



**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : DIG-S22-L24-940-AD-DIM-UNV\_.IES**

**DESCRIPTION INFORMATION (From Photometric File)**

IESNA:LM-63-2002  
 [TEST] GEN FROM DI 22 3800  
 [TESTLAB] Intertek  
 [ISSUE DATE] 07 DECEMBER 2020  
 [MANUFAC] WILLIAMS INDOOR  
 [OTHER] H.E. WILLIAMS, INC. - CARTHAGE, MO.  
 [LUMCAT] DIG-S22-L24-940-AD-DIM-UNV  
 [LUMINAIRE] RECESSED DIRECT INDIRECT LED LUMINAIRE  
 [LAMP] HLM 90 CRI 4000K CCT  
 [ \_SEARCH\_SOURCETYPE] LED  
 [ \_SEARCH\_APPLICATION] INDOOR, CLASSROOM, OFFICE  
 [ \_SEARCH\_MOUNTING] RECESSED

**CHARACTERISTICS**

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	1800
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	112
Total Luminaire Watts	16
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.30
Spacing Criterion (90-270)	1.20
Spacing Criterion (Diagonal)	1.36
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	1.92 ft
Luminous Width (90-270)	1.92 ft
Luminous Height	0.00 ft

**LUMINANCE DATA (cd/sq.m)**

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	1861	1700	1527
55	1909	1653	1396
65	2080	1648	1261
75	1453	1528	1123
85	1219	1092	960

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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>
<b>0.0</b>	627.070	627.070	627.070	627.070	627.070	627.070	627.070	627.070	627.070	627.070
<b>2.5</b>	627.942	627.458	625.860	625.666	625.424	625.085	625.230	627.022	627.893	627.022
<b>5.0</b>	626.489	625.956	624.262	623.680	622.954	622.421	623.051	625.182	626.441	625.182
<b>7.5</b>	623.535	623.002	621.017	619.758	618.547	617.821	619.225	622.228	623.826	622.228
<b>10.0</b>	619.177	618.402	616.126	613.995	612.397	611.574	613.850	617.966	620.097	617.966
<b>12.5</b>	613.801	612.639	609.395	608.329	605.908	605.424	606.925	612.446	615.109	612.446
<b>15.0</b>	607.167	605.569	602.760	597.821	594.334	594.528	599.419	605.375	608.959	605.375
<b>17.5</b>	599.806	597.676	593.462	586.925	583.051	583.002	590.266	597.337	601.598	597.337
<b>20.0</b>	591.525	588.571	581.647	575.061	570.363	570.654	577.821	587.797	593.317	587.797
<b>22.5</b>	582.179	578.257	569.637	561.114	555.400	555.981	565.278	577.482	583.826	577.482
<b>25.0</b>	571.719	567.361	556.659	546.053	539.274	540.194	552.155	566.247	573.220	566.247
<b>27.5</b>	560.242	555.061	541.889	529.443	521.695	523.535	537.288	553.850	561.695	553.850
<b>30.0</b>	547.554	541.356	526.247	511.380	502.954	505.424	521.453	540.242	549.104	540.242
<b>32.5</b>	533.753	526.295	509.395	492.252	483.148	486.199	504.455	525.230	534.867	525.230
<b>35.0</b>	519.128	510.557	491.574	472.155	462.228	466.005	486.489	508.717	519.564	508.717
<b>37.5</b>	503.341	493.705	472.785	451.719	440.097	444.794	467.458	491.525	503.438	491.525
<b>40.0</b>	486.489	475.932	453.123	429.249	416.998	422.179	447.845	473.753	486.828	473.753
<b>42.5</b>	469.007	457.579	432.591	407.409	393.559	399.370	427.700	455.739	469.637	455.739
<b>45.0</b>	451.138	438.402	412.010	384.504	370.073	376.804	406.199	437.385	452.300	437.385
<b>47.5</b>	432.446	419.274	390.363	361.162	346.344	353.656	384.939	417.676	434.334	417.676
<b>50.0</b>	413.462	399.080	368.426	337.627	322.179	330.266	363.438	398.160	415.061	398.160
<b>52.5</b>	394.092	378.499	346.634	314.044	298.160	306.877	342.034	378.354	396.126	378.354
<b>55.0</b>	375.303	358.257	324.939	290.557	274.431	283.535	320.775	358.693	378.063	358.693
<b>57.5</b>	357.143	338.402	303.245	267.361	250.847	260.581	299.564	339.564	361.114	339.564
<b>60.0</b>	339.661	319.080	281.453	244.504	227.603	238.015	278.402	321.065	345.230	321.065
<b>62.5</b>	321.501	299.903	259.903	222.082	204.891	215.981	257.482	303.099	327.700	303.099
<b>65.0</b>	301.404	279.225	238.741	199.952	182.663	194.625	236.852	282.712	307.748	282.712
<b>67.5</b>	269.879	255.012	217.579	178.499	160.872	173.511	216.029	257.918	274.092	257.918
<b>70.0</b>	214.189	217.385	195.157	157.433	139.806	152.978	193.220	218.692	217.821	218.692
<b>72.5</b>	158.208	164.407	168.765	136.610	119.419	132.349	166.199	164.988	157.482	164.988
<b>75.0</b>	128.910	128.136	135.593	115.835	99.661	111.671	132.397	123.971	125.424	123.971
<b>77.5</b>	100.630	102.082	101.404	94.625	80.630	90.557	97.046	97.482	96.416	97.482
<b>80.0</b>	75.351	75.254	77.143	72.639	62.228	68.862	73.123	71.283	71.864	71.283
<b>82.5</b>	55.351	53.801	53.898	51.235	44.939	48.281	50.460	50.605	52.107	50.605
<b>85.0</b>	36.416	34.431	32.639	31.525	28.668	30.896	32.203	33.366	34.964	33.366
<b>87.5</b>	18.499	17.433	15.738	15.496	14.286	14.867	15.012	16.029	16.562	16.029
<b>90.0</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>92.5</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>95.0</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>97.5</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>100.0</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>102.5</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>105.0</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>107.5</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>110.0</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>112.5</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>115.0</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>117.5</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>120.0</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>122.5</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>125.0</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>127.5</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>130.0</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>132.5</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

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**CANDELA TABULATION - (Cont.)**

135.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
137.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
140.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
142.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
145.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
147.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
150.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
152.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
155.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
157.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
160.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
162.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
165.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
167.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
170.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
172.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
175.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
177.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
180.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

**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	627.070	627.070	627.070	627.070	627.070	627.070	627.070
2.5	625.230	625.085	625.424	625.666	625.860	627.458	627.942
5.0	623.051	622.421	622.954	623.680	624.262	625.956	626.489
7.5	619.225	617.821	618.547	619.758	621.017	623.002	623.535
10.0	613.850	611.574	612.397	613.995	616.126	618.402	619.177
12.5	606.925	605.424	605.908	608.329	609.395	612.639	613.801
15.0	599.419	594.528	594.334	597.821	602.760	605.569	607.167
17.5	590.266	583.002	583.051	586.925	593.462	597.676	599.806
20.0	577.821	570.654	570.363	575.061	581.647	588.571	591.525
22.5	565.278	555.981	555.400	561.114	569.637	578.257	582.179
25.0	552.155	540.194	539.274	546.053	556.659	567.361	571.719
27.5	537.288	523.535	521.695	529.443	541.889	555.061	560.242
30.0	521.453	505.424	502.954	511.380	526.247	541.356	547.554
32.5	504.455	486.199	483.148	492.252	509.395	526.295	533.753
35.0	486.489	466.005	462.228	472.155	491.574	510.557	519.128
37.5	467.458	444.794	440.097	451.719	472.785	493.705	503.341
40.0	447.845	422.179	416.998	429.249	453.123	475.932	486.489
42.5	427.700	399.370	393.559	407.409	432.591	457.579	469.007
45.0	406.199	376.804	370.073	384.504	412.010	438.402	451.138
47.5	384.939	353.656	346.344	361.162	390.363	419.274	432.446
50.0	363.438	330.266	322.179	337.627	368.426	399.080	413.462
52.5	342.034	306.877	298.160	314.044	346.634	378.499	394.092
55.0	320.775	283.535	274.431	290.557	324.939	358.257	375.303
57.5	299.564	260.581	250.847	267.361	303.245	338.402	357.143
60.0	278.402	238.015	227.603	244.504	281.453	319.080	339.661
62.5	257.482	215.981	204.891	222.082	259.903	299.903	321.501
65.0	236.852	194.625	182.663	199.952	238.741	279.225	301.404
67.5	216.029	173.511	160.872	178.499	217.579	255.012	269.879
70.0	193.220	152.978	139.806	157.433	195.157	217.385	214.189
72.5	166.199	132.349	119.419	136.610	168.765	164.407	158.208
75.0	132.397	111.671	99.661	115.835	135.593	128.136	128.910
77.5	97.046	90.557	80.630	94.625	101.404	102.082	100.630
80.0	73.123	68.862	62.228	72.639	77.143	75.254	75.351

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CANDELA TABULATION - (Cont.)

82.5	50.460	48.281	44.939	51.235	53.898	53.801	55.351
85.0	32.203	30.896	28.668	31.525	32.639	34.431	36.416
87.5	15.012	14.867	14.286	15.496	15.738	17.433	18.499
90.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
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	0.000	0.000	0.000	0.000	0.000	0.000	0.000
110.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
112.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
115.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
117.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
120.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
122.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
125.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
127.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
130.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
132.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
135.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
137.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
140.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
142.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
145.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
147.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
150.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
152.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
155.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
157.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
160.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
162.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
165.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
167.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
170.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
172.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
175.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
177.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
180.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000

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**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	228.88	N.A.	12.70
0-30	484.60	N.A.	26.90
0-40	790.83	N.A.	43.90
0-60	1396.61	N.A.	77.60
0-80	1763.22	N.A.	98.00
0-90	1799.94	N.A.	100.00
10-90	1740.63	N.A.	96.70
20-40	561.95	N.A.	31.20
20-50	878.02	N.A.	48.80
40-70	841.26	N.A.	46.70
60-80	366.61	N.A.	20.40
70-80	131.13	N.A.	7.30
80-90	36.72	N.A.	2.00
90-110	0.00	N.A.	0.00
90-120	0.00	N.A.	0.00
90-130	0.00	N.A.	0.00
90-150	0.00	N.A.	0.00
90-180	0.00	N.A.	0.00
110-180	0.00	N.A.	0.00
0-180	1799.94	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	59.31
10-20	169.57
20-30	255.72
30-40	306.23
40-50	316.07
50-60	289.71
60-70	235.48
70-80	131.13
80-90	36.72
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00

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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	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	109	104	99	95	106	101	97	94	97	94	91	93	90	88	90	87	85	83
2	98	90	83	77	96	88	82	76	85	79	75	81	77	73	78	75	71	69
3	90	79	71	64	87	77	70	63	74	68	62	72	66	61	69	64	60	58
4	82	70	61	54	80	68	60	54	66	59	53	64	57	52	61	56	51	49
5	75	62	53	46	73	61	53	46	59	51	46	57	50	45	55	49	45	42
6	70	56	47	40	68	55	47	40	53	46	40	52	45	40	50	44	39	37
7	64	51	42	36	63	50	42	36	48	41	35	47	40	35	46	39	35	33
8	60	46	38	32	58	46	37	32	44	37	32	43	36	31	42	36	31	29
9	56	43	34	29	55	42	34	29	41	33	28	40	33	28	39	33	28	26
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	24

**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : DIG-S22-L24-940-AD-DIM-UNV\_.IES**

**UGR TABLE - CORRECTED**

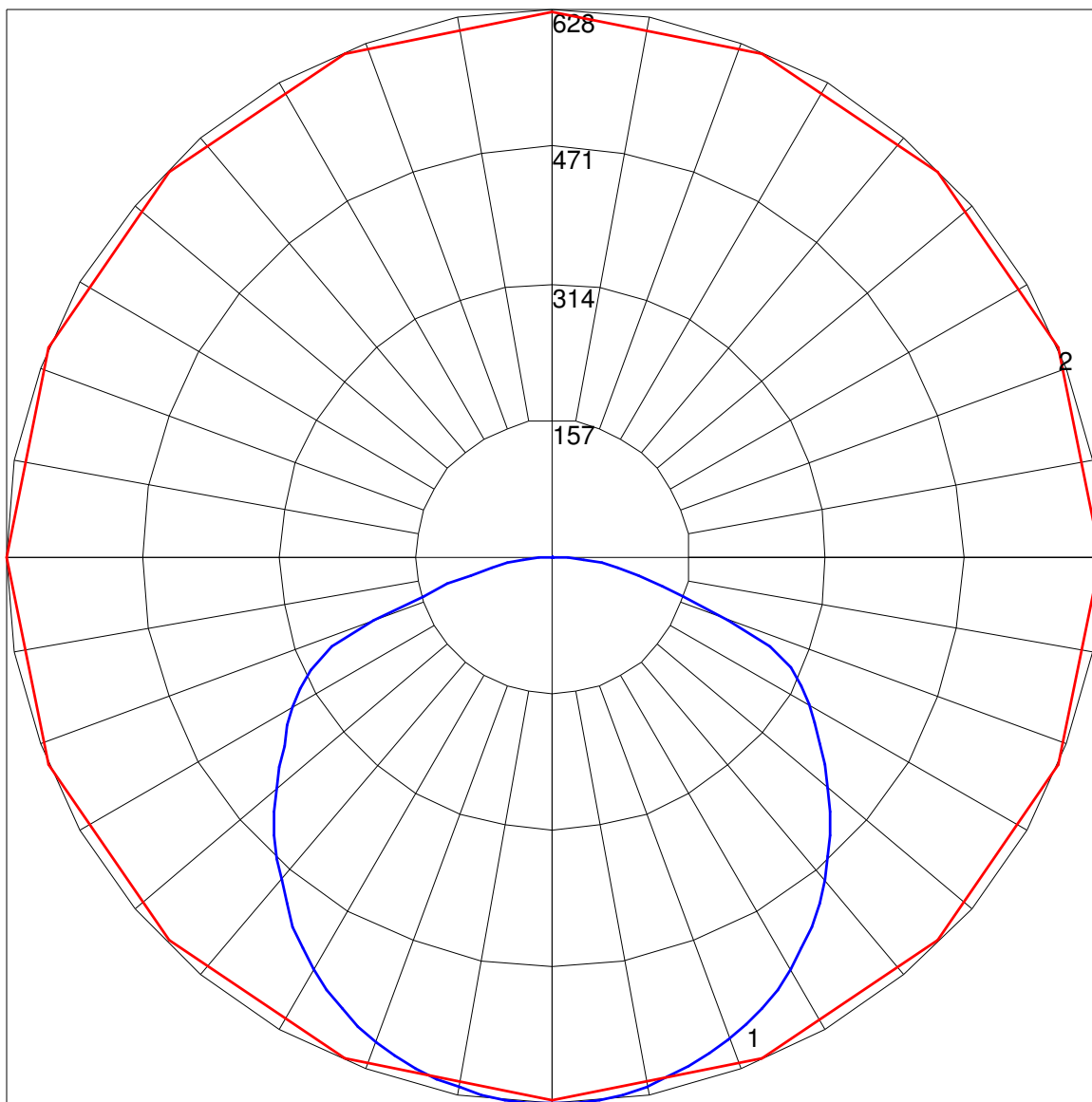
Reflectances

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	14.8	16.4	15.1	16.7	17.0	12.9	14.5	13.2	14.8	15.2
	3H	17.0	18.5	17.4	18.8	19.2	14.6	16.1	15.0	16.5	16.8
	4H	17.5	18.9	17.9	19.3	19.7	15.3	16.7	15.7	17.1	17.5
	6H	17.9	19.2	18.3	19.6	20.0	15.8	17.2	16.3	17.5	17.9
	8H	18.1	19.3	18.5	19.7	20.1	16.0	17.3	16.4	17.7	18.1
	12H	18.1	19.3	18.6	19.7	20.2	16.1	17.3	16.6	17.7	18.1
4H	2H	15.3	16.7	15.7	17.1	17.4	13.9	15.3	14.3	15.6	16.0
	3H	17.7	18.9	18.1	19.3	19.7	15.9	17.0	16.3	17.4	17.8
	4H	18.4	19.5	18.8	19.9	20.3	16.6	17.7	17.1	18.1	18.6
	6H	18.9	19.8	19.4	20.3	20.7	17.3	18.2	17.7	18.7	19.1
	8H	19.1	20.0	19.6	20.4	20.9	17.5	18.4	18.0	18.8	19.3
	12H	19.2	20.0	19.7	20.5	21.0	17.7	18.4	18.1	18.9	19.4
8H	4H	18.7	19.5	19.1	20.0	20.4	17.1	18.0	17.6	18.4	18.9
	6H	19.3	20.0	19.8	20.5	21.0	17.9	18.6	18.4	19.1	19.6
	8H	19.5	20.2	20.0	20.7	21.2	18.2	18.8	18.7	19.3	19.8
	12H	19.7	20.3	20.2	20.8	21.4	18.4	19.0	18.9	19.5	20.0
12H	4H	18.7	19.5	19.2	19.9	20.4	17.2	18.0	17.7	18.4	18.9
	6H	19.3	20.0	19.8	20.5	21.0	18.0	18.6	18.5	19.1	19.6
	8H	19.6	20.2	20.1	20.7	21.3	18.3	18.9	18.8	19.4	19.9

Maximum UGR = 21.4

POLAR GRAPH



Maximum Candela = 627.942 Located At Horizontal Angle = 0, Vertical Angle = 2.5  
# 1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)  
# 2 - Horizontal Cone Through Vertical Angle (2.5) (Through Max. Cd.)