



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 192_168_37_234-14_1_10-MERGED.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #12326812.05 #12326812.09

[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-DALI-ON-CSU-LM-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	4767
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	95
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	9184	9184	9184
55	6724	6724	6724
65	5479	5479	5479
75	4459	4459	4459
85	2933	2933	2933

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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	5785.573	5785.573	5785.573	5785.573	5785.573	5785.573	5785.573	5785.573	5785.573	5785.573
2.5	5724.223	5724.223	5724.223	5724.223	5724.223	5724.223	5724.223	5724.223	5724.223	5724.223
5.0	5558.845	5558.845	5558.845	5558.845	5558.845	5558.845	5558.845	5558.845	5558.845	5558.845
7.5	5286.771	5286.771	5286.771	5286.771	5286.771	5286.771	5286.771	5286.771	5286.771	5286.771
10.0	4882.661	4882.661	4882.661	4882.661	4882.661	4882.661	4882.661	4882.661	4882.661	4882.661
12.5	4330.511	4330.511	4330.511	4330.511	4330.511	4330.511	4330.511	4330.511	4330.511	4330.511
15.0	3638.323	3638.323	3638.323	3638.323	3638.323	3638.323	3638.323	3638.323	3638.323	3638.323
17.5	2895.454	2895.454	2895.454	2895.454	2895.454	2895.454	2895.454	2895.454	2895.454	2895.454
20.0	2184.594	2184.594	2184.594	2184.594	2184.594	2184.594	2184.594	2184.594	2184.594	2184.594
22.5	1592.433	1592.433	1592.433	1592.433	1592.433	1592.433	1592.433	1592.433	1592.433	1592.433
25.0	1129.641	1129.641	1129.641	1129.641	1129.641	1129.641	1129.641	1129.641	1129.641	1129.641
27.5	796.750	796.750	796.750	796.750	796.750	796.750	796.750	796.750	796.750	796.750
30.0	566.154	566.154	566.154	566.154	566.154	566.154	566.154	566.154	566.154	566.154
32.5	406.377	406.377	406.377	406.377	406.377	406.377	406.377	406.377	406.377	406.377
35.0	295.414	295.414	295.414	295.414	295.414	295.414	295.414	295.414	295.414	295.414
37.5	220.593	220.593	220.593	220.593	220.593	220.593	220.593	220.593	220.593	220.593
40.0	172.314	172.314	172.314	172.314	172.314	172.314	172.314	172.314	172.314	172.314
42.5	140.572	140.572	140.572	140.572	140.572	140.572	140.572	140.572	140.572	140.572
45.0	118.566	118.566	118.566	118.566	118.566	118.566	118.566	118.566	118.566	118.566
47.5	102.428	102.428	102.428	102.428	102.428	102.428	102.428	102.428	102.428	102.428
50.0	89.891	89.891	89.891	89.891	89.891	89.891	89.891	89.891	89.891	89.891
52.5	79.488	79.488	79.488	79.488	79.488	79.488	79.488	79.488	79.488	79.488
55.0	70.419	70.419	70.419	70.419	70.419	70.419	70.419	70.419	70.419	70.419
57.5	62.284	62.284	62.284	62.284	62.284	62.284	62.284	62.284	62.284	62.284
60.0	55.215	55.215	55.215	55.215	55.215	55.215	55.215	55.215	55.215	55.215
62.5	48.547	48.547	48.547	48.547	48.547	48.547	48.547	48.547	48.547	48.547
65.0	42.278	42.278	42.278	42.278	42.278	42.278	42.278	42.278	42.278	42.278
67.5	36.410	36.410	36.410	36.410	36.410	36.410	36.410	36.410	36.410	36.410
70.0	30.942	30.942	30.942	30.942	30.942	30.942	30.942	30.942	30.942	30.942
72.5	25.874	25.874	25.874	25.874	25.874	25.874	25.874	25.874	25.874	25.874
75.0	21.072	21.072	21.072	21.072	21.072	21.072	21.072	21.072	21.072	21.072
77.5	16.538	16.538	16.538	16.538	16.538	16.538	16.538	16.538	16.538	16.538
80.0	12.270	12.270	12.270	12.270	12.270	12.270	12.270	12.270	12.270	12.270
82.5	8.269	8.269	8.269	8.269	8.269	8.269	8.269	8.269	8.269	8.269
85.0	4.668	4.668	4.668	4.668	4.668	4.668	4.668	4.668	4.668	4.668
87.5	1.867	1.867	1.867	1.867	1.867	1.867	1.867	1.867	1.867	1.867
90.0	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400
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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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	19364.728	19364.727	19364.727	19364.727	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	5785.573	5785.573	5785.573	5785.573	5785.573	5785.573	5785.573
2.5	5724.223	5724.223	5724.223	5724.223	5724.223	5724.223	5724.223
5.0	5558.845	5558.845	5558.845	5558.845	5558.845	5558.845	5558.845
7.5	5286.771	5286.771	5286.771	5286.771	5286.771	5286.771	5286.771
10.0	4882.661	4882.661	4882.661	4882.661	4882.661	4882.661	4882.661
12.5	4330.511	4330.511	4330.511	4330.511	4330.511	4330.511	4330.511
15.0	3638.323	3638.323	3638.323	3638.323	3638.323	3638.323	3638.323
17.5	2895.454	2895.454	2895.454	2895.454	2895.454	2895.454	2895.454
20.0	2184.594	2184.594	2184.594	2184.594	2184.594	2184.594	2184.594
22.5	1592.433	1592.433	1592.433	1592.433	1592.433	1592.433	1592.433
25.0	1129.641	1129.641	1129.641	1129.641	1129.641	1129.641	1129.641
27.5	796.750	796.750	796.750	796.750	796.750	796.750	796.750
30.0	566.154	566.154	566.154	566.154	566.154	566.154	566.154
32.5	406.377	406.377	406.377	406.377	406.377	406.377	406.377
35.0	295.414	295.414	295.414	295.414	295.414	295.414	295.414
37.5	220.593	220.593	220.593	220.593	220.593	220.593	220.593
40.0	172.314	172.314	172.314	172.314	172.314	172.314	172.314
42.5	140.572	140.572	140.572	140.572	140.572	140.572	140.572
45.0	118.566	118.566	118.566	118.566	118.566	118.566	118.566
47.5	102.428	102.428	102.428	102.428	102.428	102.428	102.428
50.0	89.891	89.891	89.891	89.891	89.891	89.891	89.891
52.5	79.488	79.488	79.488	79.488	79.488	79.488	79.488
55.0	70.419	70.419	70.419	70.419	70.419	70.419	70.419
57.5	62.284	62.284	62.284	62.284	62.284	62.284	62.284
60.0	55.215	55.215	55.215	55.215	55.215	55.215	55.215
62.5	48.547	48.547	48.547	48.547	48.547	48.547	48.547
65.0	42.278	42.278	42.278	42.278	42.278	42.278	42.278
67.5	36.410	36.410	36.410	36.410	36.410	36.410	36.410
70.0	30.942	30.942	30.942	30.942	30.942	30.942	30.942
72.5	25.874	25.874	25.874	25.874	25.874	25.874	25.874
75.0	21.072	21.072	21.072	21.072	21.072	21.072	21.072
77.5	16.538	16.538	16.538	16.538	16.538	16.538	16.538
80.0	12.270	12.270	12.270	12.270	12.270	12.270	12.270

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82.5	8.269	8.269	8.269	8.269	8.269	8.269	8.269
85.0	4.668	4.668	4.668	4.668	4.668	4.668	4.668
87.5	1.867	1.867	1.867	1.867	1.867	1.867	1.867
90.0	0.400	0.400	0.400	0.400	0.400	0.400	0.400
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	1489.85	N.A.	31.30
0-30	2034.39	N.A.	42.70
0-40	2232.52	N.A.	46.80
0-60	2390.63	N.A.	50.10
0-80	2455.17	N.A.	51.50
0-90	2460.92	N.A.	51.60
10-90	1951.47	N.A.	40.90
20-40	742.67	N.A.	15.60
20-50	837.21	N.A.	17.60
40-70	200.22	N.A.	4.20
60-80	64.54	N.A.	1.40
70-80	22.43	N.A.	0.50
80-90	5.75	N.A.	0.10
90-110	0.49	N.A.	0.00
90-120	2.01	N.A.	0.00
90-130	6.22	N.A.	0.10
90-150	218.63	N.A.	4.60
90-180	2306.49	N.A.	48.40
110-180	2306.00	N.A.	48.40
0-180	4767.41	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	509.45
10-20	980.41
20-30	544.54
30-40	198.13
40-50	94.54
50-60	63.57
60-70	42.11
70-80	22.43
80-90	5.75
90-100	0.05
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	108	108	108	108	99	99	99	99	84	84	84	70	70	70	58	58	58	52
1	101	97	94	92	93	90	88	86	78	76	74	66	65	64	55	54	54	49
2	94	89	84	80	87	83	79	75	72	69	67	62	60	58	52	51	50	46
3	88	81	76	71	82	76	71	68	67	63	60	58	55	53	50	48	47	43
4	83	75	69	64	77	70	65	61	62	58	55	54	52	50	47	46	44	41
5	78	69	63	58	73	65	60	56	58	54	51	51	49	46	45	43	42	39
6	74	64	58	54	69	61	56	52	55	51	47	49	46	43	43	41	40	37
7	70	60	54	50	66	57	52	48	52	47	44	46	43	41	41	39	38	35
8	66	57	50	46	62	54	49	45	49	45	42	44	41	39	40	38	36	34
9	63	53	47	43	59	51	46	42	46	42	39	42	39	37	38	36	34	33
10	60	50	45	41	57	48	43	40	44	40	37	40	37	35	37	34	33	31

IES INDOOR REPORT
PHOTOMETRIC FILENAME : 192_168_37_234-14_1_10-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

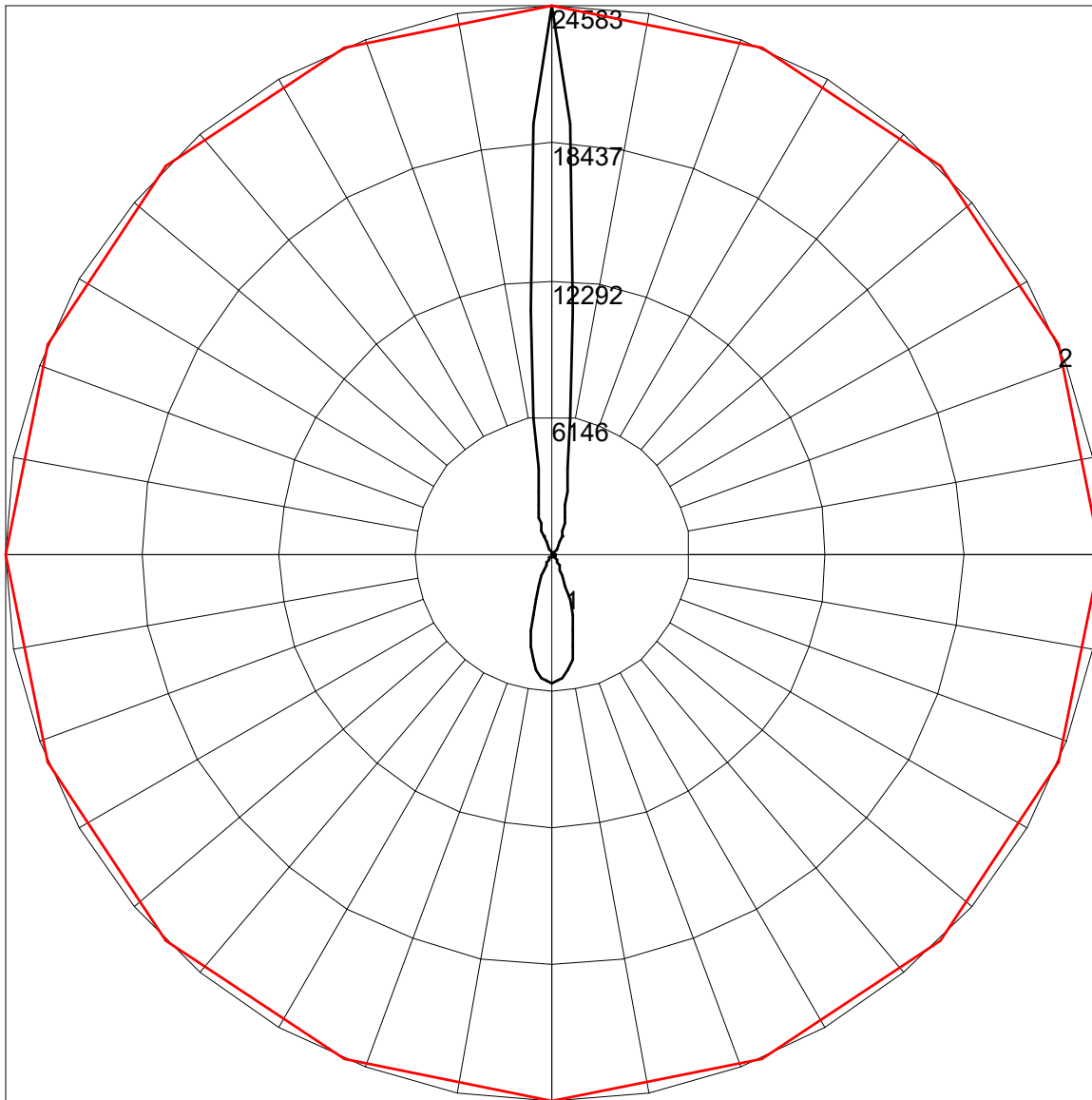
X=2H	Y=2H	7.8	8.4	8.7	9.4	10.7	7.8	8.4	8.7	9.4	10.7
	3H	9.2	9.8	10.1	10.7	12.0	9.2	9.8	10.1	10.7	12.0
	4H	9.6	10.2	10.7	11.2	12.5	9.6	10.2	10.7	11.2	12.5
	6H	10.0	10.5	11.0	11.5	12.8	10.0	10.5	11.0	11.5	12.8
	8H	10.1	10.6	11.1	11.6	12.9	10.1	10.6	11.1	11.6	12.9
	12H	10.1	10.6	11.1	11.6	12.9	10.1	10.6	11.1	11.6	12.9

UGR Viewed Endwise

4H	2H	8.2	8.7	9.2	9.7	11.0	8.2	8.7	9.2	9.7	11.0
	3H	9.8	10.2	10.8	11.2	12.6	9.8	10.2	10.8	11.2	12.6
	4H	10.4	10.8	11.4	11.8	13.1	10.4	10.8	11.4	11.8	13.1
	6H	10.8	11.2	11.9	12.2	13.6	10.8	11.2	11.9	12.2	13.6
	8H	11.0	11.3	12.0	12.3	13.7	11.0	11.3	12.0	12.3	13.7
	12H	11.0	11.3	12.1	12.4	13.7	11.0	11.3	12.1	12.4	13.7
8H	4H	10.6	10.9	11.6	11.9	13.3	10.6	10.9	11.6	11.9	13.3
	6H	11.1	11.4	12.2	12.5	13.8	11.1	11.4	12.2	12.5	13.8
	8H	11.3	11.6	12.4	12.6	14.0	11.3	11.6	12.4	12.6	14.0
	12H	11.4	11.6	12.5	12.7	14.1	11.4	11.6	12.5	12.7	14.1
12H	4H	10.5	10.8	11.6	11.9	13.2	10.5	10.8	11.6	11.9	13.2
	6H	11.1	11.4	12.2	12.4	13.8	11.1	11.4	12.2	12.4	13.8
	8H	11.4	11.6	12.4	12.6	14.0	11.4	11.6	12.4	12.6	14.0

Maximum UGR = 14.1

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.)