



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 192_168_39_135-10_29_12-MERGED.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #12326812.04 & #12326812.12

[TESTLAB]

[ISSUE DATE] 15-MAR-2021

[MANUFAC] WILLIAMS INDOOR

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

[LUMCAT] 8CRDI-TL-L25-9DWU-L25-9DWD-DIM-UNV-OM-CSU-RW-WHD-WM

[LUMINAIRE] 8" DIA. CYLINDER

[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	4302
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	57
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	25455	25455	25455
55	21228	21228	21228
65	14976	14976	14976
75	9174	9174	9174
85	7235	7235	7235

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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	1519.533	1519.533	1519.533	1519.533	1519.533	1519.533	1519.533	1519.533	1519.533	1519.533
2.5	1508.162	1508.162	1508.162	1508.162	1508.162	1508.162	1508.162	1508.162	1508.162	1508.162
5.0	1482.575	1482.575	1482.575	1482.575	1482.575	1482.575	1482.575	1482.575	1482.575	1482.575
7.5	1454.146	1454.146	1454.146	1454.146	1454.146	1454.146	1454.146	1454.146	1454.146	1454.146
10.0	1422.874	1422.874	1422.874	1422.874	1422.874	1422.874	1422.874	1422.874	1422.874	1422.874
12.5	1388.760	1388.760	1388.760	1388.760	1388.760	1388.760	1388.760	1388.760	1388.760	1388.760
15.0	1354.645	1354.645	1354.645	1354.645	1354.645	1354.645	1354.645	1354.645	1354.645	1354.645
17.5	1323.799	1323.799	1323.799	1323.799	1323.799	1323.799	1323.799	1323.799	1323.799	1323.799
20.0	1296.081	1296.081	1296.081	1296.081	1296.081	1296.081	1296.081	1296.081	1296.081	1296.081
22.5	1256.138	1256.138	1256.138	1256.138	1256.138	1256.138	1256.138	1256.138	1256.138	1256.138
25.0	1188.903	1188.903	1188.903	1188.903	1188.903	1188.903	1188.903	1188.903	1188.903	1188.903
27.5	1083.147	1083.147	1083.147	1083.147	1083.147	1083.147	1083.147	1083.147	1083.147	1083.147
30.0	930.767	930.767	930.767	930.767	930.767	930.767	930.767	930.767	930.767	930.767
32.5	738.018	738.018	738.018	738.018	738.018	738.018	738.018	738.018	738.018	738.018
35.0	560.337	560.337	560.337	560.337	560.337	560.337	560.337	560.337	560.337	560.337
37.5	448.611	448.611	448.611	448.611	448.611	448.611	448.611	448.611	448.611	448.611
40.0	390.757	390.757	390.757	390.757	390.757	390.757	390.757	390.757	390.757	390.757
42.5	355.363	355.363	355.363	355.363	355.363	355.363	355.363	355.363	355.363	355.363
45.0	328.640	328.640	328.640	328.640	328.640	328.640	328.640	328.640	328.640	328.640
47.5	304.049	304.049	304.049	304.049	304.049	304.049	304.049	304.049	304.049	304.049
50.0	278.747	278.747	278.747	278.747	278.747	278.747	278.747	278.747	278.747	278.747
52.5	251.029	251.029	251.029	251.029	251.029	251.029	251.029	251.029	251.029	251.029
55.0	222.315	222.315	222.315	222.315	222.315	222.315	222.315	222.315	222.315	222.315
57.5	193.033	193.033	193.033	193.033	193.033	193.033	193.033	193.033	193.033	193.033
60.0	165.457	165.457	165.457	165.457	165.457	165.457	165.457	165.457	165.457	165.457
62.5	139.587	139.587	139.587	139.587	139.587	139.587	139.587	139.587	139.587	139.587
65.0	115.564	115.564	115.564	115.564	115.564	115.564	115.564	115.564	115.564	115.564
67.5	93.532	93.532	93.532	93.532	93.532	93.532	93.532	93.532	93.532	93.532
70.0	73.773	73.773	73.773	73.773	73.773	73.773	73.773	73.773	73.773	73.773
72.5	56.574	56.574	56.574	56.574	56.574	56.574	56.574	56.574	56.574	56.574
75.0	43.354	43.354	43.354	43.354	43.354	43.354	43.354	43.354	43.354	43.354
77.5	33.831	33.831	33.831	33.831	33.831	33.831	33.831	33.831	33.831	33.831
80.0	25.728	25.728	25.728	25.728	25.728	25.728	25.728	25.728	25.728	25.728
82.5	18.195	18.195	18.195	18.195	18.195	18.195	18.195	18.195	18.195	18.195
85.0	11.514	11.514	11.514	11.514	11.514	11.514	11.514	11.514	11.514	11.514
87.5	5.259	5.259	5.259	5.259	5.259	5.259	5.259	5.259	5.259	5.259
90.0	1.534	1.534	1.534	1.534	1.534	1.534	1.534	1.534	1.534	1.534
92.5	0.225	0.225	0.225	0.225	0.225	0.225	0.225	0.225	0.225	0.225
95.0	0.338	0.338	0.338	0.338	0.338	0.338	0.338	0.338	0.338	0.338
97.5	0.451	0.451	0.451	0.451	0.451	0.451	0.451	0.451	0.451	0.451
100.0	0.678	0.678	0.678	0.678	0.678	0.678	0.678	0.678	0.678	0.678
102.5	0.903	0.903	0.903	0.903	0.903	0.903	0.903	0.903	0.903	0.903
105.0	1.241	1.241	1.241	1.241	1.241	1.241	1.241	1.241	1.241	1.241
107.5	1.806	1.806	1.806	1.806	1.806	1.806	1.806	1.806	1.806	1.806
110.0	2.483	2.483	2.483	2.483	2.483	2.483	2.483	2.483	2.483	2.483
112.5	3.273	3.273	3.273	3.273	3.273	3.273	3.273	3.273	3.273	3.273
115.0	4.514	4.514	4.514	4.514	4.514	4.514	4.514	4.514	4.514	4.514
117.5	6.094	6.094	6.094	6.094	6.094	6.094	6.094	6.094	6.094	6.094
120.0	8.238	8.238	8.238	8.238	8.238	8.238	8.238	8.238	8.238	8.238
122.5	11.286	11.286	11.286	11.286	11.286	11.286	11.286	11.286	11.286	11.286
125.0	15.575	15.575	15.575	15.575	15.575	15.575	15.575	15.575	15.575	15.575
127.5	21.894	21.894	21.894	21.894	21.894	21.894	21.894	21.894	21.894	21.894
130.0	30.246	30.246	30.246	30.246	30.246	30.246	30.246	30.246	30.246	30.246
132.5	40.403	40.403	40.403	40.403	40.403	40.403	40.403	40.403	40.403	40.403

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CANDELA TABULATION - (Cont.)

135.0	52.140	52.140	52.140	52.140	52.140	52.140	52.140	52.140	52.140	52.140
137.5	73.696	73.696	73.696	73.696	73.696	73.696	73.696	73.696	73.696	73.696
140.0	130.689	130.689	130.689	130.689	130.689	130.689	130.689	130.689	130.689	130.689
142.5	194.680	194.680	194.680	194.680	194.680	194.680	194.680	194.680	194.680	194.680
145.0	446.352	446.352	446.352	446.352	446.352	446.352	446.352	446.352	446.352	446.352
147.5	802.642	802.642	802.642	802.642	802.642	802.642	802.642	802.642	802.642	802.642
150.0	1131.961	1131.961	1131.961	1131.961	1131.961	1131.961	1131.961	1131.961	1131.961	1131.961
152.5	1328.333	1328.333	1328.333	1328.333	1328.333	1328.333	1328.333	1328.333	1328.333	1328.333
155.0	1593.548	1593.548	1593.548	1593.548	1593.548	1593.548	1593.548	1593.548	1593.548	1593.548
157.5	1891.492	1891.492	1891.492	1891.492	1891.492	1891.492	1891.492	1891.492	1891.492	1891.492
160.0	2157.835	2157.835	2157.835	2157.835	2157.835	2157.835	2157.835	2157.835	2157.835	2157.835
162.5	2376.779	2376.779	2376.779	2376.779	2376.779	2376.779	2376.779	2376.779	2376.779	2376.779
165.0	2623.937	2623.937	2623.937	2623.937	2623.937	2623.937	2623.937	2623.937	2623.937	2623.937
167.5	2938.809	2938.809	2938.809	2938.809	2938.809	2938.809	2938.809	2938.809	2938.809	2938.809
170.0	3377.825	3377.825	3377.825	3377.825	3377.825	3377.825	3377.825	3377.825	3377.825	3377.825
172.5	4031.271	4031.271	4031.271	4031.271	4031.271	4031.271	4031.271	4031.271	4031.271	4031.271
175.0	4482.701	4482.701	4482.701	4482.701	4482.701	4482.701	4482.701	4482.701	4482.701	4482.701
177.5	4584.272	4584.272	4584.272	4584.272	4584.272	4584.272	4584.272	4584.272	4584.272	4584.272
180.0	4527.927	4527.927	4527.927	4527.927	4527.927	4527.927	4527.927	4527.927	4527.927	4527.927

**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	1519.533	1519.533	1519.533	1519.533	1519.533	1519.533	1519.533
2.5	1508.162	1508.162	1508.162	1508.162	1508.162	1508.162	1508.162
5.0	1482.575	1482.575	1482.575	1482.575	1482.575	1482.575	1482.575
7.5	1454.146	1454.146	1454.146	1454.146	1454.146	1454.146	1454.146
10.0	1422.874	1422.874	1422.874	1422.874	1422.874	1422.874	1422.874
12.5	1388.760	1388.760	1388.760	1388.760	1388.760	1388.760	1388.760
15.0	1354.645	1354.645	1354.645	1354.645	1354.645	1354.645	1354.645
17.5	1323.799	1323.799	1323.799	1323.799	1323.799	1323.799	1323.799
20.0	1296.081	1296.081	1296.081	1296.081	1296.081	1296.081	1296.081
22.5	1256.138	1256.138	1256.138	1256.138	1256.138	1256.138	1256.138
25.0	1188.903	1188.903	1188.903	1188.903	1188.903	1188.903	1188.903
27.5	1083.147	1083.147	1083.147	1083.147	1083.147	1083.147	1083.147
30.0	930.767	930.767	930.767	930.767	930.767	930.767	930.767
32.5	738.018	738.018	738.018	738.018	738.018	738.018	738.018
35.0	560.337	560.337	560.337	560.337	560.337	560.337	560.337
37.5	448.611	448.611	448.611	448.611	448.611	448.611	448.611
40.0	390.757	390.757	390.757	390.757	390.757	390.757	390.757
42.5	355.363	355.363	355.363	355.363	355.363	355.363	355.363
45.0	328.640	328.640	328.640	328.640	328.640	328.640	328.640
47.5	304.049	304.049	304.049	304.049	304.049	304.049	304.049
50.0	278.747	278.747	278.747	278.747	278.747	278.747	278.747
52.5	251.029	251.029	251.029	251.029	251.029	251.029	251.029
55.0	222.315	222.315	222.315	222.315	222.315	222.315	222.315
57.5	193.033	193.033	193.033	193.033	193.033	193.033	193.033
60.0	165.457	165.457	165.457	165.457	165.457	165.457	165.457
62.5	139.587	139.587	139.587	139.587	139.587	139.587	139.587
65.0	115.564	115.564	115.564	115.564	115.564	115.564	115.564
67.5	93.532	93.532	93.532	93.532	93.532	93.532	93.532
70.0	73.773	73.773	73.773	73.773	73.773	73.773	73.773
72.5	56.574	56.574	56.574	56.574	56.574	56.574	56.574
75.0	43.354	43.354	43.354	43.354	43.354	43.354	43.354
77.5	33.831	33.831	33.831	33.831	33.831	33.831	33.831
80.0	25.728	25.728	25.728	25.728	25.728	25.728	25.728

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82.5	18.195	18.195	18.195	18.195	18.195	18.195	18.195
85.0	11.514	11.514	11.514	11.514	11.514	11.514	11.514
87.5	5.259	5.259	5.259	5.259	5.259	5.259	5.259
90.0	1.534	1.534	1.534	1.534	1.534	1.534	1.534
92.5	0.225	0.225	0.225	0.225	0.225	0.225	0.225
95.0	0.338	0.338	0.338	0.338	0.338	0.338	0.338
97.5	0.451	0.451	0.451	0.451	0.451	0.451	0.451
100.0	0.678	0.678	0.678	0.678	0.678	0.678	0.678
102.5	0.903	0.903	0.903	0.903	0.903	0.903	0.903
105.0	1.241	1.241	1.241	1.241	1.241	1.241	1.241
107.5	1.806	1.806	1.806	1.806	1.806	1.806	1.806
110.0	2.483	2.483	2.483	2.483	2.483	2.483	2.483
112.5	3.273	3.273	3.273	3.273	3.273	3.273	3.273
115.0	4.514	4.514	4.514	4.514	4.514	4.514	4.514
117.5	6.094	6.094	6.094	6.094	6.094	6.094	6.094
120.0	8.238	8.238	8.238	8.238	8.238	8.238	8.238
122.5	11.286	11.286	11.286	11.286	11.286	11.286	11.286
125.0	15.575	15.575	15.575	15.575	15.575	15.575	15.575
127.5	21.894	21.894	21.894	21.894	21.894	21.894	21.894
130.0	30.246	30.246	30.246	30.246	30.246	30.246	30.246
132.5	40.403	40.403	40.403	40.403	40.403	40.403	40.403
135.0	52.140	52.140	52.140	52.140	52.140	52.140	52.140
137.5	73.696	73.696	73.696	73.696	73.696	73.696	73.696
140.0	130.689	130.689	130.689	130.689	130.689	130.689	130.689
142.5	194.680	194.680	194.680	194.680	194.680	194.680	194.680
145.0	446.352	446.352	446.352	446.352	446.352	446.352	446.352
147.5	802.642	802.642	802.642	802.642	802.642	802.642	802.642
150.0	1131.961	1131.961	1131.961	1131.961	1131.961	1131.961	1131.961
152.5	1328.333	1328.333	1328.333	1328.333	1328.333	1328.333	1328.333
155.0	1593.548	1593.548	1593.548	1593.548	1593.548	1593.548	1593.548
157.5	1891.492	1891.492	1891.492	1891.492	1891.492	1891.492	1891.492
160.0	2157.835	2157.835	2157.835	2157.835	2157.835	2157.835	2157.835
162.5	2376.779	2376.779	2376.779	2376.779	2376.779	2376.779	2376.779
165.0	2623.937	2623.937	2623.937	2623.937	2623.937	2623.937	2623.937
167.5	2938.809	2938.809	2938.809	2938.809	2938.809	2938.809	2938.809
170.0	3377.825	3377.825	3377.825	3377.825	3377.825	3377.825	3377.825
172.5	4031.271	4031.271	4031.271	4031.271	4031.271	4031.271	4031.271
175.0	4482.701	4482.701	4482.701	4482.701	4482.701	4482.701	4482.701
177.5	4584.272	4584.272	4584.272	4584.272	4584.272	4584.272	4584.272
180.0	4527.927	4527.927	4527.927	4527.927	4527.927	4527.927	4527.927

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	522.40	N.A.	12.10
0-30	1054.67	N.A.	24.50
0-40	1425.99	N.A.	33.10
0-60	1879.25	N.A.	43.70
0-80	2043.23	N.A.	47.50
0-90	2056.46	N.A.	47.80
10-90	1916.78	N.A.	44.60
20-40	903.59	N.A.	21.00
20-50	1158.56	N.A.	26.90
40-70	568.89	N.A.	13.20
60-80	163.98	N.A.	3.80
70-80	48.35	N.A.	1.10
80-90	13.22	N.A.	0.30
90-110	2.03	N.A.	0.00
90-120	6.77	N.A.	0.20
90-130	21.84	N.A.	0.50
90-150	381.22	N.A.	8.90
90-180	2245.9	N.A.	52.20
110-180	2243.87	N.A.	52.20
0-180	4302.36	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	139.67
10-20	382.72
20-30	532.28
30-40	371.32
40-50	254.97
50-60	198.30
60-70	115.63
70-80	48.35
80-90	13.22
90-100	0.58
100-110	1.46
110-120	4.74
120-130	15.06
130-140	46.84
140-150	312.54
150-160	732.88
160-170	741.73
170-180	390.06

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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	82	82	82	68	68	68	54	54	54	48
1	99	95	91	88	91	87	85	82	74	72	70	61	60	59	50	49	48	43
2	91	84	79	74	84	78	73	69	66	63	60	55	53	51	45	44	43	38
3	84	75	69	64	77	70	64	60	60	56	52	50	47	45	42	40	38	34
4	77	68	61	55	71	63	57	52	54	49	46	46	43	40	38	36	34	30
5	72	61	54	48	66	57	51	46	49	44	41	42	38	36	35	33	31	28
6	67	56	48	43	61	52	45	41	45	40	36	39	35	32	33	30	28	25
7	62	51	43	38	57	48	41	36	41	36	33	36	32	29	30	28	26	23
8	58	47	39	35	54	44	37	33	38	33	30	33	29	27	28	26	23	21
9	54	43	36	31	50	40	34	30	35	31	27	31	27	24	26	24	22	20
10	51	40	33	29	47	37	31	27	33	28	25	29	25	22	25	22	20	18

IES INDOOR REPORT

PHOTOMETRIC FILENAME : 192_168_39_135-10_29_12-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

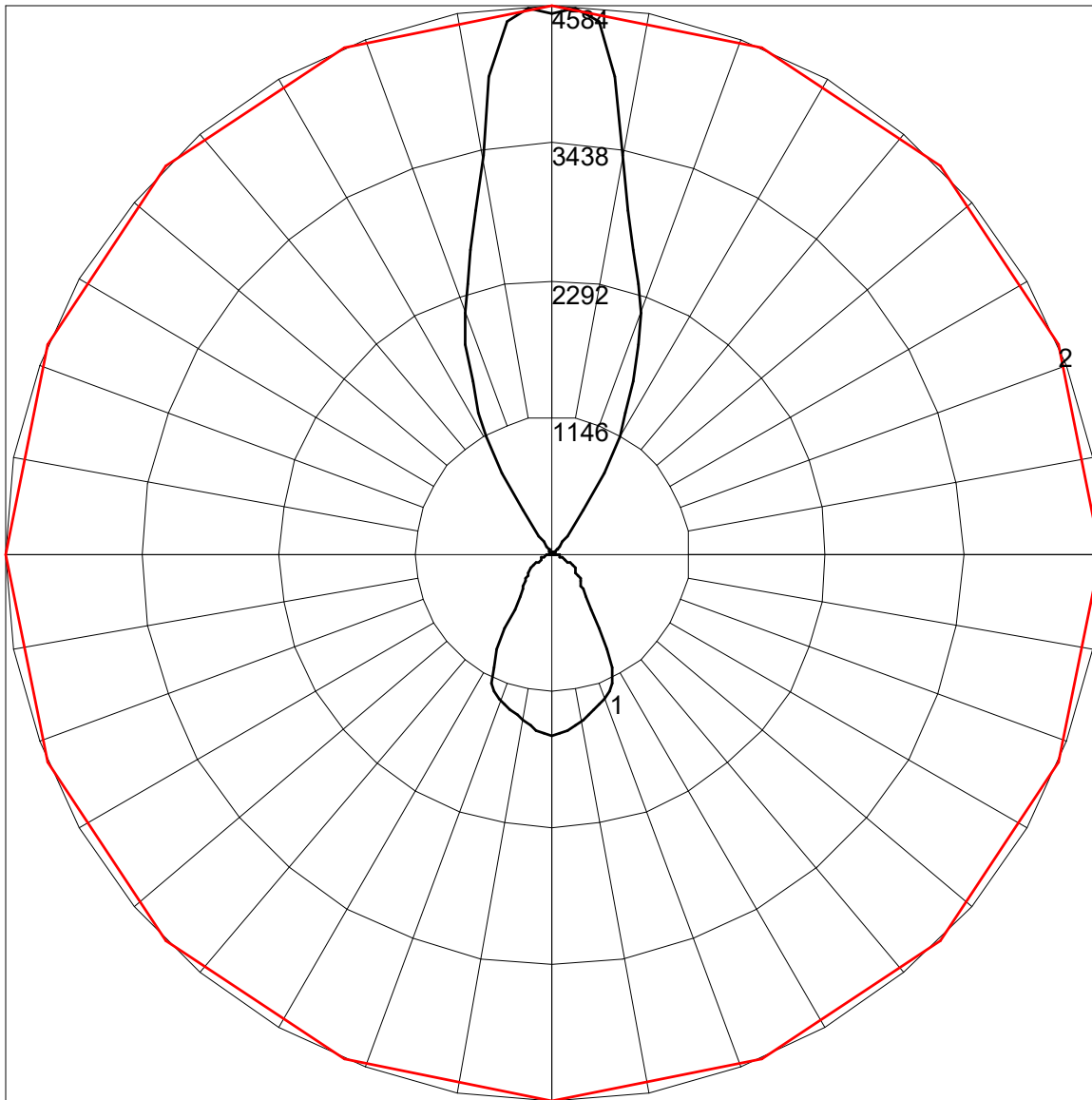
X=2H	Y=2H	15.8	16.5	16.8	17.5	18.9	15.8	16.5	16.8	17.5	18.9
	3H	16.7	17.4	17.7	18.4	19.7	16.7	17.4	17.7	18.4	19.7
	4H	17.0	17.6	18.0	18.6	19.9	17.0	17.6	18.0	18.6	19.9
	6H	17.1	17.7	18.1	18.7	20.1	17.1	17.7	18.1	18.7	20.1
	8H	17.2	17.7	18.2	18.7	20.1	17.2	17.7	18.2	18.7	20.1
	12H	17.2	17.7	18.2	18.7	20.1	17.2	17.7	18.2	18.7	20.1

UGR Viewed Endwise

4H	2H	16.1	16.7	17.1	17.7	19.1	16.1	16.7	17.1	17.7	19.1
	3H	17.2	17.7	18.2	18.7	20.1	17.2	17.7	18.2	18.7	20.1
	4H	17.5	18.0	18.5	19.0	20.4	17.5	18.0	18.5	19.0	20.4
	6H	17.7	18.1	18.8	19.2	20.6	17.7	18.1	18.8	19.2	20.6
	8H	17.8	18.2	18.8	19.2	20.6	17.8	18.2	18.8	19.2	20.6
	12H	17.8	18.2	18.9	19.2	20.6	17.8	18.2	18.9	19.2	20.6
8H	4H	17.5	17.9	18.6	19.0	20.3	17.5	17.9	18.6	19.0	20.3
	6H	17.9	18.2	18.9	19.3	20.6	17.9	18.2	18.9	19.3	20.6
	8H	18.0	18.3	19.1	19.3	20.7	18.0	18.3	19.1	19.3	20.7
	12H	18.1	18.3	19.2	19.4	20.8	18.1	18.3	19.2	19.4	20.8
12H	4H	17.5	17.8	18.6	18.9	20.3	17.5	17.8	18.6	18.9	20.3
	6H	17.9	18.1	18.9	19.2	20.6	17.9	18.1	18.9	19.2	20.6
	8H	18.0	18.3	19.1	19.3	20.8	18.0	18.3	19.1	19.3	20.8

Maximum UGR = 20.8

POLAR GRAPH



Maximum Candela = 4584.272 Located At Horizontal Angle = 0, Vertical Angle = 177.5
1 - Vertical Plane Through Horizontal Angles (90 - 270)
2 - Horizontal Cone Through Vertical Angle (177.5) (Through Max. Cd.)