



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 192_168_37_234-14_36_26-MERGED.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #12326812.05

[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-RM-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	4700
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	94
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	7862	7862	7862
55	5286	5286	5286
65	3934	3934	3934
75	2717	2717	2717
85	2269	2269	2269

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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>
0.0	5767.611	5767.611	5767.611	5767.611	5767.611	5767.611	5767.611	5767.611	5767.611	5767.611
2.5	5702.085	5702.085	5702.085	5702.085	5702.085	5702.085	5702.085	5702.085	5702.085	5702.085
5.0	5524.229	5524.229	5524.229	5524.229	5524.229	5524.229	5524.229	5524.229	5524.229	5524.229
7.5	5239.393	5239.393	5239.393	5239.393	5239.393	5239.393	5239.393	5239.393	5239.393	5239.393
10.0	4823.504	4823.504	4823.504	4823.504	4823.504	4823.504	4823.504	4823.504	4823.504	4823.504
12.5	4260.517	4260.517	4260.517	4260.517	4260.517	4260.517	4260.517	4260.517	4260.517	4260.517
15.0	3569.152	3569.152	3569.152	3569.152	3569.152	3569.152	3569.152	3569.152	3569.152	3569.152
17.5	2834.995	2834.995	2834.995	2834.995	2834.995	2834.995	2834.995	2834.995	2834.995	2834.995
20.0	2146.306	2146.306	2146.306	2146.306	2146.306	2146.306	2146.306	2146.306	2146.306	2146.306
22.5	1572.620	1572.620	1572.620	1572.620	1572.620	1572.620	1572.620	1572.620	1572.620	1572.620
25.0	1131.859	1131.859	1131.859	1131.859	1131.859	1131.859	1131.859	1131.859	1131.859	1131.859
27.5	811.852	811.852	811.852	811.852	811.852	811.852	811.852	811.852	811.852	811.852
30.0	583.314	583.314	583.314	583.314	583.314	583.314	583.314	583.314	583.314	583.314
32.5	418.964	418.964	418.964	418.964	418.964	418.964	418.964	418.964	418.964	418.964
35.0	300.215	300.215	300.215	300.215	300.215	300.215	300.215	300.215	300.215	300.215
37.5	216.904	216.904	216.904	216.904	216.904	216.904	216.904	216.904	216.904	216.904
40.0	161.274	161.274	161.274	161.274	161.274	161.274	161.274	161.274	161.274	161.274
42.5	125.435	125.435	125.435	125.435	125.435	125.435	125.435	125.435	125.435	125.435
45.0	101.498	101.498	101.498	101.498	101.498	101.498	101.498	101.498	101.498	101.498
47.5	84.916	84.916	84.916	84.916	84.916	84.916	84.916	84.916	84.916	84.916
50.0	72.747	72.747	72.747	72.747	72.747	72.747	72.747	72.747	72.747	72.747
52.5	63.252	63.252	63.252	63.252	63.252	63.252	63.252	63.252	63.252	63.252
55.0	55.363	55.363	55.363	55.363	55.363	55.363	55.363	55.363	55.363	55.363
57.5	48.409	48.409	48.409	48.409	48.409	48.409	48.409	48.409	48.409	48.409
60.0	41.990	41.990	41.990	41.990	41.990	41.990	41.990	41.990	41.990	41.990
62.5	35.972	35.972	35.972	35.972	35.972	35.972	35.972	35.972	35.972	35.972
65.0	30.356	30.356	30.356	30.356	30.356	30.356	30.356	30.356	30.356	30.356
67.5	25.141	25.141	25.141	25.141	25.141	25.141	25.141	25.141	25.141	25.141
70.0	20.326	20.326	20.326	20.326	20.326	20.326	20.326	20.326	20.326	20.326
72.5	16.047	16.047	16.047	16.047	16.047	16.047	16.047	16.047	16.047	16.047
75.0	12.838	12.838	12.838	12.838	12.838	12.838	12.838	12.838	12.838	12.838
77.5	10.163	10.163	10.163	10.163	10.163	10.163	10.163	10.163	10.163	10.163
80.0	7.890	7.890	7.890	7.890	7.890	7.890	7.890	7.890	7.890	7.890
82.5	5.750	5.750	5.750	5.750	5.750	5.750	5.750	5.750	5.750	5.750
85.0	3.611	3.611	3.611	3.611	3.611	3.611	3.611	3.611	3.611	3.611
87.5	1.738	1.738	1.738	1.738	1.738	1.738	1.738	1.738	1.738	1.738
90.0	0.535	0.535	0.535	0.535	0.535	0.535	0.535	0.535	0.535	0.535
92.5	0.000	0.000	0.000	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	0.000	0.000	0.000
97.5	0.000	0.000	0.000	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	0.000	0.000	0.000
102.5	0.000	0.000	0.000	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	0.000	0.000	0.000
107.5	1.117	1.117	1.117	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	1.117	1.117	1.117
112.5	1.117	1.117	1.117	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	1.117	1.117	1.117
117.5	2.235	2.235	2.235	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	2.235	2.235	2.235
122.5	3.352	3.352	3.352	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	4.470	4.470	4.470
127.5	5.587	5.587	5.587	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	8.939	8.939	8.939
132.5	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	19364.727	19364.727	19364.727	19364.726	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	5767.611	5767.611	5767.611	5767.611	5767.611	5767.611	5767.611
2.5	5702.085	5702.085	5702.085	5702.085	5702.085	5702.085	5702.085
5.0	5524.229	5524.229	5524.229	5524.229	5524.229	5524.229	5524.229
7.5	5239.393	5239.393	5239.393	5239.393	5239.393	5239.393	5239.393
10.0	4823.504	4823.504	4823.504	4823.504	4823.504	4823.504	4823.504
12.5	4260.517	4260.517	4260.517	4260.517	4260.517	4260.517	4260.517
15.0	3569.152	3569.152	3569.152	3569.152	3569.152	3569.152	3569.152
17.5	2834.995	2834.995	2834.995	2834.995	2834.995	2834.995	2834.995
20.0	2146.306	2146.306	2146.306	2146.306	2146.306	2146.306	2146.306
22.5	1572.620	1572.620	1572.620	1572.620	1572.620	1572.620	1572.620
25.0	1131.859	1131.859	1131.859	1131.859	1131.859	1131.859	1131.859
27.5	811.852	811.852	811.852	811.852	811.852	811.852	811.852
30.0	583.314	583.314	583.314	583.314	583.314	583.314	583.314
32.5	418.964	418.964	418.964	418.964	418.964	418.964	418.964
35.0	300.215	300.215	300.215	300.215	300.215	300.215	300.215
37.5	216.904	216.904	216.904	216.904	216.904	216.904	216.904
40.0	161.274	161.274	161.274	161.274	161.274	161.274	161.274
42.5	125.435	125.435	125.435	125.435	125.435	125.435	125.435
45.0	101.498	101.498	101.498	101.498	101.498	101.498	101.498
47.5	84.916	84.916	84.916	84.916	84.916	84.916	84.916
50.0	72.747	72.747	72.747	72.747	72.747	72.747	72.747
52.5	63.252	63.252	63.252	63.252	63.252	63.252	63.252
55.0	55.363	55.363	55.363	55.363	55.363	55.363	55.363
57.5	48.409	48.409	48.409	48.409	48.409	48.409	48.409
60.0	41.990	41.990	41.990	41.990	41.990	41.990	41.990
62.5	35.972	35.972	35.972	35.972	35.972	35.972	35.972
65.0	30.356	30.356	30.356	30.356	30.356	30.356	30.356
67.5	25.141	25.141	25.141	25.141	25.141	25.141	25.141
70.0	20.326	20.326	20.326	20.326	20.326	20.326	20.326
72.5	16.047	16.047	16.047	16.047	16.047	16.047	16.047
75.0	12.838	12.838	12.838	12.838	12.838	12.838	12.838
77.5	10.163	10.163	10.163	10.163	10.163	10.163	10.163
80.0	7.890	7.890	7.890	7.890	7.890	7.890	7.890

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82.5	5.750	5.750	5.750	5.750	5.750	5.750	5.750
85.0	3.611	3.611	3.611	3.611	3.611	3.611	3.611
87.5	1.738	1.738	1.738	1.738	1.738	1.738	1.738
90.0	0.535	0.535	0.535	0.535	0.535	0.535	0.535
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	10984.15710984.15710984.16010984.16010984.16010984.16010984.160	10984.15710984.15710984.16010984.16010984.16010984.16010984.160	10984.15710984.15710984.16010984.16010984.16010984.16010984.160	10984.15710984.15710984.16010984.16010984.16010984.16010984.160	10984.15710984.15710984.16010984.16010984.16010984.16010984.160	10984.15710984.15710984.16010984.16010984.16010984.16010984.160	10984.15710984.15710984.16010984.16010984.16010984.16010984.160
177.5	19364.72619364.72719364.72719364.72719364.72819364.72819364.728	19364.72619364.72719364.72719364.72719364.72819364.72819364.72819364.728	19364.72619364.72719364.72719364.72719364.72819364.72819364.72819364.728	19364.72619364.72719364.72719364.72719364.72819364.72819364.72819364.728	19364.72619364.72719364.72719364.72719364.72819364.72819364.72819364.728	19364.72619364.72719364.72719364.72719364.72819364.72819364.72819364.728	19364.72619364.72719364.72719364.72719364.72819364.72819364.72819364.728
180.0	24583.01524583.01524583.01524583.01524583.01524583.01524583.015	24583.01524583.01524583.01524583.01524583.01524583.01524583.015	24583.01524583.01524583.01524583.01524583.01524583.01524583.015	24583.01524583.01524583.01524583.01524583.01524583.01524583.015	24583.01524583.01524583.01524583.01524583.01524583.01524583.015	24583.01524583.01524583.01524583.01524583.01524583.01524583.015	24583.01524583.01524583.01524583.01524583.01524583.01524583.015

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	1468.47	N.A.	31.20
0-30	2012.33	N.A.	42.80
0-40	2212.72	N.A.	47.10
0-60	2344.91	N.A.	49.90
0-80	2389.22	N.A.	50.80
0-90	2393.38	N.A.	50.90
10-90	1888.01	N.A.	40.20
20-40	744.25	N.A.	15.80
20-50	826.38	N.A.	17.60
40-70	162.49	N.A.	3.50
60-80	44.30	N.A.	0.90
70-80	14.01	N.A.	0.30
80-90	4.17	N.A.	0.10
90-110	0.51	N.A.	0.00
90-120	2.03	N.A.	0.00
90-130	6.24	N.A.	0.10
90-150	218.65	N.A.	4.70
90-180	2306.51	N.A.	49.10
110-180	2306.00	N.A.	49.10
0-180	4699.9	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	505.37
10-20	963.10
20-30	543.86
30-40	200.39
40-50	82.13
50-60	50.07
60-70	30.29
70-80	14.01
80-90	4.17
90-100	0.07
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_36_26-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	84	84	84	70	70	70	57	57	57	51
1	101	97	94	92	93	90	88	86	77	76	74	65	64	63	54	54	53	48
2	94	89	84	80	87	83	79	76	72	69	67	61	59	58	52	51	50	45
3	88	81	76	71	82	76	71	68	67	63	60	58	55	53	49	48	47	43
4	83	75	69	64	77	70	65	61	62	58	55	54	52	50	47	45	44	41
5	78	69	63	59	73	66	60	56	58	54	51	51	49	46	45	43	42	39
6	74	65	58	54	69	61	56	52	55	51	48	49	46	44	43	41	40	37
7	70	60	54	50	66	57	52	48	52	48	45	46	43	41	41	39	38	35
8	66	57	51	46	62	54	49	45	49	45	42	44	41	39	40	38	36	34
9	63	53	48	44	60	51	46	42	46	42	40	42	39	37	38	36	34	33
10	60	51	45	41	57	48	43	40	44	40	38	40	37	35	37	35	33	31

IES INDOOR REPORT
PHOTOMETRIC FILENAME : 192_168_37_234-14_36_26-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	6.1	6.7	7.1	7.7	9.0	6.1	6.7	7.1	7.7	9.0
	3H	7.1	7.7	8.2	8.7	10.0	7.1	7.7	8.2	8.7	10.0
	4H	7.5	8.0	8.5	9.0	10.3	7.5	8.0	8.5	9.0	10.3
	6H	7.7	8.2	8.7	9.2	10.5	7.7	8.2	8.7	9.2	10.5
	8H	7.8	8.2	8.8	9.3	10.6	7.8	8.2	8.8	9.3	10.6
	12H	7.8	8.3	8.8	9.3	10.6	7.8	8.3	8.8	9.3	10.6

UGR Viewed Endwise

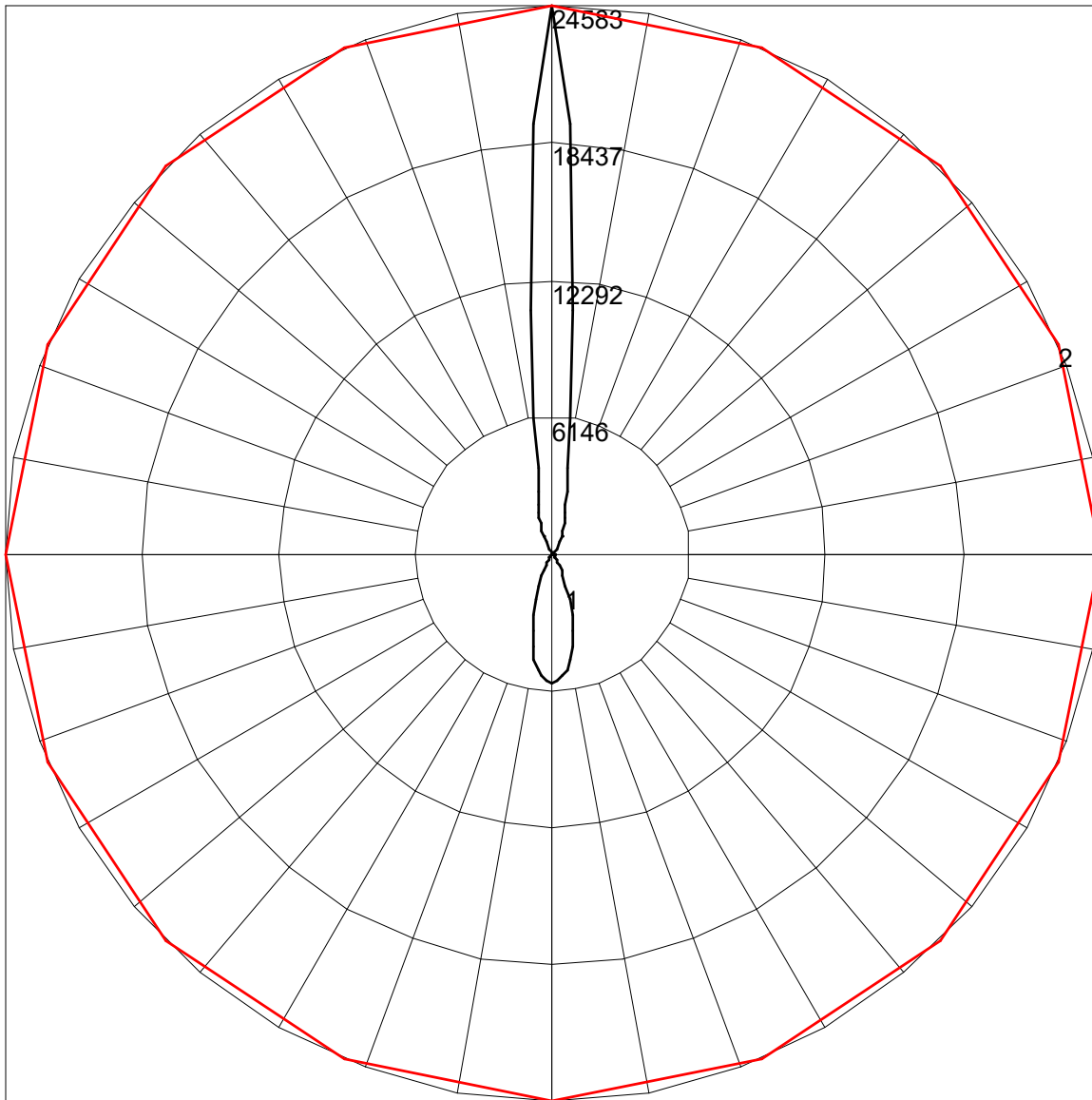
4H	2H	6.4	6.9	7.4	7.9	9.2	6.4	6.9	7.4	7.9	9.2
	3H	7.6	8.1	8.6	9.1	10.4	7.6	8.1	8.6	9.1	10.4
	4H	8.0	8.5	9.1	9.5	10.8	8.0	8.5	9.1	9.5	10.8
	6H	8.4	8.7	9.4	9.8	11.1	8.4	8.7	9.4	9.8	11.1
	8H	8.5	8.8	9.5	9.9	11.2	8.5	8.8	9.5	9.9	11.2
	12H	8.6	8.9	9.6	9.9	11.3	8.6	8.9	9.6	9.9	11.3

8H	4H	8.1	8.5	9.2	9.5	10.8	8.1	8.5	9.2	9.5	10.8
	6H	8.6	8.9	9.6	9.9	11.3	8.6	8.9	9.6	9.9	11.3
	8H	8.8	9.0	9.9	10.1	11.4	8.8	9.0	9.9	10.1	11.4
	12H	8.9	9.1	10.0	10.2	11.6	8.9	9.1	10.0	10.2	11.6

12H	4H	8.1	8.4	9.2	9.4	10.8	8.1	8.4	9.2	9.4	10.8
	6H	8.6	8.8	9.7	9.9	11.3	8.6	8.8	9.7	9.9	11.3
	8H	8.8	9.0	9.9	10.1	11.5	8.8	9.0	9.9	10.1	11.5

Maximum UGR = 11.6

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.)