



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 192_168_37_234-14_14_13-MERGED.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #12326812.05 & #12326812.15

[TESTLAB] UL Verification Services Inc.

[ISSUEDATE] 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-RN-WHD-WM

[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	5100
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	102
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	7792	7792	7792
55	5097	5097	5097
65	3468	3468	3468
75	2241	2241	2241
85	1798	1798	1798

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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	9629.300	9629.300	9629.300	9629.300	9629.300	9629.300	9629.300	9629.300	9629.300	9629.300
2.5	9394.613	9394.613	9394.613	9394.613	9394.613	9394.613	9394.613	9394.613	9394.613	9394.613
5.0	8729.192	8729.192	8729.192	8729.192	8729.192	8729.192	8729.192	8729.192	8729.192	8729.192
7.5	7716.033	7716.033	7716.033	7716.033	7716.033	7716.033	7716.033	7716.033	7716.033	7716.033
10.0	6452.447	6452.447	6452.447	6452.447	6452.447	6452.447	6452.447	6452.447	6452.447	6452.447
12.5	5094.413	5094.413	5094.413	5094.413	5094.413	5094.413	5094.413	5094.413	5094.413	5094.413
15.0	3809.362	3809.362	3809.362	3809.362	3809.362	3809.362	3809.362	3809.362	3809.362	3809.362
17.5	2747.549	2747.549	2747.549	2747.549	2747.549	2747.549	2747.549	2747.549	2747.549	2747.549
20.0	1943.318	1943.318	1943.318	1943.318	1943.318	1943.318	1943.318	1943.318	1943.318	1943.318
22.5	1354.599	1354.599	1354.599	1354.599	1354.599	1354.599	1354.599	1354.599	1354.599	1354.599
25.0	935.598	935.598	935.598	935.598	935.598	935.598	935.598	935.598	935.598	935.598
27.5	647.820	647.820	647.820	647.820	647.820	647.820	647.820	647.820	647.820	647.820
30.0	456.923	456.923	456.923	456.923	456.923	456.923	456.923	456.923	456.923	456.923
32.5	330.994	330.994	330.994	330.994	330.994	330.994	330.994	330.994	330.994	330.994
35.0	246.421	246.421	246.421	246.421	246.421	246.421	246.421	246.421	246.421	246.421
37.5	188.608	188.608	188.608	188.608	188.608	188.608	188.608	188.608	188.608	188.608
40.0	148.969	148.969	148.969	148.969	148.969	148.969	148.969	148.969	148.969	148.969
42.5	121.064	121.064	121.064	121.064	121.064	121.064	121.064	121.064	121.064	121.064
45.0	100.600	100.600	100.600	100.600	100.600	100.600	100.600	100.600	100.600	100.600
47.5	84.716	84.716	84.716	84.716	84.716	84.716	84.716	84.716	84.716	84.716
50.0	72.123	72.123	72.123	72.123	72.123	72.123	72.123	72.123	72.123	72.123
52.5	61.820	61.820	61.820	61.820	61.820	61.820	61.820	61.820	61.820	61.820
55.0	53.377	53.377	53.377	53.377	53.377	53.377	53.377	53.377	53.377	53.377
57.5	45.936	45.936	45.936	45.936	45.936	45.936	45.936	45.936	45.936	45.936
60.0	39.210	39.210	39.210	39.210	39.210	39.210	39.210	39.210	39.210	39.210
62.5	32.770	32.770	32.770	32.770	32.770	32.770	32.770	32.770	32.770	32.770
65.0	26.760	26.760	26.760	26.760	26.760	26.760	26.760	26.760	26.760	26.760
67.5	21.608	21.608	21.608	21.608	21.608	21.608	21.608	21.608	21.608	21.608
70.0	17.172	17.172	17.172	17.172	17.172	17.172	17.172	17.172	17.172	17.172
72.5	13.452	13.452	13.452	13.452	13.452	13.452	13.452	13.452	13.452	13.452
75.0	10.590	10.590	10.590	10.590	10.590	10.590	10.590	10.590	10.590	10.590
77.5	8.300	8.300	8.300	8.300	8.300	8.300	8.300	8.300	8.300	8.300
80.0	6.440	6.440	6.440	6.440	6.440	6.440	6.440	6.440	6.440	6.440
82.5	4.579	4.579	4.579	4.579	4.579	4.579	4.579	4.579	4.579	4.579
85.0	2.862	2.862	2.862	2.862	2.862	2.862	2.862	2.862	2.862	2.862
87.5	1.431	1.431	1.431	1.431	1.431	1.431	1.431	1.431	1.431	1.431
90.0	0.429	0.429	0.429	0.429	0.429	0.429	0.429	0.429	0.429	0.429
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	9629.300	9629.300	9629.300	9629.300	9629.300	9629.300	9629.300
2.5	9394.613	9394.613	9394.613	9394.613	9394.613	9394.613	9394.613
5.0	8729.192	8729.192	8729.192	8729.192	8729.192	8729.192	8729.192
7.5	7716.033	7716.033	7716.033	7716.033	7716.033	7716.033	7716.033
10.0	6452.447	6452.447	6452.447	6452.447	6452.447	6452.447	6452.447
12.5	5094.413	5094.413	5094.413	5094.413	5094.413	5094.413	5094.413
15.0	3809.362	3809.362	3809.362	3809.362	3809.362	3809.362	3809.362
17.5	2747.549	2747.549	2747.549	2747.549	2747.549	2747.549	2747.549
20.0	1943.318	1943.318	1943.318	1943.318	1943.318	1943.318	1943.318
22.5	1354.599	1354.599	1354.599	1354.599	1354.599	1354.599	1354.599
25.0	935.598	935.598	935.598	935.598	935.598	935.598	935.598
27.5	647.820	647.820	647.820	647.820	647.820	647.820	647.820
30.0	456.923	456.923	456.923	456.923	456.923	456.923	456.923
32.5	330.994	330.994	330.994	330.994	330.994	330.994	330.994
35.0	246.421	246.421	246.421	246.421	246.421	246.421	246.421
37.5	188.608	188.608	188.608	188.608	188.608	188.608	188.608
40.0	148.969	148.969	148.969	148.969	148.969	148.969	148.969
42.5	121.064	121.064	121.064	121.064	121.064	121.064	121.064
45.0	100.600	100.600	100.600	100.600	100.600	100.600	100.600
47.5	84.716	84.716	84.716	84.716	84.716	84.716	84.716
50.0	72.123	72.123	72.123	72.123	72.123	72.123	72.123
52.5	61.820	61.820	61.820	61.820	61.820	61.820	61.820
55.0	53.377	53.377	53.377	53.377	53.377	53.377	53.377
57.5	45.936	45.936	45.936	45.936	45.936	45.936	45.936
60.0	39.210	39.210	39.210	39.210	39.210	39.210	39.210
62.5	32.770	32.770	32.770	32.770	32.770	32.770	32.770
65.0	26.760	26.760	26.760	26.760	26.760	26.760	26.760
67.5	21.608	21.608	21.608	21.608	21.608	21.608	21.608
70.0	17.172	17.172	17.172	17.172	17.172	17.172	17.172
72.5	13.452	13.452	13.452	13.452	13.452	13.452	13.452
75.0	10.590	10.590	10.590	10.590	10.590	10.590	10.590
77.5	8.300	8.300	8.300	8.300	8.300	8.300	8.300
80.0	6.440	6.440	6.440	6.440	6.440	6.440	6.440

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82.5	4.579	4.579	4.579	4.579	4.579	4.579	4.579
85.0	2.862	2.862	2.862	2.862	2.862	2.862	2.862
87.5	1.431	1.431	1.431	1.431	1.431	1.431	1.431
90.0	0.429	0.429	0.429	0.429	0.429	0.429	0.429
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	1817.19	N.A.	35.60
0-30	2276.28	N.A.	44.60
0-40	2440.49	N.A.	47.90
0-60	2568.77	N.A.	50.40
0-80	2607.39	N.A.	51.10
0-90	2610.74	N.A.	51.20
10-90	1850.56	N.A.	36.30
20-40	623.30	N.A.	12.20
20-50	703.23	N.A.	13.80
40-70	155.26	N.A.	3.00
60-80	38.63	N.A.	0.80
70-80	11.64	N.A.	0.20
80-90	3.35	N.A.	0.10
90-110	0.53	N.A.	0.00
90-120	2.17	N.A.	0.00
90-130	6.71	N.A.	0.10
90-150	235.98	N.A.	4.60
90-180	2489.53	N.A.	48.80
110-180	2489.00	N.A.	48.80
0-180	5100.27	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	760.18
10-20	1057.01
20-30	459.09
30-40	164.22
40-50	79.93
50-60	48.35
60-70	26.99
70-80	11.64
80-90	3.35
90-100	0.06
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	99	99	99	99	84	84	84	70	70	70	57	57	57	51
1	101	98	95	92	93	91	88	86	78	76	75	66	65	64	55	54	54	49
2	95	89	85	81	88	83	80	76	72	70	67	62	60	59	53	52	51	46
3	89	82	77	73	83	77	73	69	68	64	62	59	57	55	50	49	48	44
4	84	76	70	66	78	72	67	63	63	60	57	56	53	51	48	47	46	42
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	56	53	50	51	48	46	45	43	42	39
7	72	62	56	52	67	59	54	50	54	50	47	48	45	43	43	41	40	38
8	68	59	53	49	64	56	51	47	51	47	44	46	43	41	42	40	38	36
9	65	56	50	46	61	53	48	45	49	45	42	44	42	40	40	38	37	35
10	62	53	47	44	59	51	46	43	47	43	40	43	40	38	39	37	36	34

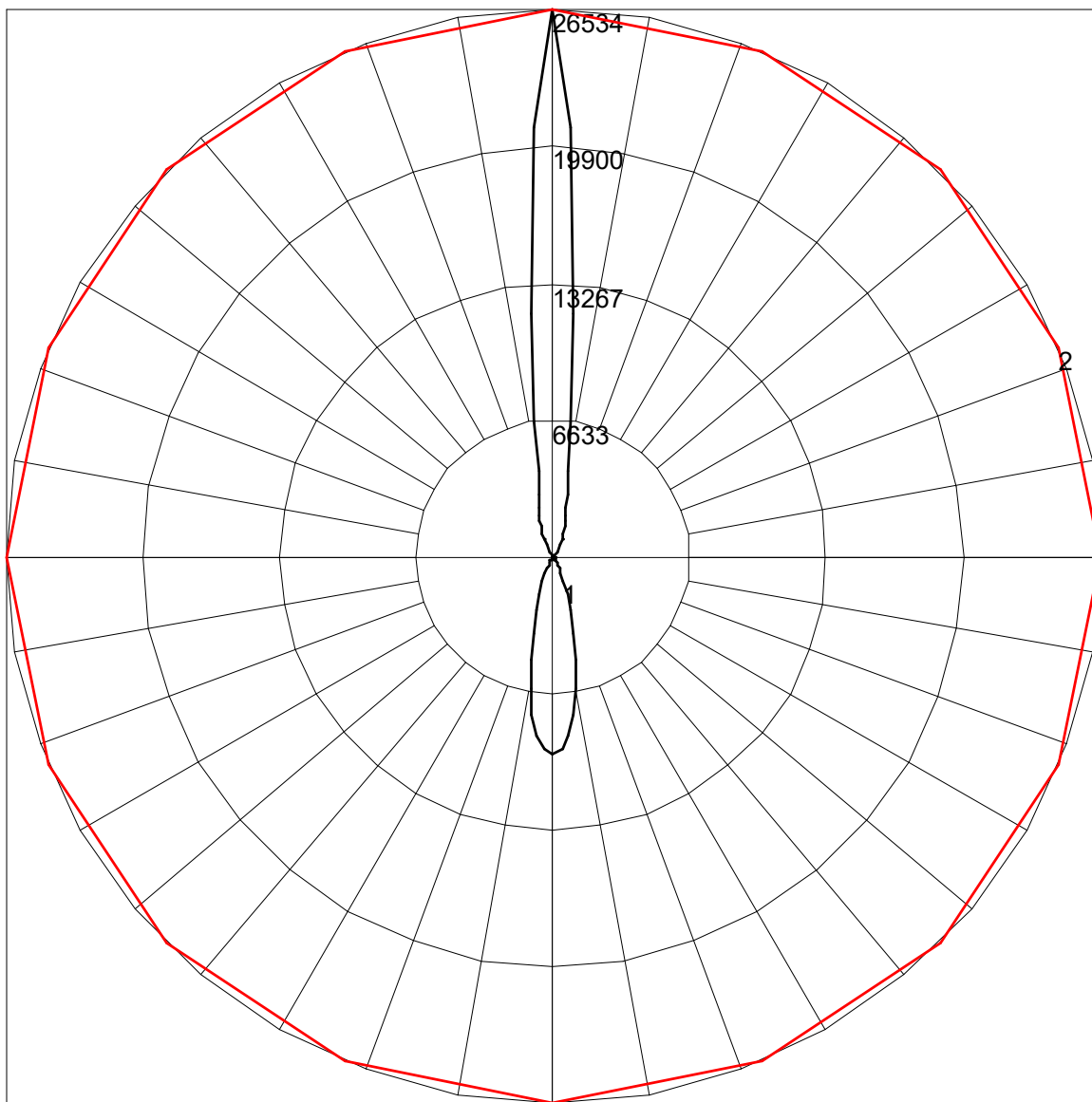
IES INDOOR REPORT
PHOTOMETRIC FILENAME : 192_168_37_234-14_14_13-MERGED.IES

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	5.8	6.1	6.5	7.1	8.4	5.8	6.1	6.5	7.1	8.4
	3H	6.3	6.9	7.3	7.9	9.2	6.3	6.9	7.3	7.9	9.2
	4H	6.6	7.1	7.6	8.1	9.4	6.6	7.1	7.6	8.1	9.4
	6H	6.7	7.2	7.8	8.2	9.6	6.7	7.2	7.8	8.2	9.6
	8H	6.8	7.3	7.8	8.3	9.6	6.8	7.3	7.8	8.3	9.6
	12H	6.8	7.3	7.8	8.3	9.6	6.8	7.3	7.8	8.3	9.6
4H	2H	5.8	6.3	6.7	7.2	8.5	5.8	6.3	6.7	7.2	8.5
	3H	6.7	7.2	7.8	8.2	9.5	6.7	7.2	7.8	8.2	9.5
	4H	7.1	7.5	8.1	8.5	9.8	7.1	7.5	8.1	8.5	9.8
	6H	7.3	7.7	8.4	8.7	10.0	7.3	7.7	8.4	8.7	10.0
	8H	7.4	7.7	8.5	8.8	10.1	7.4	7.7	8.5	8.8	10.1
	12H	7.4	7.7	8.5	8.8	10.1	7.4	7.7	8.5	8.8	10.1
8H	4H	7.1	7.4	8.2	8.5	9.8	7.1	7.4	8.2	8.5	9.8
	6H	7.5	7.7	8.5	8.8	10.2	7.5	7.7	8.5	8.8	10.2
	8H	7.6	7.9	8.7	8.9	10.3	7.6	7.9	8.7	8.9	10.3
	12H	7.7	7.9	8.8	9.0	10.4	7.7	7.9	8.8	9.0	10.4
12H	4H	7.1	7.4	8.1	8.4	9.8	7.1	7.4	8.1	8.4	9.8
	6H	7.5	7.7	8.5	8.7	10.1	7.5	7.7	8.5	8.7	10.1
	8H	7.7	7.9	8.7	8.9	10.3	7.7	7.9	8.7	8.9	10.3

Maximum UGR = 10.4

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.)