

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions
(formerly Eaton)

Brand: McGRAW-EDISON

Report Number: P298906

Luminaire Tested: **GLNA-AF-09-LED-E1-SLL**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P298906
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P191289)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: MCGRAW-EDISON
Catalog Number: GLNA-AF-09-LED-E1-SLL
Description: GALLEONNAIRE AREA AND ROADWAY LUMINAIRE
(9) 70 CRI, 4000K CCT 1050mA LIGHTSQUARE WITH 16 LEDS EACH AND 90° Spill
Light Eliminator Left OPTICS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 46612.1 lumens
Efficiency: N/A
Efficacy: 93.0 lumens/watt
Luminous Opening: Rectangular (W 2.5' x L: 1' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B3 - U0 - G5

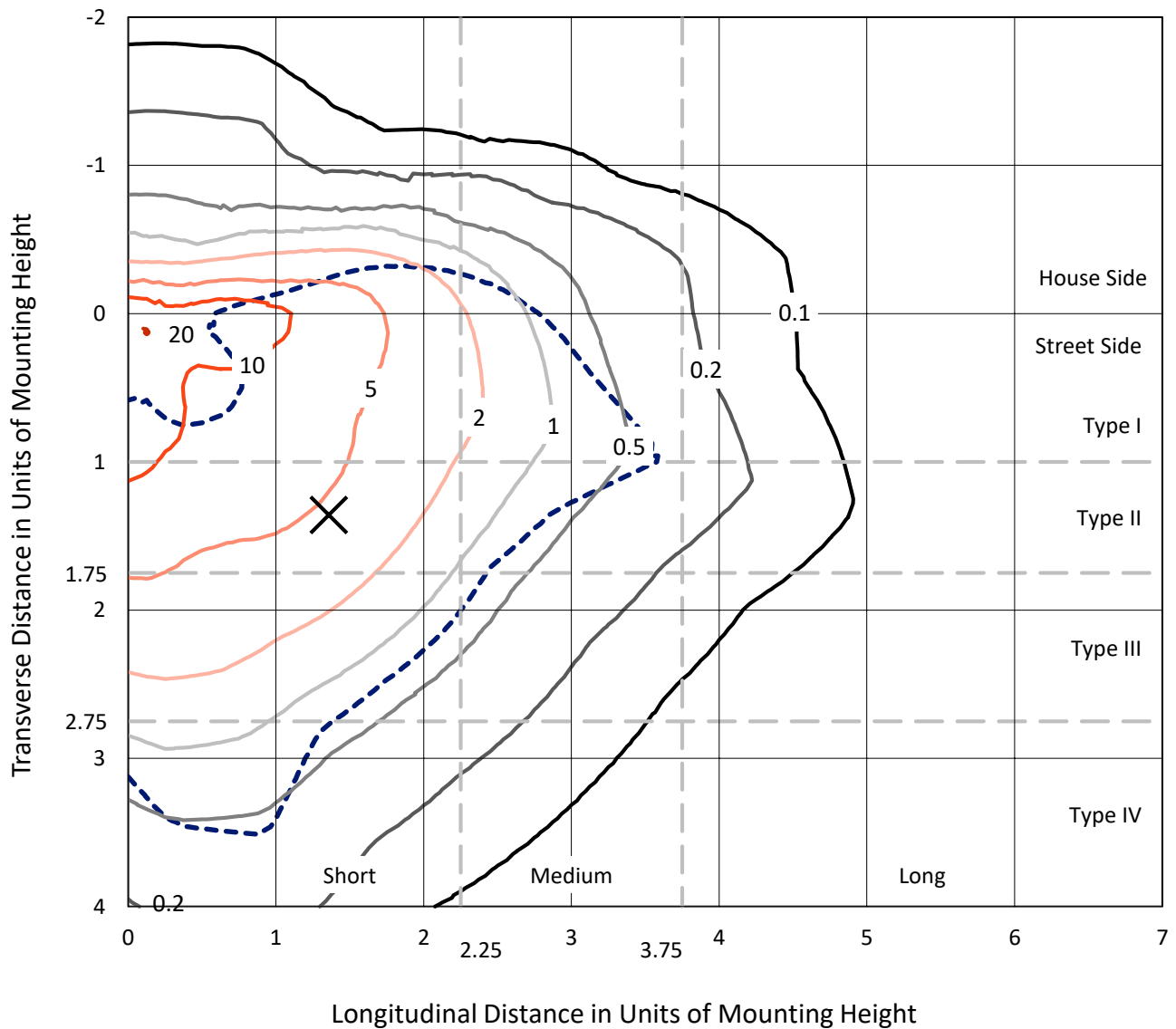
Input Watts (W): 501
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

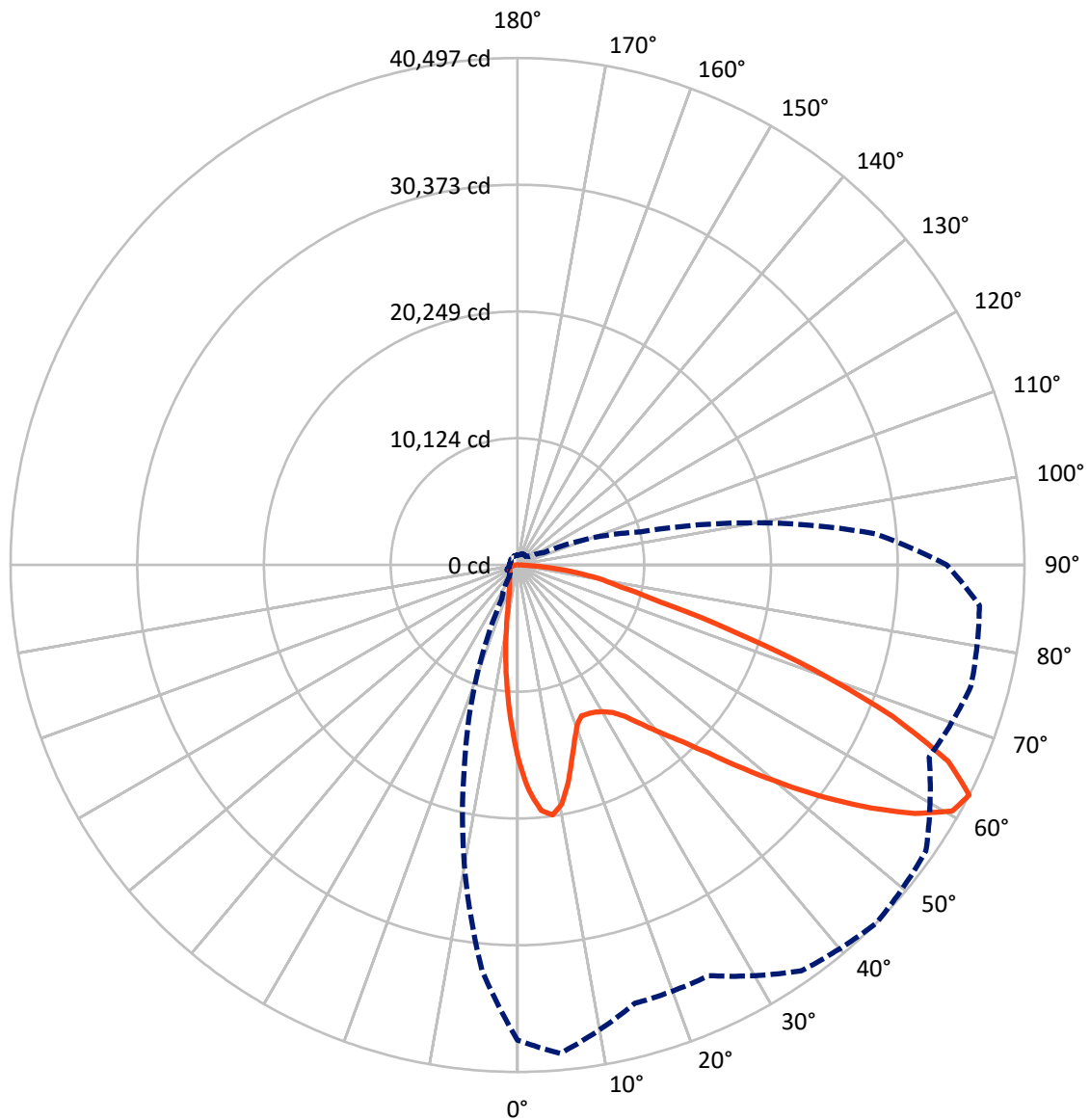


Based on 30 foot mounting height. Maximum calculated value = 20.6 fc
 Type IV - Short - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 45-Deg Lateral - - - Horizontal Cone Through 62.5-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	7713.6	0.0	7713.6
	% Fixture	16.5	0.0	16.5
Street Side	Lumens	38898.5	0.0	38898.5
	% Fixture	83.5	0.0	83.5
Total	Lumens	46612.1	0.0	46612.1
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	1146.4	2.5
10°-20°	2102.2	4.5
20°-30°	3065.0	6.6
30°-40°	4720.5	10.1
40°-50°	6947.3	14.9
50°-60°	10190.2	21.9
60°-70°	11391.2	24.4
70°-80°	5576.9	12.0
80°-90°	1472.5	3.2
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-90°	46612.1	100.0
0°-180°	46612.1	100.0



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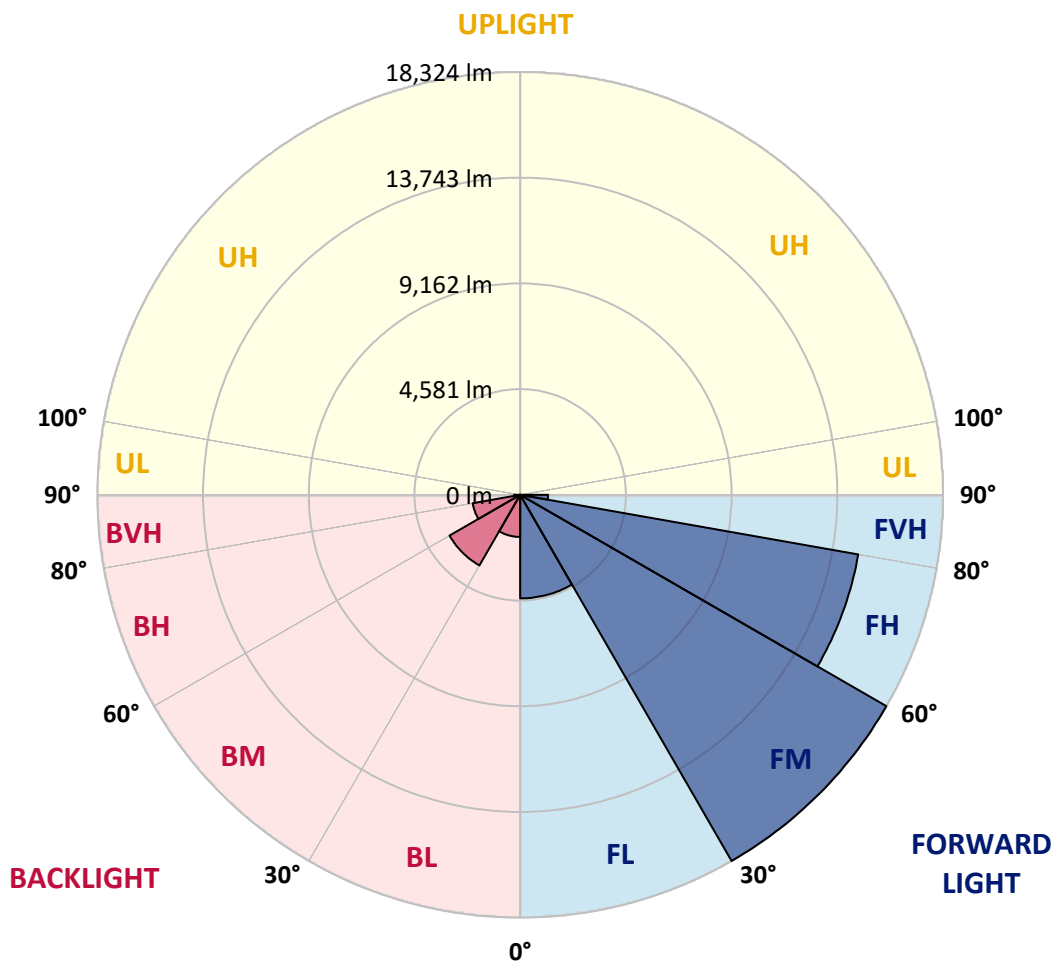
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	4488.6	9.6			
FM	(30°-60°)	18323.7	39.3			
FH	(60°-80°)	14877.0	31.9			G5
FVH	(80°-90°)	1209.2	2.6			G5
BL	(0°-30°)	1824.9	3.9	B3/2500		
BM	(30°-60°)	3534.3	7.6	B3/5000		
BH	(60°-80°)	2091.1	4.5	B3/2500		G3/2500
BVH	(80°-90°)	263.2	0.6			G3/500
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G5

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	15748.6	15748.6	15748.6	15748.6	15748.6	15748.6	15748.6	15748.6	15748.6	15748.6	15748.6
2.5°	16362.5	16624.5	17134.4	17515.4	17980.3	18087.6	18236.5	18090.1	17831.4	17487.9	17375.6
5°	15386.8	15945.7	17182.6	18272.3	19240.5	19691.4	19817.8	19445.1	18694.9	17708.3	17106.1
7.5°	13821.3	14615.7	16290.9	17895.5	19322.0	20165.5	20144.7	19281.3	17900.5	16293.4	15327.7
10°	12470.4	13377.9	15300.3	17093.6	18607.5	19425.2	19109.1	18006.1	16357.5	14507.5	13460.3
12.5°	11715.2	12604.4	14554.1	16355.0	17621.0	17903.0	17661.8	16580.4	15027.4	13157.5	12240.0
15°	11583.7	12561.1	14257.2	15722.8	16432.3	16187.0	15899.2	15415.0	14317.9	12721.7	11765.9
17.5°	12151.0	13226.6	14598.2	15282.0	15161.3	14733.0	14651.4	14705.5	14441.8	13205.8	12104.5
20°	13237.4	14528.3	15410.1	15074.8	14195.6	13605.9	13626.7	14449.3	15230.4	14433.5	13175.0
22.5°	14761.2	16235.2	16580.4	15184.6	13788.0	13088.5	13258.2	14590.7	16488.9	16227.7	14620.7
25°	16734.3	18077.7	17828.9	15583.9	13828.8	13152.5	13288.1	15077.3	17974.5	18021.1	16409.9
27.5°	18645.8	19891.8	18876.2	16114.6	13998.5	13303.9	13483.6	15842.6	19394.4	19968.4	18454.5
30°	20137.2	21004.0	19291.3	16598.7	14331.2	13598.4	13821.3	16570.4	20040.7	21282.6	20027.4
32.5°	21372.4	21994.6	19952.5	17198.4	14943.4	14061.7	14454.3	17454.6	20970.7	22533.6	21567.1
35°	22950.4	23127.6	20775.2	17867.2	15889.2	14869.4	15356.0	18320.5	21857.4	23796.3	23084.3
37.5°	24801.1	24573.2	21551.3	18782.2	17111.9	16132.1	16534.7	19271.3	22586.9	25228.7	24634.0
40°	26630.3	26081.3	22526.2	20201.3	18895.3	17621.0	18097.6	20286.1	23269.0	26663.6	26148.7
42.5°	28185.8	27373.1	23486.1	21761.7	20554.8	19263.8	19832.8	21308.4	23919.4	27888.0	27462.9
45°	29336.2	28326.3	24401.1	23260.6	22843.1	21446.5	21716.0	22478.7	24624.0	28911.1	28544.3
47.5°	30363.4	29284.6	25435.8	24772.9	24844.4	24285.4	23852.1	23842.1	25454.9	29746.2	29566.6
50°	31739.2	30614.6	26547.9	26330.0	27847.2	27475.4	26519.7	25433.3	26504.7	30694.5	30673.7
52.5°	33635.8	32721.6	27906.3	28008.6	30651.2	30894.1	29709.6	27345.6	28149.2	32433.8	32311.5
55°	35878.3	35344.3	29757.1	29938.4	34089.1	34263.8	33086.8	29735.4	30568.9	34953.4	34612.3
57.5°	37627.6	37515.3	31785.8	32255.0	36656.9	37441.3	36359.9	32503.7	33294.7	37074.5	36218.5
60°	38324.7	38870.3	33946.0	34591.5	39032.5	39900.1	38952.7	34934.2	35711.1	37953.7	36108.7
62.5°	37948.7	39167.3	36246.8	36192.7	39562.4	40497.3	39831.1	36287.6	37502.8	37046.2	34282.1
65°	36208.5	38099.2	37581.9	35780.2	37748.2	37824.7	37609.3	35682.8	37925.4	34178.9	30750.2
67.5°	32418.0	35139.7	35823.4	32245.0	32853.9	32354.8	31993.0	32372.3	35721.1	29881.8	25843.4
70°	26404.9	30499.9	30826.8	25790.2	25513.2	25177.1	24457.6	26540.5	31373.3	24490.9	20506.5
72.5°	19415.2	23719.8	24726.3	18915.3	17634.3	17702.5	17134.4	20000.8	25508.2	18192.4	15310.2
75°	13283.1	17175.1	19346.2	13198.3	11661.9	11689.4	11617.0	14172.3	20316.9	12655.1	11456.5
77.5°	9703.9	12270.8	14590.7	8872.9	8614.2	8455.3	8417.1	9916.0	15576.4	9189.0	8896.2
80°	7786.5	9065.9	9800.3	6149.5	6612.9	6600.4	6387.4	6818.3	10172.2	6721.0	6653.6
82.5°	5401.8	6967.2	7940.4	4819.5	4463.5	4388.6	4441.0	5078.2	7190.1	4594.1	4368.6
85°	2849.8	4627.3	7863.9	4271.3	2649.3	2113.6	2629.3	4158.2	6229.4	2434.7	2131.1
87.5°	364.3	1337.5	5206.3	1704.4	1045.6	563.1	1248.5	2341.5	4000.2	496.6	433.4
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°	185°
0°	15748.6	15748.6	15748.6	15748.6	15748.6	15748.6	15748.6	15748.6	15748.6	15748.6	15748.6
2.5°	17086.1	16745.1	16299.3	15885.8	15458.3	15032.4	14476.8	14128.2	13887.8	13841.3	13739.8
5°	16671.1	15538.1	14682.2	13941.9	13270.6	12321.6	11796.7	11360.8	11127.9	11105.5	11048.9
7.5°	14756.3	13193.3	12037.9	10989.8	10039.1	9273.0	8427.0	8033.6	7871.4	7909.7	7947.9
10°	12764.9	11018.1	9690.5	8619.2	7781.6	7136.1	6457.3	5999.0	5680.4	5616.4	5603.9
12.5°	11310.1	9393.6	8105.1	7348.2	6701.0	6093.0	5373.5	4832.0	4420.2	4278.8	4184.8
15°	10694.5	8599.2	7249.2	6434.0	5718.7	4947.6	4278.8	3712.4	3333.9	3210.8	3141.7
17.5°	10826.0	8378.8	6659.4	5616.4	4702.2	3897.0	3054.4	2569.5	2341.5	2283.3	2283.3
20°	11513.0	8338.0	6172.0	4863.6	3722.3	2789.9	2098.6	1821.7	1747.6	1740.1	1760.1
22.5°	12476.3	8481.9	5809.3	4210.6	2893.0	2037.1	1634.5	1532.2	1498.9	1507.2	1529.7
25°	13911.1	8966.0	5545.7	3628.3	2270.0	1667.8	1457.3	1396.6	1380.8	1401.6	1429.9
27.5°	15612.2	9450.2	5381.0	3190.0	1916.5	1524.7	1385.8	1322.6	1332.6	1358.3	1383.3
30°	17106.1	9847.8	5122.3	2878.1	1806.7	1532.2	1385.8	1299.3	1289.3	1294.3	1301.8
32.5°	18447.0	10116.4	4819.5	2580.3	1558.0	1360.8	1294.3	1281.8	1224.4	1203.6	1207.0
35°	19602.4	10116.4	4638.2	2406.4	1396.6	1207.0	1099.6	1035.6	1006.5	1009.0	1038.1
37.5°	20717.0	9913.5	4548.3	2308.3	1309.3	1147.9	1053.1	996.5	958.2	950.8	955.7
40°	21700.2	9619.0	4446.0	2267.5	1242.7	1112.1	1023.1	975.7	935.0	922.5	925.0
42.5°	22489.6	9380.3	4332.9	2214.3	1201.1	1086.3	1001.5	960.7	915.0	901.7	899.2
45°	23343.0	9301.3	4184.8	2106.1	1221.9	1088.8	996.5	953.3	906.7	891.7	886.7
47.5°	24467.6	9550.0	4030.9	1978.0	1266.0	1102.1	1004.0	953.3	904.2	891.7	886.7
50°	25884.2	10133.9	3835.5	1790.9	1221.9	1137.9	1001.5	944.9	904.2	891.7	881.7
52.5°	27704.2	10923.3	3580.1	1576.3	1196.1	1224.4	996.5	930.0	891.7	874.2	855.9
55°	29915.1	11568.8	3274.0	1399.1	1137.9	1201.1	989.0	912.5	871.7	845.9	830.1
57.5°	31534.6	11801.7	2883.0	1284.3	1055.6	1162.9	978.2	889.2	845.9	825.2	805.2
60°	31214.4	11350.8	2552.0	1211.9	1006.5	1050.6	970.7	868.4	822.7	807.7	788.6
62.5°	28649.9	10172.2	2339.0	1178.7	975.7	958.2	978.2	848.4	802.7	786.1	781.1
65°	24803.6	8432.0	2255.0	1171.2	950.8	904.2	910.0	825.2	778.6	766.1	761.1
67.5°	20460.0	6805.8	2181.0	1196.1	917.5	865.9	841.0	794.4	755.3	742.8	732.8
70°	16134.6	5660.4	2146.9	1181.2	876.7	827.6	800.2	761.1	727.8	714.5	707.0
72.5°	12992.8	4781.2	2128.6	1165.4	822.7	776.1	750.3	717.0	681.2	676.3	668.8
75°	10995.7	3758.9	1950.6	1117.1	761.1	714.5	697.1	666.3	630.5	630.5	625.5
77.5°	8481.9	2718.3	1622.0	989.0	697.1	645.5	630.5	607.2	566.5	573.9	571.5
80°	6265.2	1773.4	1268.5	820.2	618.0	569.0	560.6	538.2	494.1	504.9	504.9
82.5°	4292.1	1162.9	912.5	671.3	527.4	481.6	481.6	458.3	410.1	415.1	430.9
85°	2155.2	800.2	681.2	519.9	410.1	386.8	386.8	369.3	320.2	322.7	343.5
87.5°	656.3	481.6	450.8	371.8	294.5	289.5	276.2	263.7	232.9	230.4	243.7
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°	285°
0°	15748.6	15748.6	15748.6	15748.6	15748.6	15748.6	15748.6	15748.6	15748.6	15748.6	15748.6
2.5°	13582.6	13436.2	13260.7	12870.5	12740.0	12731.6	12850.6	12726.6	12962.9	12863.1	12972.9
5°	10953.2	10811.0	10613.0	10116.4	9813.7	9608.2	9511.7	9224.7	9431.9	9280.5	9406.9
7.5°	8056.0	8089.3	7958.7	7666.8	7008.0	6677.7	6483.1	6308.4	6459.8	6444.0	6685.2
10°	5662.9	5751.9	5660.4	5366.0	4832.0	4650.6	4686.4	4755.4	4953.4	5054.9	5426.7
12.5°	4076.7	4071.7	4012.6	3749.0	3397.9	3417.9	3564.3	3684.1	3866.2	3974.4	4352.8
15°	3043.6	2997.8	2972.0	2756.6	2557.0	2601.1	2672.6	2685.1	2800.7	2864.7	3172.5
17.5°	2300.8	2324.1	2351.5	2198.5	2047.1	2018.8	1963.1	1893.2	1927.3	1939.8	2092.8
20°	1826.6	1919.0	1988.8	1880.7	1727.7	1644.5	1572.9	1527.2	1527.2	1524.7	1568.0
22.5°	1596.2	1662.8	1737.6	1662.8	1524.7	1452.3	1411.6	1375.8	1370.8	1370.8	1411.6
25°	1471.5	1519.7	1591.2	1540.5	1437.4	1383.3	1345.0	1299.3	1281.8	1276.0	1304.3
27.5°	1409.1	1429.9	1465.6	1419.1	1332.6	1306.8	1296.8	1256.0	1231.9	1219.4	1248.5
30°	1304.3	1299.3	1301.8	1256.0	1186.2	1183.7	1201.1	1209.4	1201.1	1198.6	1242.7
32.5°	1207.0	1196.1	1193.6	1152.9	1088.8	1073.9	1088.8	1104.6	1122.1	1147.9	1198.6
35°	1083.8	1109.6	1124.6	1088.8	1011.5	965.7	948.3	920.0	904.2	904.2	963.2
37.5°	986.5	1045.6	1068.9	1035.6	950.8	886.7	855.9	850.9	853.4	863.4	920.0
40°	953.3	996.5	1016.5	984.0	899.2	841.0	822.7	817.7	822.7	838.5	894.2
42.5°	932.5	963.2	960.7	920.0	850.9	810.2	800.2	794.4	800.2	815.2	876.7
45°	915.0	935.0	915.0	865.9	802.7	781.1	783.6	781.1	786.1	802.7	860.9
47.5°	899.2	906.7	881.7	832.6	766.1	761.1	771.1	778.6	783.6	797.7	858.4
50°	876.7	876.7	853.4	802.7	735.3	737.8	750.3	768.6	771.1	786.1	836.0
52.5°	848.4	845.9	830.1	781.1	709.5	717.0	717.0	737.8	742.8	761.1	812.7
55°	825.2	820.2	812.7	766.1	687.1	699.5	692.1	699.5	712.0	730.3	786.1
57.5°	805.2	794.4	794.4	752.8	668.8	673.8	656.3	666.3	681.2	697.1	755.3
60°	783.6	773.6	778.6	735.3	640.5	635.5	628.0	648.0	653.8	671.3	730.3
62.5°	761.1	752.8	755.3	714.5	620.5	607.2	607.2	625.5	628.0	653.8	709.5
65°	742.8	732.8	730.3	694.6	597.2	582.3	589.8	597.2	602.2	628.0	681.2
67.5°	725.3	704.5	704.5	676.3	571.5	555.6	571.5	569.0	577.3	599.7	643.0
70°	702.0	673.8	676.3	663.8	545.7	527.4	540.7	538.2	543.2	558.1	602.2
72.5°	666.3	643.0	648.0	643.0	519.9	494.1	499.1	499.1	499.1	512.4	558.1
75°	620.5	602.2	618.0	630.5	489.1	453.3	458.3	458.3	450.8	458.3	514.9
77.5°	563.1	553.2	604.7	587.3	453.3	410.1	410.1	405.1	390.1	400.1	460.8
80°	502.4	494.1	558.1	491.6	412.6	356.8	351.0	337.7	322.7	330.2	392.6
82.5°	438.4	430.9	469.1	376.8	356.8	294.5	282.0	258.7	243.7	251.2	306.9
85°	359.3	359.3	361.8	284.5	271.2	225.4	210.4	179.7	161.4	166.4	220.4
87.5°	256.2	263.7	243.7	194.6	161.4	125.6	115.6	97.3	81.5	94.8	115.6
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P298906

CATALOG NUMBER: GLNA-AF-09-LED-E1-SLL

CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	15748.6	15748.6	15748.6	15748.6	15748.6	15748.6	15748.6	15748.6
2.5°	13536.8	13818.8	14139.1	14548.3	14900.2	15475.8	16029.7	16362.5
5°	10121.4	10590.6	11173.7	11925.6	12625.2	13674.9	14718.0	15386.8
7.5°	7243.4	7745.8	8376.3	9313.7	10303.6	11642.8	13021.9	13821.3
10°	5994.0	6508.9	7038.7	7671.8	8481.9	9939.3	11568.8	12470.4
12.5°	4958.4	5509.1	6080.5	6746.8	7497.1	8798.9	10677.1	11715.2
15°	3794.7	4409.4	5083.2	5926.6	6866.6	8371.3	10456.6	11583.7
17.5°	2601.1	3288.1	4114.9	5155.5	6305.9	8232.4	10851.8	12151.0
20°	1790.9	2290.8	3175.0	4394.4	5778.6	8214.9	11609.5	13237.4
22.5°	1498.9	1721.8	2367.3	3694.9	5381.0	8435.4	12786.5	14761.2
25°	1385.8	1519.7	1890.7	3087.7	5091.5	8942.8	14406.1	16734.3
27.5°	1320.1	1439.9	1716.8	2690.9	4863.6	9531.7	15981.5	18645.8
30°	1345.0	1468.1	1667.8	2487.9	4553.3	10023.3	17380.6	20137.2
32.5°	1211.9	1266.0	1429.9	2308.3	4330.4	10435.8	18605.0	21372.4
35°	1033.1	1127.1	1276.0	2224.3	4335.4	10712.8	19940.1	22950.4
37.5°	984.0	1078.9	1186.2	2193.5	4394.4	11008.1	21472.3	24801.1
40°	953.3	1040.6	1132.9	2176.0	4451.0	11276.8	22974.5	26630.3
42.5°	932.5	1011.5	1127.1	2113.6	4479.3	11518.0	24208.9	28185.8
45°	930.0	1011.5	1147.9	2052.1	4522.5	11776.7	25244.5	29336.2
47.5°	932.5	1045.6	1109.6	1978.0	4522.5	12209.3	26458.9	30363.4
50°	922.5	1102.1	1068.9	1873.2	4417.7	13029.4	28124.2	31739.2
52.5°	917.5	1094.7	989.0	1711.9	4235.6	14331.2	30258.6	33635.8
55°	904.2	1055.6	932.5	1471.5	4023.4	15751.1	32544.4	35878.3
57.5°	891.7	935.0	901.7	1261.0	3694.9	16750.1	34117.4	37627.6
60°	999.0	817.7	876.7	1157.9	3256.5	17023.8	34056.7	38324.7
62.5°	925.0	766.1	843.5	1135.4	2949.6	16255.2	32482.9	37948.7
65°	725.3	732.8	810.2	1201.1	2867.2	14218.9	29694.7	36208.5
67.5°	663.8	699.5	776.1	1286.8	2875.6	11384.1	25529.0	32418.0
70°	625.5	663.8	737.8	1330.1	2895.5	8486.9	20183.0	26404.9
72.5°	582.3	615.5	694.6	1337.5	2761.6	6164.5	15556.4	19415.2
75°	529.9	560.6	633.0	1165.4	2288.3	4276.3	11899.8	13283.1
77.5°	471.6	494.1	555.6	899.2	1699.4	2736.6	8931.9	9703.9
80°	402.6	415.1	466.6	658.8	1162.9	1711.9	7067.0	7786.5
82.5°	322.7	327.7	361.8	494.1	755.3	1099.6	4733.0	5401.8
85°	227.9	227.9	248.7	359.3	514.9	697.1	2569.5	2849.8
87.5°	107.3	109.8	109.8	197.1	268.7	354.3	592.2	364.3
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)