</b>	2.235	2.235	2.235	2.235	2.235	2.235	2.235	2.235	2.235	2.235
<b>122.5</b>	3.352	3.352	3.352	3.352	3.352	3.352	3.352	3.352	3.352	3.352
<b>125.0</b>	4.470	4.470	4.470	4.470	4.470	4.470	4.470	4.470	4.470	4.470
<b>127.5</b>	5.587	5.587	5.587	5.587	5.587	5.587	5.587	5.587	5.587	5.587
<b>130.0</b>	8.939	8.939	8.939	8.939	8.939	8.939	8.939	8.939	8.939	8.939
<b>132.5</b>	11.174	11.174	11.174	11.174	11.174	11.174	11.174	11.174	11.174	11.174

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**CANDELA TABULATION - (Cont.)**

135.0	14.526	14.526	14.526	14.526	14.526	14.526	14.526	14.526	14.526	14.526
137.5	18.996	18.996	18.996	18.996	18.996	18.996	18.996	18.996	18.996	18.996
140.0	23.466	23.466	23.466	23.466	23.466	23.466	23.466	23.466	23.466	23.466
142.5	42.462	42.462	42.462	42.462	42.462	42.462	42.462	42.462	42.462	42.462
145.0	270.413	270.413	270.413	270.413	270.413	270.413	270.413	270.413	270.413	270.413
147.5	605.636	605.636	605.636	605.636	605.636	605.636	605.636	605.636	605.636	605.636
150.0	843.644	843.644	843.644	843.644	843.644	843.644	843.644	843.644	843.644	843.644
152.5	919.628	919.628	919.628	919.628	919.628	919.628	919.628	919.628	919.628	919.628
155.0	1140.875	1140.875	1140.875	1140.875	1140.875	1140.875	1140.875	1140.875	1140.875	1140.875
157.5	1473.863	1473.863	1473.863	1473.863	1473.863	1473.863	1473.863	1473.863	1473.863	1473.863
160.0	1740.924	1740.924	1740.924	1740.924	1740.924	1740.924	1740.924	1740.924	1740.924	1740.924
162.5	1957.702	1957.702	1957.702	1957.702	1957.702	1957.702	1957.702	1957.702	1957.702	1957.702
165.0	2270.577	2270.577	2270.577	2270.577	2270.577	2270.577	2270.577	2270.577	2270.577	2270.577
167.5	2824.812	2824.812	2824.812	2824.812	2824.812	2824.812	2824.812	2824.812	2824.812	2824.812
170.0	3939.987	3939.987	3939.987	3939.987	3939.987	3939.987	3939.987	3939.987	3939.987	3939.987
172.5	6180.403	6180.403	6180.403	6180.403	6180.403	6180.401	6180.401	6180.401	6180.401	6180.401
175.0	10984.160	10984.160	10984.160	10984.160	10984.160	10984.157	10984.157	10984.157	10984.157	10984.157
177.5	19364.728	19364.728	19364.728	19364.728	19364.727	19364.727	19364.727	19364.726	19364.726	19364.726
180.0	24583.015	24583.015	24583.015	24583.015	24583.015	24583.015	24583.015	24583.015	24583.015	24583.015

**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	9215.844	9215.844	9215.844	9215.844	9215.844	9215.844	9215.844
2.5	8987.695	8987.695	8987.695	8987.695	8987.695	8987.695	8987.695
5.0	8340.828	8340.828	8340.828	8340.828	8340.828	8340.828	8340.828
7.5	7357.107	7357.107	7357.107	7357.107	7357.107	7357.107	7357.107
10.0	6134.501	6134.501	6134.501	6134.501	6134.501	6134.501	6134.501
12.5	4821.978	4821.978	4821.978	4821.978	4821.978	4821.978	4821.978
15.0	3581.926	3581.926	3581.926	3581.926	3581.926	3581.926	3581.926
17.5	2564.654	2564.654	2564.654	2564.654	2564.654	2564.654	2564.654
20.0	1803.713	1803.713	1803.713	1803.713	1803.713	1803.713	1803.713
22.5	1246.360	1246.360	1246.360	1246.360	1246.360	1246.360	1246.360
25.0	851.395	851.395	851.395	851.395	851.395	851.395	851.395
27.5	583.254	583.254	583.254	583.254	583.254	583.254	583.254
30.0	408.251	408.251	408.251	408.251	408.251	408.251	408.251
32.5	294.982	294.982	294.982	294.982	294.982	294.982	294.982
35.0	220.901	220.901	220.901	220.901	220.901	220.901	220.901
37.5	172.185	172.185	172.185	172.185	172.185	172.185	172.185
40.0	139.573	139.573	139.573	139.573	139.573	139.573	139.573
42.5	117.027	117.027	117.027	117.027	117.027	117.027	117.027
45.0	100.385	100.385	100.385	100.385	100.385	100.385	100.385
47.5	87.367	87.367	87.367	87.367	87.367	87.367	87.367
50.0	76.497	76.497	76.497	76.497	76.497	76.497	76.497
52.5	67.371	67.371	67.371	67.371	67.371	67.371	67.371
55.0	59.587	59.587	59.587	59.587	59.587	59.587	59.587
57.5	52.742	52.742	52.742	52.742	52.742	52.742	52.742
60.0	46.569	46.569	46.569	46.569	46.569	46.569	46.569
62.5	40.932	40.932	40.932	40.932	40.932	40.932	40.932
65.0	35.698	35.698	35.698	35.698	35.698	35.698	35.698
67.5	30.733	30.733	30.733	30.733	30.733	30.733	30.733
70.0	26.036	26.036	26.036	26.036	26.036	26.036	26.036
72.5	21.741	21.741	21.741	21.741	21.741	21.741	21.741
75.0	17.849	17.849	17.849	17.849	17.849	17.849	17.849
77.5	13.957	13.957	13.957	13.957	13.957	13.957	13.957
80.0	10.468	10.468	10.468	10.468	10.468	10.468	10.468

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**CANDELA TABULATION - (Cont.)**

82.5	7.113	7.113	7.113	7.113	7.113	7.113	7.113
85.0	3.892	3.892	3.892	3.892	3.892	3.892	3.892
87.5	1.476	1.476	1.476	1.476	1.476	1.476	1.476
90.0	0.268	0.268	0.268	0.268	0.268	0.268	0.268
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	1.117	1.117	1.117	1.117	1.117	1.117	1.117
110.0	1.117	1.117	1.117	1.117	1.117	1.117	1.117
112.5	1.117	1.117	1.117	1.117	1.117	1.117	1.117
115.0	1.117	1.117	1.117	1.117	1.117	1.117	1.117
117.5	2.235	2.235	2.235	2.235	2.235	2.235	2.235
120.0	2.235	2.235	2.235	2.235	2.235	2.235	2.235
122.5	3.352	3.352	3.352	3.352	3.352	3.352	3.352
125.0	4.470	4.470	4.470	4.470	4.470	4.470	4.470
127.5	5.587	5.587	5.587	5.587	5.587	5.587	5.587
130.0	8.939	8.939	8.939	8.939	8.939	8.939	8.939
132.5	11.174	11.174	11.174	11.174	11.174	11.174	11.174
135.0	14.526	14.526	14.526	14.526	14.526	14.526	14.526
137.5	18.996	18.996	18.996	18.996	18.996	18.996	18.996
140.0	23.466	23.466	23.466	23.466	23.466	23.466	23.466
142.5	42.462	42.462	42.462	42.462	42.462	42.462	42.462
145.0	270.413	270.413	270.413	270.413	270.413	270.413	270.413
147.5	605.636	605.636	605.636	605.636	605.636	605.636	605.636
150.0	843.644	843.644	843.644	843.644	843.644	843.644	843.644
152.5	919.628	919.628	919.628	919.628	919.628	919.628	919.628
155.0	1140.875	1140.875	1140.875	1140.875	1140.875	1140.875	1140.875
157.5	1473.863	1473.863	1473.863	1473.863	1473.863	1473.863	1473.863
160.0	1740.924	1740.924	1740.924	1740.924	1740.924	1740.924	1740.924
162.5	1957.702	1957.702	1957.702	1957.702	1957.702	1957.702	1957.702
165.0	2270.577	2270.577	2270.577	2270.577	2270.577	2270.577	2270.577
167.5	2824.812	2824.812	2824.812	2824.812	2824.812	2824.812	2824.812
170.0	3939.987	3939.987	3939.987	3939.987	3939.987	3939.987	3939.987
172.5	6180.401	6180.401	6180.403	6180.403	6180.403	6180.403	6180.403
175.0	10984.157	10984.157	10984.160	10984.160	10984.160	10984.160	10984.160
177.5	19364.726	19364.727	19364.727	19364.727	19364.728	19364.728	19364.728
180.0	24583.015	24583.015	24583.015	24583.015	24583.015	24583.015	24583.015

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**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	1720.32	N.A.	35.90
0-30	2139.99	N.A.	44.70
0-40	2287.89	N.A.	47.80
0-60	2421.01	N.A.	50.60
0-80	2475.46	N.A.	51.70
0-90	2480.32	N.A.	51.80
10-90	1754.98	N.A.	36.70
20-40	567.56	N.A.	11.90
20-50	646.83	N.A.	13.50
40-70	168.65	N.A.	3.50
60-80	54.45	N.A.	1.10
70-80	18.93	N.A.	0.40
80-90	4.85	N.A.	0.10
90-110	0.47	N.A.	0.00
90-120	1.99	N.A.	0.00
90-130	6.20	N.A.	0.10
90-150	218.61	N.A.	4.60
90-180	2306.48	N.A.	48.20
110-180	2306.00	N.A.	48.20
0-180	4786.79	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	725.33
10-20	994.99
20-30	419.67
30-40	147.90
40-50	79.27
50-60	53.85
60-70	35.52
70-80	18.93
80-90	4.85
90-100	0.04
100-110	0.44
110-120	1.51
120-130	4.21
130-140	11.63
140-150	200.78
150-160	545.21
160-170	672.03
170-180	870.63

**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : 192\_168\_37\_234-14\_7\_6-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	99	99	99	99	84	84	84	70	70	70	58	58	58	52
1	101	98	95	92	94	91	88	86	78	76	75	66	65	64	55	55	54	49
2	95	89	85	81	88	83	80	76	72	70	68	62	61	59	53	52	51	47
3	89	82	77	73	83	77	73	69	68	64	62	59	57	55	51	49	48	45
4	84	76	70	66	78	72	67	63	63	60	57	56	53	51	49	47	46	43
5	79	71	65	60	74	67	62	58	60	56	53	53	50	48	47	45	44	41
6	75	66	60	56	71	63	58	54	57	53	50	51	48	46	45	43	42	39
7	72	62	56	52	67	59	54	50	54	50	47	48	46	43	44	42	40	38
8	68	59	53	49	64	56	51	47	51	47	44	46	44	41	42	40	39	37
9	65	56	50	46	62	53	48	45	49	45	42	45	42	40	41	39	37	35
10	62	53	48	44	59	51	46	43	47	43	40	43	40	38	39	37	36	34

**IES INDOOR REPORT**  
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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	6.7	7.4	7.7	8.3	9.6	6.7	7.4	7.7	8.3	9.6
	3H	8.1	8.7	9.1	9.7	10.9	8.1	8.7	9.1	9.7	10.9
	4H	8.6	9.2	9.6	10.1	11.4	8.6	9.2	9.6	10.1	11.4
	6H	8.9	9.4	9.9	10.4	11.7	8.9	9.4	9.9	10.4	11.7
	8H	9.0	9.5	10.0	10.5	11.8	9.0	9.5	10.0	10.5	11.8
	12H	9.0	9.5	10.1	10.5	11.8	9.0	9.5	10.1	10.5	11.8

UGR Viewed Endwise

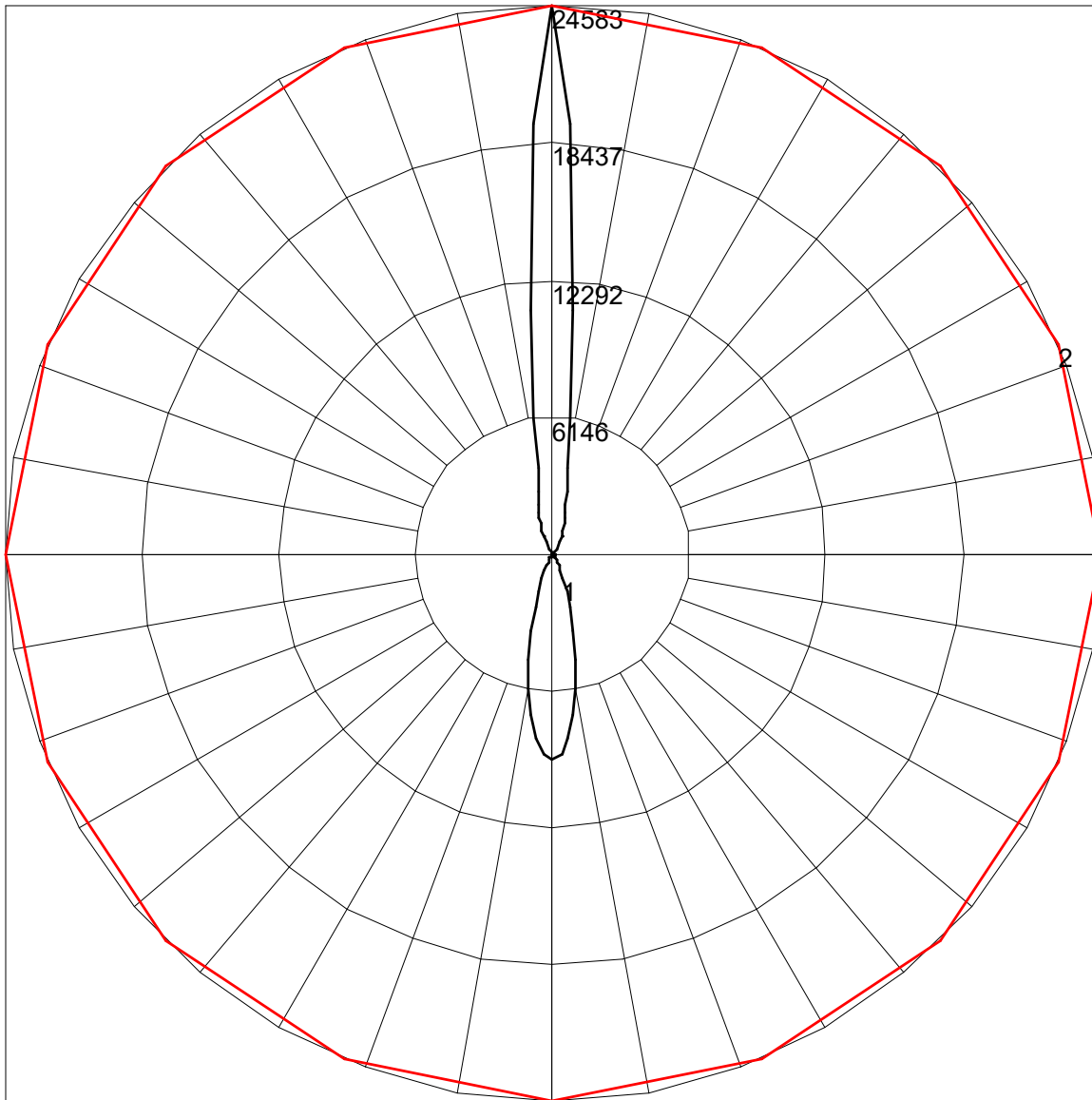
4H	2H	7.1	7.7	8.1	8.6	9.9	7.1	7.7	8.1	8.6	9.9
	3H	8.7	9.2	9.7	10.2	11.5	8.7	9.2	9.7	10.2	11.5
	4H	9.3	9.7	10.3	10.7	12.1	9.3	9.7	10.3	10.7	12.1
	6H	9.8	10.1	10.8	11.2	12.5	9.8	10.1	10.8	11.2	12.5
	8H	9.9	10.2	10.9	11.3	12.6	9.9	10.2	10.9	11.3	12.6
	12H	9.9	10.3	11.0	11.3	12.6	9.9	10.3	11.0	11.3	12.6

8H	4H	9.5	9.8	10.5	10.8	12.2	9.5	9.8	10.5	10.8	12.2
	6H	10.1	10.3	11.1	11.4	12.7	10.1	10.3	11.1	11.4	12.7
	8H	10.3	10.5	11.3	11.5	12.9	10.3	10.5	11.3	11.5	12.9
	12H	10.4	10.6	11.4	11.6	13.0	10.4	10.6	11.4	11.6	13.0

12H	4H	9.4	9.8	10.5	10.8	12.1	9.4	9.8	10.5	10.8	12.1
	6H	10.1	10.3	11.1	11.3	12.7	10.1	10.3	11.1	11.3	12.7
	8H	10.3	10.5	11.4	11.6	12.9	10.3	10.5	11.4	11.6	12.9

Maximum UGR = 13.0

POLAR GRAPH



Maximum Candela = 24583.015 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.)