



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 192_168_37_234-14_17_17-MERGED.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #12326812.05 & #12326812.12

[TESTLAB] UL Verification Services Inc.

[ISSUE DATE] 3-MAR-2021

[MANUFAC] WILLIAMS INDOOR

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

[LUMCAT] 8CRDI-TL-P29-835U-P29-835D-xxx-POE PR-ON-CSU-RW-WHD-WM

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

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

[_SEARCH_SOURCE TYPE] LED

[_SEARCH_APPLICATION] INDOOR, DIRECT, INDIRECT

[_SEARCH_MOUNTING] WALL

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	4868
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	97
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	29433	29433	29433
55	24546	24546	24546
65	17317	17317	17317
75	10608	10608	10608
85	8366	8366	8366

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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	1757.007	1757.007	1757.007	1757.007	1757.007	1757.007	1757.007	1757.007	1757.007	1757.007
2.5	1743.859	1743.859	1743.859	1743.859	1743.859	1743.859	1743.859	1743.859	1743.859	1743.859
5.0	1714.274	1714.274	1714.274	1714.274	1714.274	1714.274	1714.274	1714.274	1714.274	1714.274
7.5	1681.402	1681.402	1681.402	1681.402	1681.402	1681.402	1681.402	1681.402	1681.402	1681.402
10.0	1645.243	1645.243	1645.243	1645.243	1645.243	1645.243	1645.243	1645.243	1645.243	1645.243
12.5	1605.796	1605.796	1605.796	1605.796	1605.796	1605.796	1605.796	1605.796	1605.796	1605.796
15.0	1566.350	1566.350	1566.350	1566.350	1566.350	1566.350	1566.350	1566.350	1566.350	1566.350
17.5	1530.684	1530.684	1530.684	1530.684	1530.684	1530.684	1530.684	1530.684	1530.684	1530.684
20.0	1498.634	1498.634	1498.634	1498.634	1498.634	1498.634	1498.634	1498.634	1498.634	1498.634
22.5	1452.448	1452.448	1452.448	1452.448	1452.448	1452.448	1452.448	1452.448	1452.448	1452.448
25.0	1374.706	1374.706	1374.706	1374.706	1374.706	1374.706	1374.706	1374.706	1374.706	1374.706
27.5	1252.422	1252.422	1252.422	1252.422	1252.422	1252.422	1252.422	1252.422	1252.422	1252.422
30.0	1076.229	1076.229	1076.229	1076.229	1076.229	1076.229	1076.229	1076.229	1076.229	1076.229
32.5	853.357	853.357	853.357	853.357	853.357	853.357	853.357	853.357	853.357	853.357
35.0	647.907	647.907	647.907	647.907	647.907	647.907	647.907	647.907	647.907	647.907
37.5	518.720	518.720	518.720	518.720	518.720	518.720	518.720	518.720	518.720	518.720
40.0	451.825	451.825	451.825	451.825	451.825	451.825	451.825	451.825	451.825	451.825
42.5	410.900	410.900	410.900	410.900	410.900	410.900	410.900	410.900	410.900	410.900
45.0	380.000	380.000	380.000	380.000	380.000	380.000	380.000	380.000	380.000	380.000
47.5	351.566	351.566	351.566	351.566	351.566	351.566	351.566	351.566	351.566	351.566
50.0	322.310	322.310	322.310	322.310	322.310	322.310	322.310	322.310	322.310	322.310
52.5	290.260	290.260	290.260	290.260	290.260	290.260	290.260	290.260	290.260	290.260
55.0	257.059	257.059	257.059	257.059	257.059	257.059	257.059	257.059	257.059	257.059
57.5	223.201	223.201	223.201	223.201	223.201	223.201	223.201	223.201	223.201	223.201
60.0	191.315	191.315	191.315	191.315	191.315	191.315	191.315	191.315	191.315	191.315
62.5	161.401	161.401	161.401	161.401	161.401	161.401	161.401	161.401	161.401	161.401
65.0	133.625	133.625	133.625	133.625	133.625	133.625	133.625	133.625	133.625	133.625
67.5	108.149	108.149	108.149	108.149	108.149	108.149	108.149	108.149	108.149	108.149
70.0	85.303	85.303	85.303	85.303	85.303	85.303	85.303	85.303	85.303	85.303
72.5	65.415	65.415	65.415	65.415	65.415	65.415	65.415	65.415	65.415	65.415
75.0	50.130	50.130	50.130	50.130	50.130	50.130	50.130	50.130	50.130	50.130
77.5	39.118	39.118	39.118	39.118	39.118	39.118	39.118	39.118	39.118	39.118
80.0	29.749	29.749	29.749	29.749	29.749	29.749	29.749	29.749	29.749	29.749
82.5	21.038	21.038	21.038	21.038	21.038	21.038	21.038	21.038	21.038	21.038
85.0	13.313	13.313	13.313	13.313	13.313	13.313	13.313	13.313	13.313	13.313
87.5	6.081	6.081	6.081	6.081	6.081	6.081	6.081	6.081	6.081	6.081
90.0	1.644	1.644	1.644	1.644	1.644	1.644	1.644	1.644	1.644	1.644
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	1.206	1.206	1.206	1.206	1.206	1.206	1.206	1.206	1.206	1.206
110.0	1.206	1.206	1.206	1.206	1.206	1.206	1.206	1.206	1.206	1.206
112.5	1.206	1.206	1.206	1.206	1.206	1.206	1.206	1.206	1.206	1.206
115.0	1.206	1.206	1.206	1.206	1.206	1.206	1.206	1.206	1.206	1.206
117.5	2.412	2.412	2.412	2.412	2.412	2.412	2.412	2.412	2.412	2.412
120.0	2.412	2.412	2.412	2.412	2.412	2.412	2.412	2.412	2.412	2.412
122.5	3.618	3.618	3.618	3.618	3.618	3.618	3.618	3.618	3.618	3.618
125.0	4.824	4.824	4.824	4.824	4.824	4.824	4.824	4.824	4.824	4.824
127.5	6.030	6.030	6.030	6.030	6.030	6.030	6.030	6.030	6.030	6.030
130.0	9.649	9.649	9.649	9.649	9.649	9.649	9.649	9.649	9.649	9.649
132.5	12.061	12.061	12.061	12.061	12.061	12.061	12.061	12.061	12.061	12.061

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CANDELA TABULATION - (Cont.)

135.0	15.679	15.679	15.679	15.679	15.679	15.679	15.679	15.679	15.679	15.679
137.5	20.503	20.503	20.503	20.503	20.503	20.503	20.503	20.503	20.503	20.503
140.0	25.328	25.328	25.328	25.328	25.328	25.328	25.328	25.328	25.328	25.328
142.5	45.831	45.831	45.831	45.831	45.831	45.831	45.831	45.831	45.831	45.831
145.0	291.873	291.873	291.873	291.873	291.873	291.873	291.873	291.873	291.873	291.873
147.5	653.698	653.698	653.698	653.698	653.698	653.698	653.698	653.698	653.698	653.698
150.0	910.595	910.595	910.595	910.595	910.595	910.595	910.595	910.595	910.595	910.595
152.5	992.608	992.608	992.608	992.608	992.608	992.608	992.608	992.608	992.608	992.608
155.0	1231.413	1231.413	1231.413	1231.413	1231.413	1231.413	1231.413	1231.413	1231.413	1231.413
157.5	1590.827	1590.827	1590.827	1590.827	1590.827	1590.827	1590.827	1590.827	1590.827	1590.827
160.0	1879.081	1879.081	1879.081	1879.081	1879.081	1879.081	1879.081	1879.081	1879.081	1879.081
162.5	2113.062	2113.062	2113.062	2113.062	2113.062	2113.062	2113.062	2113.062	2113.062	2113.062
165.0	2450.766	2450.766	2450.766	2450.766	2450.766	2450.766	2450.766	2450.766	2450.766	2450.766
167.5	3048.984	3048.984	3048.984	3048.984	3048.984	3048.984	3048.984	3048.984	3048.984	3048.984
170.0	4252.657	4252.657	4252.657	4252.657	4252.657	4252.657	4252.657	4252.657	4252.657	4252.657
172.5	6670.869	6670.869	6670.869	6670.869	6670.869	6670.869	6670.869	6670.869	6670.869	6670.869
175.0	11855.844	11855.844	11855.844	11855.844	11855.844	11855.844	11855.844	11855.844	11855.844	11855.844
177.5	20901.480	20901.480	20901.480	20901.480	20901.480	20901.480	20901.480	20901.480	20901.480	20901.480
180.0	26533.881	26533.881	26533.881	26533.881	26533.881	26533.881	26533.881	26533.881	26533.881	26533.881

**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	1757.007	1757.007	1757.007	1757.007	1757.007	1757.007	1757.007
2.5	1743.859	1743.859	1743.859	1743.859	1743.859	1743.859	1743.859
5.0	1714.274	1714.274	1714.274	1714.274	1714.274	1714.274	1714.274
7.5	1681.402	1681.402	1681.402	1681.402	1681.402	1681.402	1681.402
10.0	1645.243	1645.243	1645.243	1645.243	1645.243	1645.243	1645.243
12.5	1605.796	1605.796	1605.796	1605.796	1605.796	1605.796	1605.796
15.0	1566.350	1566.350	1566.350	1566.350	1566.350	1566.350	1566.350
17.5	1530.684	1530.684	1530.684	1530.684	1530.684	1530.684	1530.684
20.0	1498.634	1498.634	1498.634	1498.634	1498.634	1498.634	1498.634
22.5	1452.448	1452.448	1452.448	1452.448	1452.448	1452.448	1452.448
25.0	1374.706	1374.706	1374.706	1374.706	1374.706	1374.706	1374.706
27.5	1252.422	1252.422	1252.422	1252.422	1252.422	1252.422	1252.422
30.0	1076.229	1076.229	1076.229	1076.229	1076.229	1076.229	1076.229
32.5	853.357	853.357	853.357	853.357	853.357	853.357	853.357
35.0	647.907	647.907	647.907	647.907	647.907	647.907	647.907
37.5	518.720	518.720	518.720	518.720	518.720	518.720	518.720
40.0	451.825	451.825	451.825	451.825	451.825	451.825	451.825
42.5	410.900	410.900	410.900	410.900	410.900	410.900	410.900
45.0	380.000	380.000	380.000	380.000	380.000	380.000	380.000
47.5	351.566	351.566	351.566	351.566	351.566	351.566	351.566
50.0	322.310	322.310	322.310	322.310	322.310	322.310	322.310
52.5	290.260	290.260	290.260	290.260	290.260	290.260	290.260
55.0	257.059	257.059	257.059	257.059	257.059	257.059	257.059
57.5	223.201	223.201	223.201	223.201	223.201	223.201	223.201
60.0	191.315	191.315	191.315	191.315	191.315	191.315	191.315
62.5	161.401	161.401	161.401	161.401	161.401	161.401	161.401
65.0	133.625	133.625	133.625	133.625	133.625	133.625	133.625
67.5	108.149	108.149	108.149	108.149	108.149	108.149	108.149
70.0	85.303	85.303	85.303	85.303	85.303	85.303	85.303
72.5	65.415	65.415	65.415	65.415	65.415	65.415	65.415
75.0	50.130	50.130	50.130	50.130	50.130	50.130	50.130
77.5	39.118	39.118	39.118	39.118	39.118	39.118	39.118
80.0	29.749	29.749	29.749	29.749	29.749	29.749	29.749

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82.5	21.038	21.038	21.038	21.038	21.038	21.038	21.038
85.0	13.313	13.313	13.313	13.313	13.313	13.313	13.313
87.5	6.081	6.081	6.081	6.081	6.081	6.081	6.081
90.0	1.644	1.644	1.644	1.644	1.644	1.644	1.644
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	1.206	1.206	1.206	1.206	1.206	1.206	1.206
110.0	1.206	1.206	1.206	1.206	1.206	1.206	1.206
112.5	1.206	1.206	1.206	1.206	1.206	1.206	1.206
115.0	1.206	1.206	1.206	1.206	1.206	1.206	1.206
117.5	2.412	2.412	2.412	2.412	2.412	2.412	2.412
120.0	2.412	2.412	2.412	2.412	2.412	2.412	2.412
122.5	3.618	3.618	3.618	3.618	3.618	3.618	3.618
125.0	4.824	4.824	4.824	4.824	4.824	4.824	4.824
127.5	6.030	6.030	6.030	6.030	6.030	6.030	6.030
130.0	9.649	9.649	9.649	9.649	9.649	9.649	9.649
132.5	12.061	12.061	12.061	12.061	12.061	12.061	12.061
135.0	15.679	15.679	15.679	15.679	15.679	15.679	15.679
137.5	20.503	20.503	20.503	20.503	20.503	20.503	20.503
140.0	25.328	25.328	25.328	25.328	25.328	25.328	25.328
142.5	45.831	45.831	45.831	45.831	45.831	45.831	45.831
145.0	291.873	291.873	291.873	291.873	291.873	291.873	291.873
147.5	653.698	653.698	653.698	653.698	653.698	653.698	653.698
150.0	910.595	910.595	910.595	910.595	910.595	910.595	910.595
152.5	992.608	992.608	992.608	992.608	992.608	992.608	992.608
155.0	1231.413	1231.413	1231.413	1231.413	1231.413	1231.413	1231.413
157.5	1590.827	1590.827	1590.827	1590.827	1590.827	1590.827	1590.827
160.0	1879.081	1879.081	1879.081	1879.081	1879.081	1879.081	1879.081
162.5	2113.062	2113.062	2113.062	2113.062	2113.062	2113.062	2113.062
165.0	2450.766	2450.766	2450.766	2450.766	2450.766	2450.766	2450.766
167.5	3048.984	3048.984	3048.984	3048.984	3048.984	3048.984	3048.984
170.0	4252.657	4252.657	4252.657	4252.657	4252.657	4252.657	4252.657
172.5	6670.867	6670.867	6670.869	6670.869	6670.869	6670.869	6670.869
175.0	11855.841	11855.841	11855.844	11855.844	11855.844	11855.844	11855.844
177.5	20901.478	20901.479	20901.479	20901.479	20901.480	20901.480	20901.480
180.0	26533.881	26533.881	26533.881	26533.881	26533.881	26533.881	26533.881

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	604.04	N.A.	12.40
0-30	1219.5	N.A.	25.10
0-40	1648.85	N.A.	33.90
0-60	2172.95	N.A.	44.60
0-80	2362.55	N.A.	48.50
0-90	2377.82	N.A.	48.90
10-90	2216.32	N.A.	45.50
20-40	1044.81	N.A.	21.50
20-50	1339.62	N.A.	27.50
40-70	657.80	N.A.	13.50
60-80	189.61	N.A.	3.90
70-80	55.91	N.A.	1.10
80-90	15.27	N.A.	0.30
90-110	0.70	N.A.	0.00
90-120	2.33	N.A.	0.00
90-130	6.88	N.A.	0.10
90-150	236.14	N.A.	4.90
90-180	2489.7	N.A.	51.10
110-180	2489.00	N.A.	51.10
0-180	4867.52	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	161.50
10-20	442.53
20-30	615.46
30-40	429.35
40-50	294.81
50-60	229.29
60-70	133.70
70-80	55.91
80-90	15.27
90-100	0.23
100-110	0.47
110-120	1.64
120-130	4.54
130-140	12.56
140-150	216.71
150-160	588.48
160-170	725.36
170-180	939.72

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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	99	95	92	88	91	88	85	82	74	72	70	62	61	59	51	50	49	44
2	91	84	79	75	84	78	74	70	67	63	61	56	54	52	46	45	43	39
3	84	76	69	64	77	70	65	60	60	56	53	51	48	45	42	40	39	35
4	78	68	61	55	72	63	57	52	55	50	46	46	43	40	39	37	35	31
5	72	61	54	49	66	57	51	46	50	45	41	43	39	36	36	33	31	28
6	67	56	48	43	62	52	46	41	45	40	37	39	35	33	33	31	28	26
7	62	51	44	39	58	48	41	37	42	37	33	36	32	30	31	28	26	23
8	58	47	40	35	54	44	38	33	39	34	30	34	30	27	29	26	24	22
9	54	43	36	32	51	41	34	30	36	31	27	31	27	25	27	24	22	20
10	51	40	33	29	48	38	32	28	33	29	25	29	25	23	25	23	20	19

IES INDOOR REPORT

PHOTOMETRIC FILENAME : 192_168_37_234-14_17_17-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	16.4	17.1	17.4	18.1	19.4	UGR Viewed Endwise	16.4	17.1	17.4	18.1	19.4
	3H	17.3	18.0	18.3	19.0	20.3		17.3	18.0	18.3	19.0	20.3
	4H	17.6	18.2	18.6	19.2	20.5		17.6	18.2	18.6	19.2	20.5
	6H	17.7	18.3	18.7	19.3	20.6		17.7	18.3	18.7	19.3	20.6
	8H	17.7	18.3	18.8	19.3	20.7		17.7	18.3	18.8	19.3	20.7
	12H	17.8	18.3	18.8	19.3	20.7		17.8	18.3	18.8	19.3	20.7

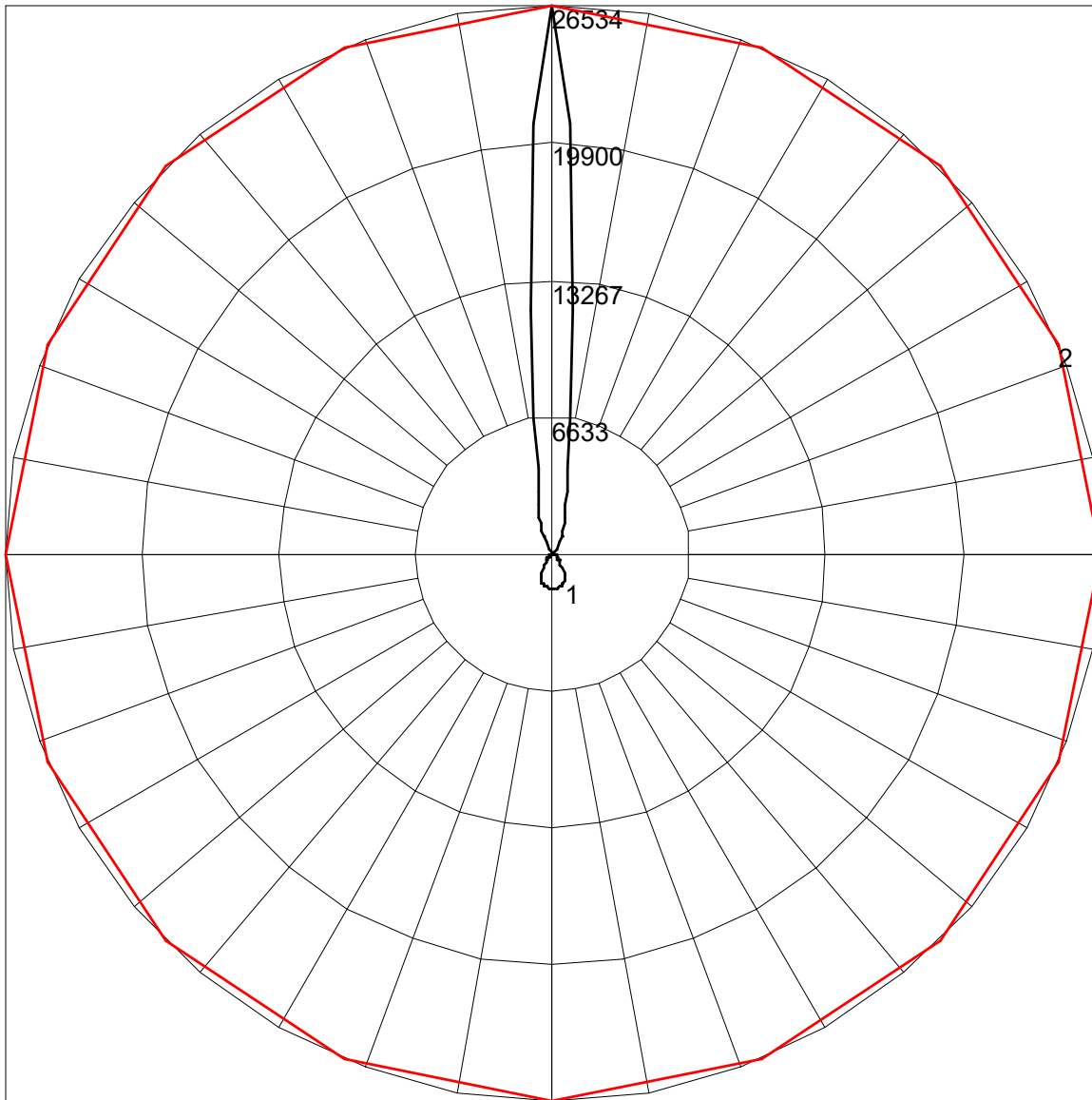
4H	2H	16.7	17.3	17.7	18.3	19.6		16.7	17.3	17.7	18.3	19.6
	3H	17.8	18.3	18.8	19.3	20.7		17.8	18.3	18.8	19.3	20.7
	4H	18.1	18.6	19.1	19.6	20.9		18.1	18.6	19.1	19.6	20.9
	6H	18.3	18.7	19.4	19.8	21.1		18.3	18.7	19.4	19.8	21.1
	8H	18.4	18.8	19.4	19.8	21.2		18.4	18.8	19.4	19.8	21.2
	12H	18.4	18.8	19.5	19.8	21.2		18.4	18.8	19.5	19.8	21.2

8H	4H	18.1	18.5	19.2	19.5	20.9		18.1	18.5	19.2	19.5	20.9
	6H	18.5	18.8	19.5	19.9	21.2		18.5	18.8	19.5	19.9	21.2
	8H	18.6	18.9	19.7	19.9	21.3		18.6	18.9	19.7	19.9	21.3
	12H	18.7	18.9	19.8	20.0	21.4		18.7	18.9	19.8	20.0	21.4

12H	4H	18.1	18.4	19.2	19.5	20.9		18.1	18.4	19.2	19.5	20.9
	6H	18.4	18.7	19.5	19.8	21.2		18.4	18.7	19.5	19.8	21.2
	8H	18.6	18.9	19.7	19.9	21.3		18.6	18.9	19.7	19.9	21.3

Maximum UGR = 21.4

POLAR GRAPH



Maximum Candela = 26533.881 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.)