



## IES ROAD REPORT

PHOTOMETRIC FILENAME : HLN-3-LED-27L-40-IL.IES

### DESCRIPTIVE INFORMATION (From Photometric File)

IESNA:LM-63-2002  
[TEST]LED-7762\_Scaled  
[TESTLAB]LSI INDUSTRIES, INC  
[ISSUE DATE]04/03/17  
[TEST DATE]04/28/16  
[MANUFACTURER]LSI INDUSTRIES, INC  
[LUMCAT] HLN-3-LED-27L-40-IL  
[ABSOLUTE]NOTE: DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED.  
[OTHER]TEST PROCEDURE: IESNA LM-79-08  
[SEARCH\_SOURCETYPE] LED  
[SEARCH\_APPLICATION] Outdoor  
[OTHER]SCALED FROM ORIGINAL TEST DATA

### CHARACTERISTICS

IES Classification	Type III
Longitudinal Classification	Short
Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	22390
Downward Total Efficiency	N.A. (absolute)
Total Luminaire Efficiency	N.A. (absolute)
Luminaire Efficacy Rating (LER)	93
Total Luminaire Watts	241
Ballast Factor	1.00
Upward Waste Light Ratio	0.00
Maximum Candela	28333.009
Maximum Candela Angle	55H 67.5V
Maximum Candela (<90 Degrees Vertical)	28333.009
Maximum Candela Angle (<90 Degrees Vertical)	55H 67.5V
Maximum Candela At 90 Degrees Vertical	0 (0.0% Luminaire Lumens)
Maximum Candela from 80 to <90 Degrees Vertical	1542.575 (6.9% Luminaire Lumens)
Cutoff Classification (deprecated)	N.A. (absolute)

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**LUMINAIRE CLASSIFICATION SYSTEM (LCS)**

	Lumens	% Lamp	% Luminaire
FL - Front-Low (0-30)	989.7	N.A.	4.4
FM - Front-Medium (30-60)	10128.5	N.A.	45.2
FH - Front-High (60-80)	9333.2	N.A.	41.7
FVH - Front-Very High (80-90)	181.8	N.A.	0.8
BL - Back-Low (0-30)	435.2	N.A.	1.9
BM - Back-Medium (30-60)	979.6	N.A.	4.4
BH - Back-High (60-80)	336.0	N.A.	1.5
BVH - Back-Very High (80-90)	6.5	N.A.	0.0
UL - Uplight-Low (90-100)	0.0	N.A.	0.0
UH - Uplight-High (100-180)	0.0	N.A.	0.0
Total	22390.5	N.A.	100.0
BUG Rating	B1-U0-G4		

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**CANDELA TABULATION**

<b>Vert. Angles</b>	<b>Horizontal Angles</b>									
	<u><b>0.0</b></u>	<u><b>5.0</b></u>	<u><b>15.0</b></u>	<u><b>25.0</b></u>	<u><b>35.0</b></u>	<u><b>45.0</b></u>	<u><b>55.0</b></u>	<u><b>57.5</b></u>	<u><b>65.0</b></u>	<u><b>75.0</b></u>
<b>0.0</b>	1735.755	1735.755	1735.755	1735.755	1735.755	1735.755	1735.755	1735.755	1735.755	1735.755
<b>2.5</b>	1991.896	1983.311	1954.691	1941.813	1917.486	1903.177	1870.265	1854.524	1838.784	1797.286
<b>5.0</b>	2189.369	2186.507	2177.921	2169.335	2149.302	2134.992	2084.909	2053.428	2000.482	1900.315
<b>7.5</b>	2130.700	2130.700	2137.854	2162.181	2173.628	2189.369	2182.214	2169.335	2127.838	2001.913
<b>10.0</b>	1987.604	1987.604	2003.344	2044.842	2092.064	2155.026	2200.817	2199.386	2195.093	2089.202
<b>12.5</b>	1850.231	1851.662	1870.265	1921.779	1980.449	2069.168	2162.181	2175.059	2209.402	2142.147
<b>15.0</b>	1737.186	1738.616	1762.943	1814.457	1893.160	1987.604	2094.926	2116.390	2196.524	2179.352
<b>17.5</b>	1672.792	1674.223	1701.412	1758.650	1841.646	1940.382	2056.290	2083.478	2185.076	2217.988
<b>20.0</b>	1705.704	1709.997	1741.478	1813.026	1887.436	1986.173	2100.649	2133.561	2236.591	2292.398
<b>22.5</b>	1930.365	1933.227	1961.846	2030.532	2083.478	2162.181	2265.210	2300.984	2388.272	2458.389
<b>25.0</b>	2395.427	2395.427	2432.632	2444.080	2462.682	2494.163	2597.193	2602.916	2677.326	2734.565
<b>27.5</b>	3020.757	3059.393	3062.255	3039.359	3016.464	2984.983	3049.376	3050.807	3085.150	3093.736
<b>30.0</b>	3684.722	3726.220	3743.392	3739.099	3697.601	3620.329	3624.622	3608.881	3580.262	3474.371
<b>32.5</b>	4383.031	4364.428	4398.771	4431.683	4430.252	4395.909	4301.466	4259.968	4121.165	3889.349
<b>35.0</b>	4925.365	4918.210	4999.774	5084.201	5145.732	5178.644	5029.825	4958.277	4704.997	4324.361
<b>37.5</b>	5433.355	5457.682	5550.694	5693.790	5821.146	5979.982	5775.355	5679.480	5294.552	4753.649
<b>40.0</b>	6020.049	6047.237	6145.973	6293.362	6493.697	6729.805	6565.245	6394.961	5868.367	5151.456
<b>42.5</b>	6775.596	6801.353	6912.968	6967.345	7236.365	7488.214	7296.465	7126.181	6390.668	5480.577
<b>45.0</b>	7761.527	7787.285	7900.330	7883.159	8084.924	8312.447	8021.962	7817.335	6868.608	5763.907
<b>47.5</b>	9043.668	9076.580	9215.383	9132.387	9271.190	9242.571	8747.459	8465.560	7366.582	6030.066
<b>50.0</b>	10777.991	10848.108	11148.610	11084.217	10922.518	10365.875	9484.403	9122.370	7830.213	6354.894
<b>52.5</b>	13372.322	13489.660	13823.074	13692.857	13280.740	11815.437	10351.565	9855.022	8386.857	6844.282
<b>55.0</b>	16374.476	16657.806	16982.634	17025.563	16413.112	13774.422	11449.111	10835.230	9183.902	7565.486
<b>57.5</b>	17789.695	17984.306	19074.698	20136.470	20023.424	16692.149	13167.694	12379.235	10434.561	8750.321
<b>60.0</b>	15932.309	16284.325	18239.017	20833.348	23932.807	20910.619	15780.628	14830.470	12435.043	10732.200
<b>62.5</b>	9447.198	9696.185	13287.895	18236.155	23882.723	24636.839	19860.295	19147.677	15401.423	13320.807
<b>65.0</b>	2694.498	2810.406	4364.428	10033.892	19976.202	25190.621	24486.589	23902.757	18988.840	15606.050
<b>67.5</b>	1074.651	1124.735	1516.818	2873.368	11285.982	22006.735	28333.009	28327.285	21772.057	16321.530
<b>70.0</b>	726.928	755.547	890.057	1485.337	3646.086	14751.767	25661.407	27029.405	23111.436	13513.987
<b>72.5</b>	586.694	612.451	688.292	1086.099	2110.666	6339.153	19353.735	21191.088	18244.741	17654.205
<b>75.0</b>	462.200	476.510	548.058	922.969	1659.914	3063.685	9646.102	11370.409	9550.227	2353.929
<b>77.5</b>	353.447	374.912	435.012	807.061	1448.132	1884.574	3545.919	4484.629	2708.807	847.128
<b>80.0</b>	246.125	260.435	326.259	679.706	1220.609	1309.328	1346.533	1542.575	1131.889	453.614
<b>82.5</b>	147.389	155.975	214.644	560.936	930.124	900.074	605.296	553.782	526.593	291.916
<b>85.0</b>	95.874	101.598	148.820	466.493	738.375	485.095	244.694	257.573	263.297	188.887
<b>87.5</b>	60.100	64.393	103.029	347.723	363.464	167.422	107.322	105.891	108.753	108.753
<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>Vert. Angles</b>	<b>Horizontal Angles</b>									
	<u><b>85.0</b></u>	<u><b>90.0</b></u>	<u><b>95.0</b></u>	<u><b>105.0</b></u>	<u><b>115.0</b></u>	<u><b>125.0</b></u>	<u><b>135.0</b></u>	<u><b>145.0</b></u>	<u><b>155.0</b></u>	<u><b>165.0</b></u>
<b>0.0</b>	1735.755	1735.755	1735.755	1735.755	1735.755	1735.755	1735.755	1735.755	1735.755	1735.755
<b>2.5</b>	1767.236	1751.495	1731.462	1689.964	1658.483	1624.140	1592.659	1546.868	1516.818	1521.111
<b>5.0</b>	1803.010	1751.495	1697.119	1588.366	1483.906	1389.462	1302.174	1249.228	1213.454	1202.006
<b>7.5</b>	1837.353	1750.064	1658.483	1478.182	1320.776	1210.592	1151.923	1107.563	1068.927	1044.601
<b>10.0</b>	1867.403	1741.478	1614.123	1365.136	1194.852	1113.287	1047.463	1000.241	964.467	940.141
<b>12.5</b>	1896.022	1730.031	1571.194	1263.538	1116.149	1028.860	968.760	928.693	895.781	878.609
<b>15.0</b>	1921.779	1717.152	1525.403	1186.266	1057.479	978.777	912.953	882.902	862.869	851.421
<b>17.5</b>	1948.968	1708.566	1481.044	1130.458	1017.413	950.157	888.626	860.007	847.128	832.819
<b>20.0</b>	2003.344	1732.893	1469.596	1098.977	1017.413	934.417	887.195	845.697	822.802	815.647
<b>22.5</b>	2156.457	1841.646	1538.282	1111.856	1058.910	954.450	892.919	834.250	797.045	792.752
<b>25.0</b>	2385.410	2017.654	1687.102	1154.785	1114.718	1003.103	894.350	822.802	772.718	724.066
<b>27.5</b>	2671.602	2263.779	1861.679	1216.316	1170.525	1057.479	910.091	801.338	662.535	562.367

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**CANDELA TABULATION - (Cont.)**

30.0	2957.794	2478.423	2020.516	1283.571	1220.609	1107.563	912.953	683.999	515.146	490.819
32.5	3269.744	2725.979	2193.662	1345.102	1264.969	1146.199	849.990	569.522	496.543	506.560
35.0	3594.572	2964.949	2372.532	1382.307	1285.002	1159.078	741.237	556.643	499.405	520.869
37.5	3897.935	3193.903	2524.214	1395.186	1272.123	1088.961	715.480	530.886	453.614	455.045
40.0	4171.249	3391.375	2641.552	1380.876	1222.040	953.019	702.601	495.112	389.221	363.464
42.5	4403.064	3545.919	2721.686	1337.948	1120.442	841.405	643.932	462.200	352.016	306.225
45.0	4590.520	3670.413	2770.339	1267.831	928.693	672.551	555.213	424.995	376.342	273.313
47.5	4786.561	3816.370	2831.870	1174.818	675.413	487.957	432.150	374.912	357.740	259.004
50.0	5046.996	4046.755	2944.916	1073.220	495.112	357.740	324.828	341.999	346.292	253.280
52.5	5444.803	4420.236	3188.179	1001.672	376.342	284.761	253.280	301.933	311.949	259.004
55.0	6065.840	5052.720	3594.572	950.157	337.707	253.280	210.351	253.280	244.694	274.744
57.5	7111.871	5921.313	4188.420	862.869	317.673	233.246	183.163	210.351	190.318	197.472
60.0	8781.802	6987.378	4516.110	742.668	300.502	206.058	158.837	150.251	114.477	153.113
62.5	11128.576	7781.561	4258.537	621.037	264.728	170.284	157.406	93.012	77.272	120.201
65.0	12311.980	7751.511	3159.560	502.267	206.058	150.251	113.046	72.979	55.807	115.908
67.5	11771.077	6287.638	1884.574	346.292	153.113	113.046	74.410	61.531	54.376	88.720
70.0	7682.825	3952.312	937.279	223.230	113.046	68.686	45.791	50.084	41.498	65.824
72.5	3371.342	1575.487	347.723	143.096	82.996	40.067	34.343	32.912	27.188	44.360
75.0	845.697	536.610	210.351	105.891	52.946	30.050	21.464	21.464	10.017	17.172
77.5	402.100	267.590	145.958	75.841	31.481	20.033	11.448	7.155	2.862	4.293
80.0	248.987	177.439	107.322	50.084	17.172	8.586	7.155	4.293	1.431	0.000
82.5	165.991	120.201	77.272	28.619	8.586	8.586	7.155	2.862	0.000	0.000
85.0	105.891	82.996	54.376	15.741	8.586	7.155	5.724	2.862	0.000	0.000
87.5	60.100	44.360	27.188	8.586	10.017	10.017	8.586	4.293	1.431	0.000
90.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

**Vert. Horizontal Angles**  
**Angles**

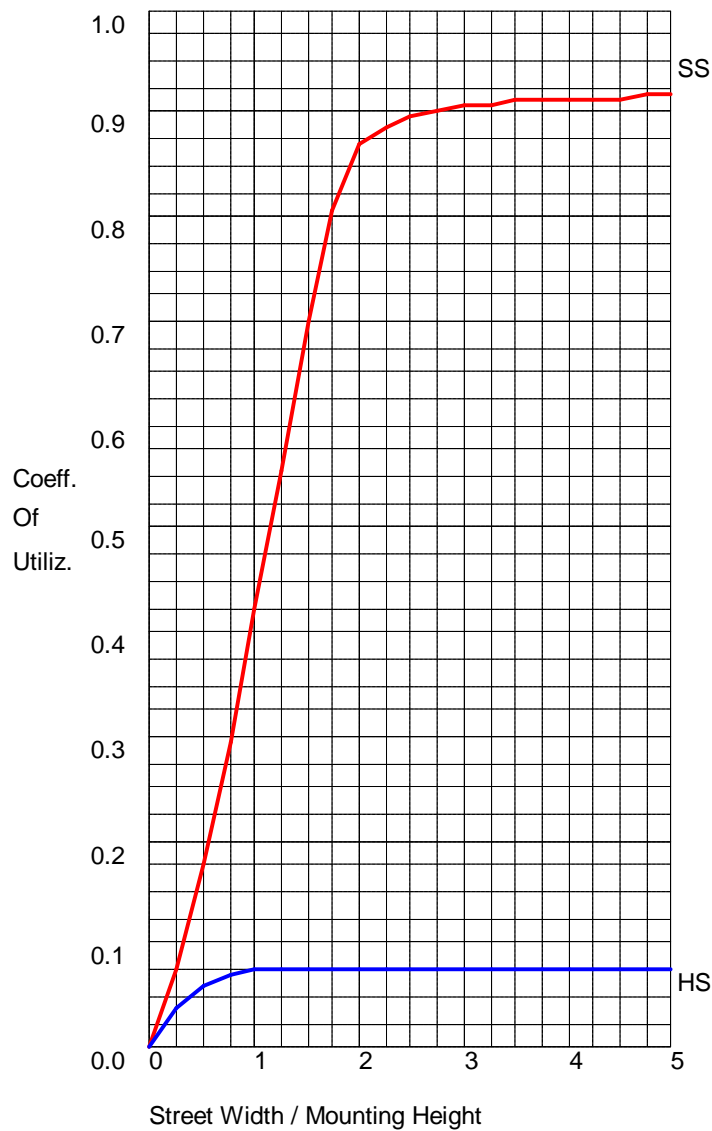
	<b>175.0</b>	<b>180.0</b>
0.0	1735.755	1735.755
2.5	1509.663	1512.525
5.0	1193.421	1190.559
7.5	1040.308	1037.446
10.0	934.417	928.693
12.5	871.455	867.162
15.0	847.128	839.974
17.5	827.095	819.940
20.0	807.061	798.476
22.5	784.166	777.011
25.0	685.430	676.844
27.5	520.869	513.715
30.0	493.681	489.388
32.5	529.455	522.300
35.0	559.505	553.782
37.5	466.493	459.338
40.0	352.016	340.568
42.5	264.728	261.866
45.0	237.539	230.385
47.5	216.075	211.782
50.0	196.042	187.456
52.5	206.058	198.903
55.0	201.765	191.749
57.5	124.494	105.891
60.0	95.874	80.134
62.5	82.996	64.393
65.0	101.598	77.272

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**CANDELA TABULATION - (Cont.)**

<b>67.5</b>	93.012	67.255
<b>70.0</b>	77.272	52.946
<b>72.5</b>	51.515	35.774
<b>75.0</b>	15.741	10.017
<b>77.5</b>	0.000	0.000
<b>80.0</b>	0.000	0.000
<b>82.5</b>	0.000	0.000
<b>85.0</b>	0.000	0.000
<b>87.5</b>	0.000	0.000
<b>90.0</b>	0.000	0.000

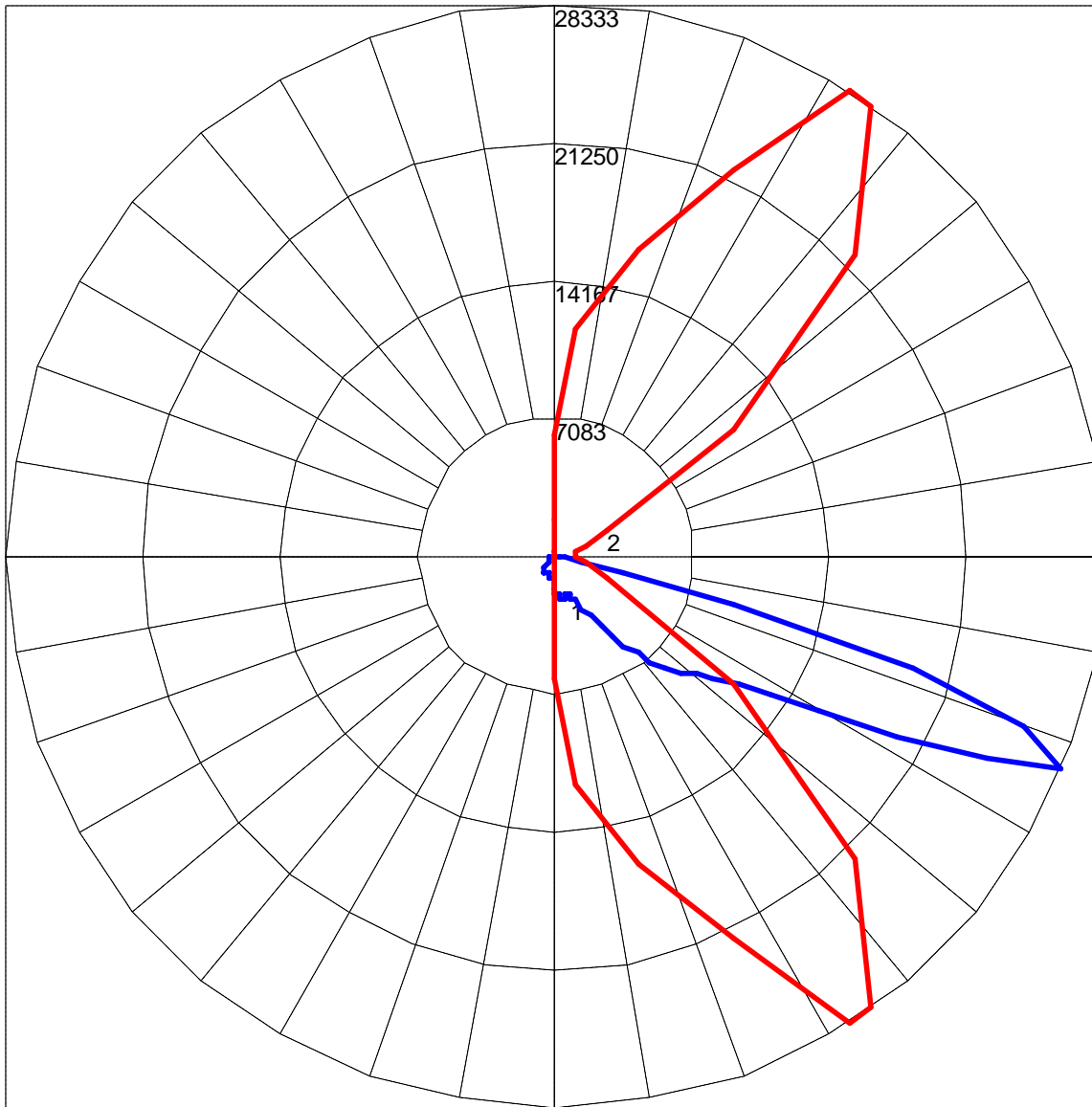
COEFFICIENTS OF UTILIZATION



FLUX DISTRIBUTION

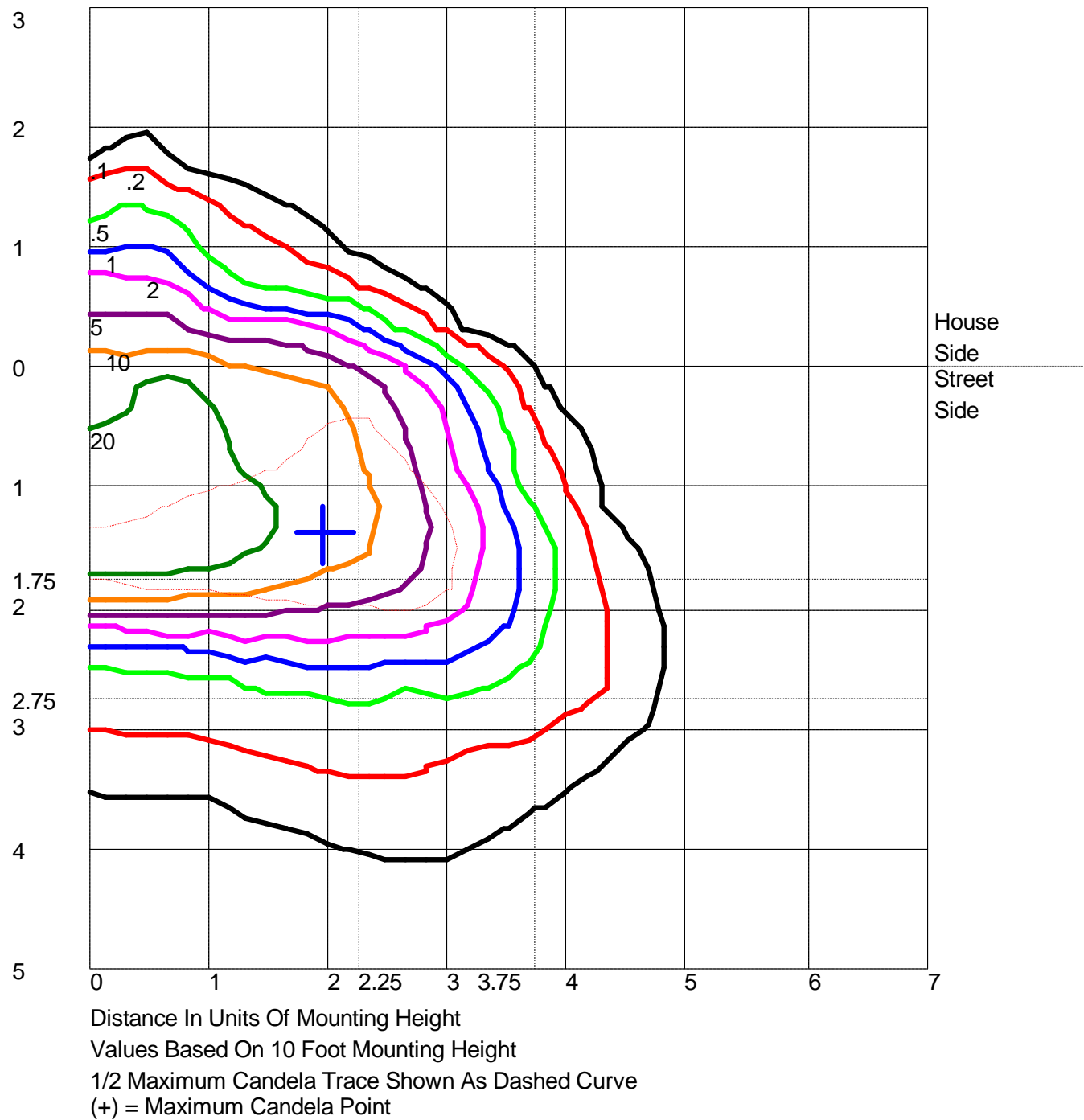
	Lumens	Percent Of Luminaire
Downward Street Side	20633.2	92.2
Downward House Side	1757.2	7.8
Downward Total	22390.4	100.0
Upward Street Side	0.0	0.0
Upward House Side	0.0	0.0
Upward Total	0.0	0.0
Total Flux	22390.4	100.0

POLAR GRAPH



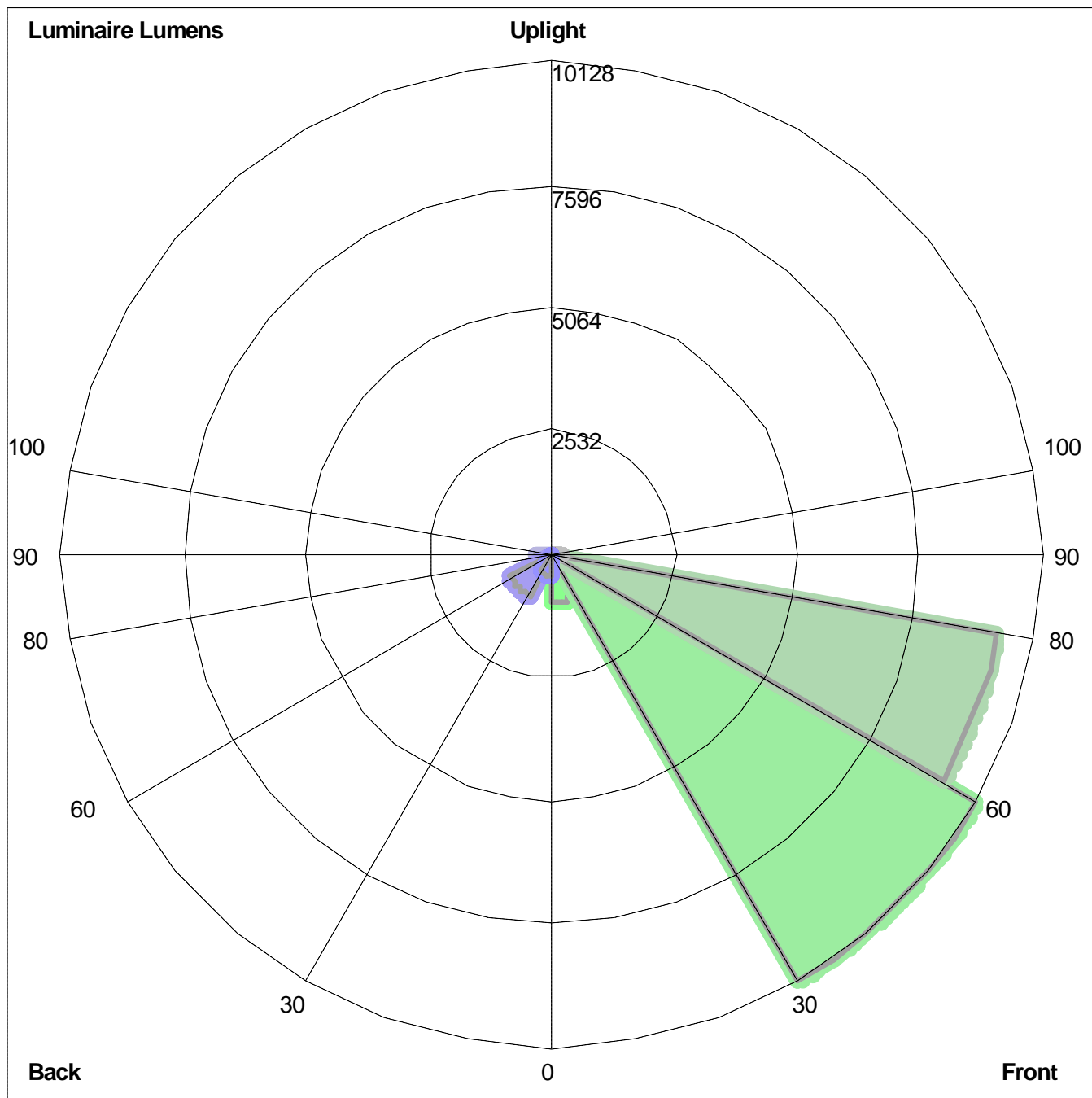
Maximum Candela = 28333.009 Located At Horizontal Angle = 55, Vertical Angle = 67.5  
# 1 - Vertical Plane Through Horizontal Angles (55 - 235) (Through Max. Cd.)  
# 2 - Horizontal Cone Through Vertical Angle (67.5) (Through Max. Cd.)

ISOFOOTCANDLE LINES OF HORIZONTAL ILLUMINANCE





LUMINAIRE CLASSIFICATION SYSTEM (LCS) GRAPH



Luminaire Lumens:  
Front: Low=989.7, Medium=10128.5, High=9333.2, Very High=181.8  
Back: Low=435.2, Medium=979.6, High=336.0, Very High=6.5  
Uplight: Low=0.0, High=0.0

BUG Rating : B1-U0-G4