



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 192_168_37_234-14_46_4-MERGED.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #12326812.05 & #12326812.12

[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-RW-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	4509
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	90
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	27264	27264	27264
55	22737	22737	22737
65	16041	16041	16041
75	9826	9826	9826
85	7749	7749	7749

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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	1627.543	1627.543	1627.543	1627.543	1627.543	1627.543	1627.543	1627.543	1627.543	1627.543
2.5	1615.363	1615.363	1615.363	1615.363	1615.363	1615.363	1615.363	1615.363	1615.363	1615.363
5.0	1587.958	1587.958	1587.958	1587.958	1587.958	1587.958	1587.958	1587.958	1587.958	1587.958
7.5	1557.508	1557.508	1557.508	1557.508	1557.508	1557.508	1557.508	1557.508	1557.508	1557.508
10.0	1524.013	1524.013	1524.013	1524.013	1524.013	1524.013	1524.013	1524.013	1524.013	1524.013
12.5	1487.474	1487.474	1487.474	1487.474	1487.474	1487.474	1487.474	1487.474	1487.474	1487.474
15.0	1450.934	1450.934	1450.934	1450.934	1450.934	1450.934	1450.934	1450.934	1450.934	1450.934
17.5	1417.896	1417.896	1417.896	1417.896	1417.896	1417.896	1417.896	1417.896	1417.896	1417.896
20.0	1388.207	1388.207	1388.207	1388.207	1388.207	1388.207	1388.207	1388.207	1388.207	1388.207
22.5	1345.425	1345.425	1345.425	1345.425	1345.425	1345.425	1345.425	1345.425	1345.425	1345.425
25.0	1273.411	1273.411	1273.411	1273.411	1273.411	1273.411	1273.411	1273.411	1273.411	1273.411
27.5	1160.138	1160.138	1160.138	1160.138	1160.138	1160.138	1160.138	1160.138	1160.138	1160.138
30.0	996.927	996.927	996.927	996.927	996.927	996.927	996.927	996.927	996.927	996.927
32.5	790.477	790.477	790.477	790.477	790.477	790.477	790.477	790.477	790.477	790.477
35.0	600.166	600.166	600.166	600.166	600.166	600.166	600.166	600.166	600.166	600.166
37.5	480.498	480.498	480.498	480.498	480.498	480.498	480.498	480.498	480.498	480.498
40.0	418.533	418.533	418.533	418.533	418.533	418.533	418.533	418.533	418.533	418.533
42.5	380.623	380.623	380.623	380.623	380.623	380.623	380.623	380.623	380.623	380.623
45.0	352.000	352.000	352.000	352.000	352.000	352.000	352.000	352.000	352.000	352.000
47.5	325.661	325.661	325.661	325.661	325.661	325.661	325.661	325.661	325.661	325.661
50.0	298.560	298.560	298.560	298.560	298.560	298.560	298.560	298.560	298.560	298.560
52.5	268.872	268.872	268.872	268.872	268.872	268.872	268.872	268.872	268.872	268.872
55.0	238.118	238.118	238.118	238.118	238.118	238.118	238.118	238.118	238.118	238.118
57.5	206.754	206.754	206.754	206.754	206.754	206.754	206.754	206.754	206.754	206.754
60.0	177.218	177.218	177.218	177.218	177.218	177.218	177.218	177.218	177.218	177.218
62.5	149.509	149.509	149.509	149.509	149.509	149.509	149.509	149.509	149.509	149.509
65.0	123.779	123.779	123.779	123.779	123.779	123.779	123.779	123.779	123.779	123.779
67.5	100.180	100.180	100.180	100.180	100.180	100.180	100.180	100.180	100.180	100.180
70.0	79.017	79.017	79.017	79.017	79.017	79.017	79.017	79.017	79.017	79.017
72.5	60.595	60.595	60.595	60.595	60.595	60.595	60.595	60.595	60.595	60.595
75.0	46.436	46.436	46.436	46.436	46.436	46.436	46.436	46.436	46.436	46.436
77.5	36.235	36.235	36.235	36.235	36.235	36.235	36.235	36.235	36.235	36.235
80.0	27.557	27.557	27.557	27.557	27.557	27.557	27.557	27.557	27.557	27.557
82.5	19.488	19.488	19.488	19.488	19.488	19.488	19.488	19.488	19.488	19.488
85.0	12.332	12.332	12.332	12.332	12.332	12.332	12.332	12.332	12.332	12.332
87.5	5.633	5.633	5.633	5.633	5.633	5.633	5.633	5.633	5.633	5.633
90.0	1.522	1.522	1.522	1.522	1.522	1.522	1.522	1.522	1.522	1.522
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	1627.543	1627.543	1627.543	1627.543	1627.543	1627.543	1627.543
2.5	1615.363	1615.363	1615.363	1615.363	1615.363	1615.363	1615.363
5.0	1587.958	1587.958	1587.958	1587.958	1587.958	1587.958	1587.958
7.5	1557.508	1557.508	1557.508	1557.508	1557.508	1557.508	1557.508
10.0	1524.013	1524.013	1524.013	1524.013	1524.013	1524.013	1524.013
12.5	1487.474	1487.474	1487.474	1487.474	1487.474	1487.474	1487.474
15.0	1450.934	1450.934	1450.934	1450.934	1450.934	1450.934	1450.934
17.5	1417.896	1417.896	1417.896	1417.896	1417.896	1417.896	1417.896
20.0	1388.207	1388.207	1388.207	1388.207	1388.207	1388.207	1388.207
22.5	1345.425	1345.425	1345.425	1345.425	1345.425	1345.425	1345.425
25.0	1273.411	1273.411	1273.411	1273.411	1273.411	1273.411	1273.411
27.5	1160.138	1160.138	1160.138	1160.138	1160.138	1160.138	1160.138
30.0	996.927	996.927	996.927	996.927	996.927	996.927	996.927
32.5	790.477	790.477	790.477	790.477	790.477	790.477	790.477
35.0	600.166	600.166	600.166	600.166	600.166	600.166	600.166
37.5	480.498	480.498	480.498	480.498	480.498	480.498	480.498
40.0	418.533	418.533	418.533	418.533	418.533	418.533	418.533
42.5	380.623	380.623	380.623	380.623	380.623	380.623	380.623
45.0	352.000	352.000	352.000	352.000	352.000	352.000	352.000
47.5	325.661	325.661	325.661	325.661	325.661	325.661	325.661
50.0	298.560	298.560	298.560	298.560	298.560	298.560	298.560
52.5	268.872	268.872	268.872	268.872	268.872	268.872	268.872
55.0	238.118	238.118	238.118	238.118	238.118	238.118	238.118
57.5	206.754	206.754	206.754	206.754	206.754	206.754	206.754
60.0	177.218	177.218	177.218	177.218	177.218	177.218	177.218
62.5	149.509	149.509	149.509	149.509	149.509	149.509	149.509
65.0	123.779	123.779	123.779	123.779	123.779	123.779	123.779
67.5	100.180	100.180	100.180	100.180	100.180	100.180	100.180
70.0	79.017	79.017	79.017	79.017	79.017	79.017	79.017
72.5	60.595	60.595	60.595	60.595	60.595	60.595	60.595
75.0	46.436	46.436	46.436	46.436	46.436	46.436	46.436
77.5	36.235	36.235	36.235	36.235	36.235	36.235	36.235
80.0	27.557	27.557	27.557	27.557	27.557	27.557	27.557

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82.5	19.488	19.488	19.488	19.488	19.488	19.488	19.488
85.0	12.332	12.332	12.332	12.332	12.332	12.332	12.332
87.5	5.633	5.633	5.633	5.633	5.633	5.633	5.633
90.0	1.522	1.522	1.522	1.522	1.522	1.522	1.522
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	559.53	N.A.	12.40
0-30	1129.64	N.A.	25.10
0-40	1527.35	N.A.	33.90
0-60	2012.83	N.A.	44.60
0-80	2188.47	N.A.	48.50
0-90	2202.61	N.A.	48.80
10-90	2053.01	N.A.	45.50
20-40	967.82	N.A.	21.50
20-50	1240.91	N.A.	27.50
40-70	609.33	N.A.	13.50
60-80	175.64	N.A.	3.90
70-80	51.79	N.A.	1.10
80-90	14.15	N.A.	0.30
90-110	0.65	N.A.	0.00
90-120	2.16	N.A.	0.00
90-130	6.37	N.A.	0.10
90-150	218.78	N.A.	4.90
90-180	2306.65	N.A.	51.20
110-180	2306.00	N.A.	51.10
0-180	4509.26	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	149.60
10-20	409.93
20-30	570.11
30-40	397.71
40-50	273.09
50-60	212.39
60-70	123.85
70-80	51.79
80-90	14.15
90-100	0.21
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

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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_46_4-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

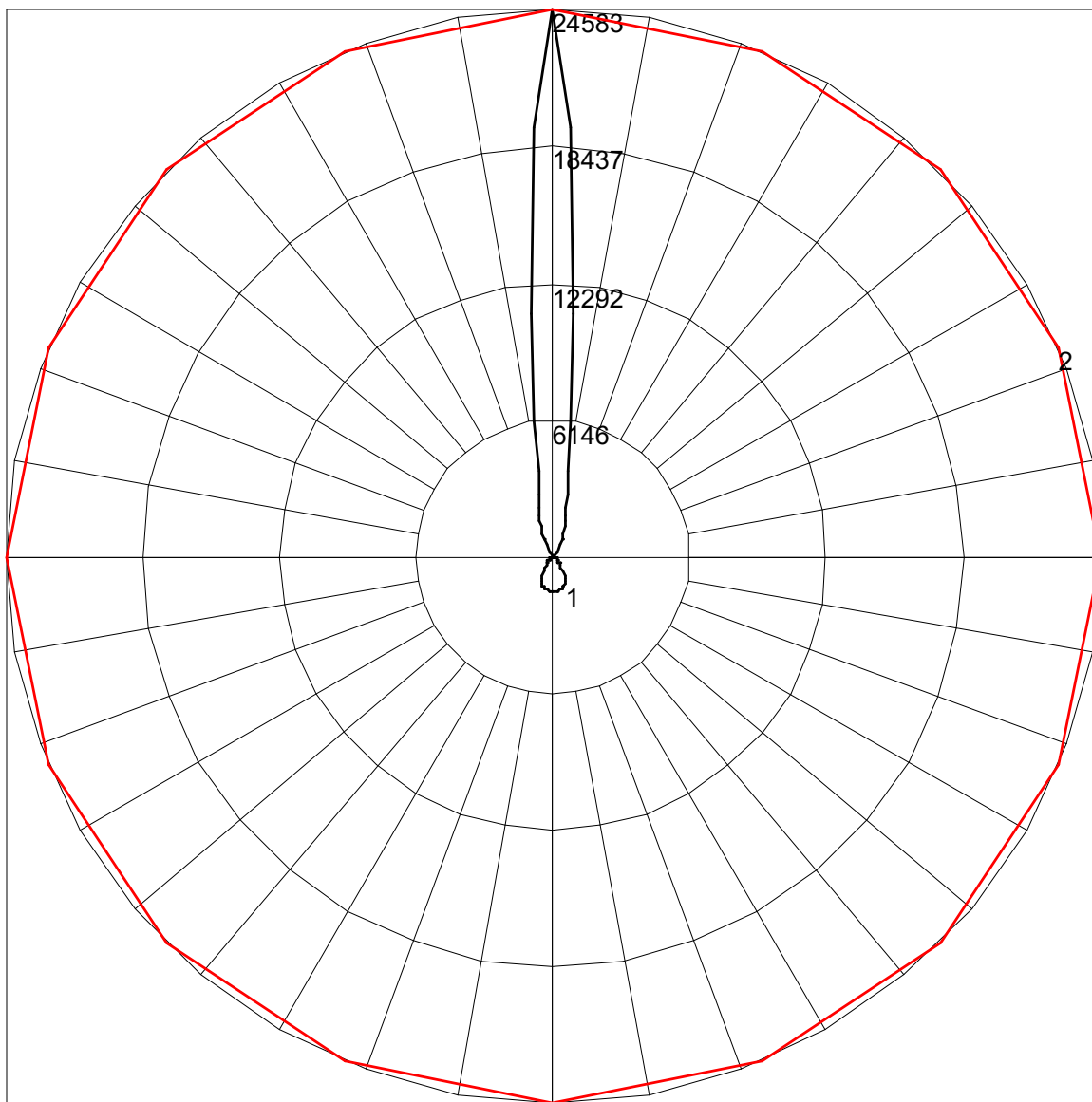
X=2H	Y=2H	16.1	16.8	17.1	17.8	19.1	16.1	16.8	17.1	17.8	19.1
	3H	17.0	17.7	18.0	18.7	20.0	17.0	17.7	18.0	18.7	20.0
	4H	17.3	17.9	18.3	18.9	20.2	17.3	17.9	18.3	18.9	20.2
	6H	17.4	18.0	18.4	19.0	20.3	17.4	18.0	18.4	19.0	20.3
	8H	17.4	18.0	18.5	19.0	20.4	17.4	18.0	18.5	19.0	20.4
	12H	17.5	18.0	18.5	19.0	20.4	17.5	18.0	18.5	19.0	20.4

UGR Viewed Endwise

4H	2H	16.4	17.0	17.4	18.0	19.3	16.4	17.0	17.4	18.0	19.3
	3H	17.5	18.0	18.5	19.0	20.4	17.5	18.0	18.5	19.0	20.4
	4H	17.8	18.3	18.8	19.3	20.6	17.8	18.3	18.8	19.3	20.6
	6H	18.0	18.4	19.1	19.5	20.8	18.0	18.4	19.1	19.5	20.8
	8H	18.1	18.5	19.1	19.5	20.9	18.1	18.5	19.1	19.5	20.9
	12H	18.1	18.5	19.2	19.5	20.9	18.1	18.5	19.2	19.5	20.9
8H	4H	17.8	18.2	18.9	19.2	20.6	17.8	18.2	18.9	19.2	20.6
	6H	18.2	18.5	19.2	19.6	20.9	18.2	18.5	19.2	19.6	20.9
	8H	18.3	18.6	19.4	19.6	21.0	18.3	18.6	19.4	19.6	21.0
	12H	18.4	18.6	19.5	19.7	21.1	18.4	18.6	19.5	19.7	21.1
12H	4H	17.8	18.1	18.9	19.2	20.6	17.8	18.1	18.9	19.2	20.6
	6H	18.1	18.4	19.2	19.5	20.9	18.1	18.4	19.2	19.5	20.9
	8H	18.3	18.6	19.4	19.6	21.0	18.3	18.6	19.4	19.6	21.0

Maximum UGR = 21.1

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.)