

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: P298996

Luminaire Tested: **GLNA-AF-04-LED-E1-SLL-600**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P298996  
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-04-LED-E1-SLL-600  
Description: GALLEONNAIRE AREA AND ROADWAY LUMINAIRE  
(4) 70 CRI, 4000K CCT 600mA LIGHTSQUARE WITH 16 LEDS EACH AND 90° Spill  
Light Eliminator Left OPTICS  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 13855.2 lumens  
Efficiency: N/A  
Efficacy: 107.4 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type IV - Short - Non-Cutoff  
BUG Rating: B2 - U0 - G3

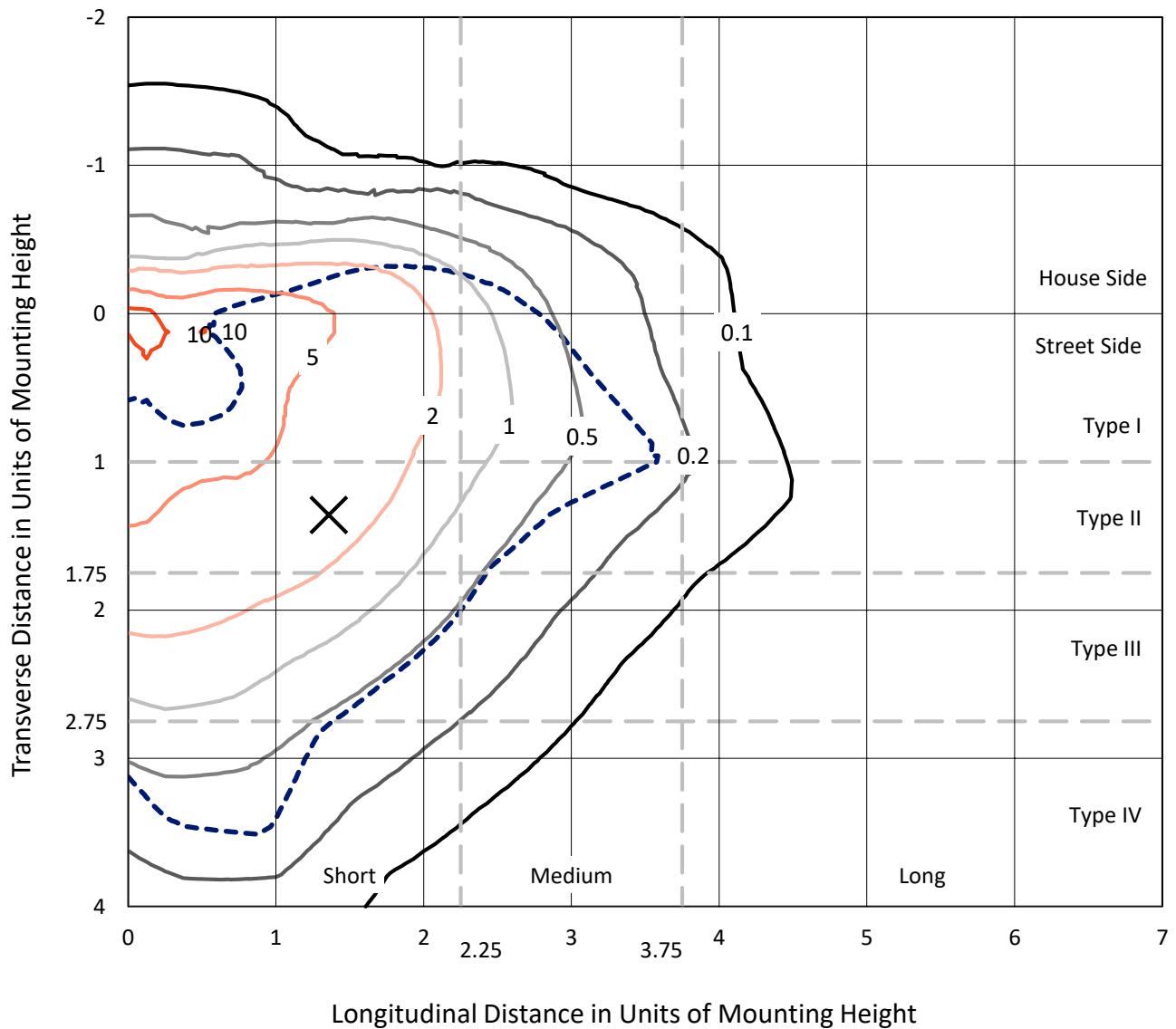
Input Watts (W): 129  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

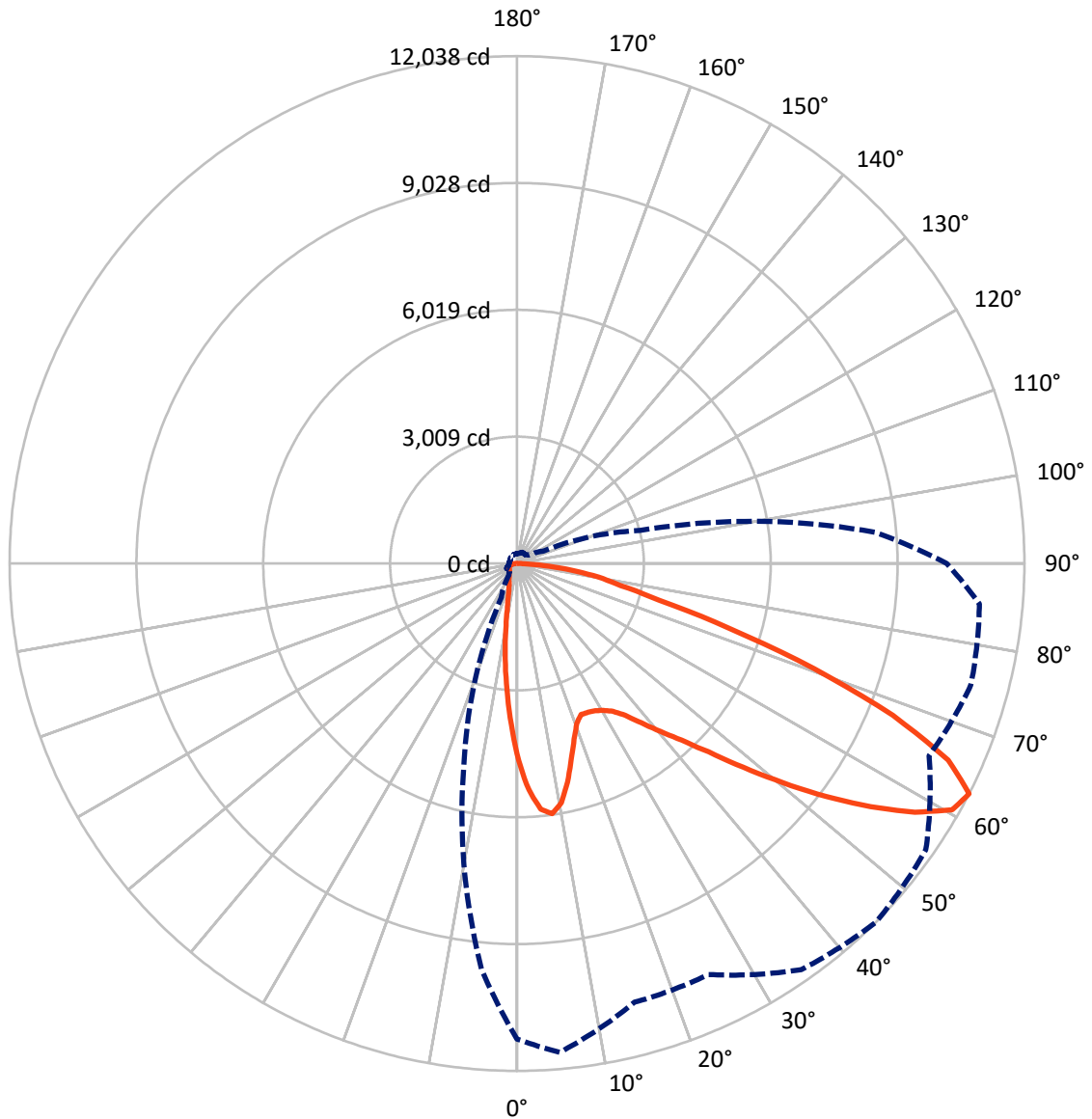
× Max cd  
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 13.8 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
<b>House Side</b>	Lumens	2292.8	0.0	2292.8
	% Fixture	16.5	0.0	16.5
<b>Street Side</b>	Lumens	11562.4	0.0	11562.4
	% Fixture	83.5	0.0	83.5
<b>Total</b>	Lumens	13855.2	0.0	13855.2
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	340.8	2.5
10°-20°	624.9	4.5
20°-30°	911.1	6.6
30°-40°	1403.1	10.1
40°-50°	2065.0	14.9
50°-60°	3029.0	21.9
60°-70°	3386.0	24.4
70°-80°	1657.7	12.0
80°-90°	437.7	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°	13855.2	100.0
0°-180°	13855.2	100.0

**Coefficient of Utilization**



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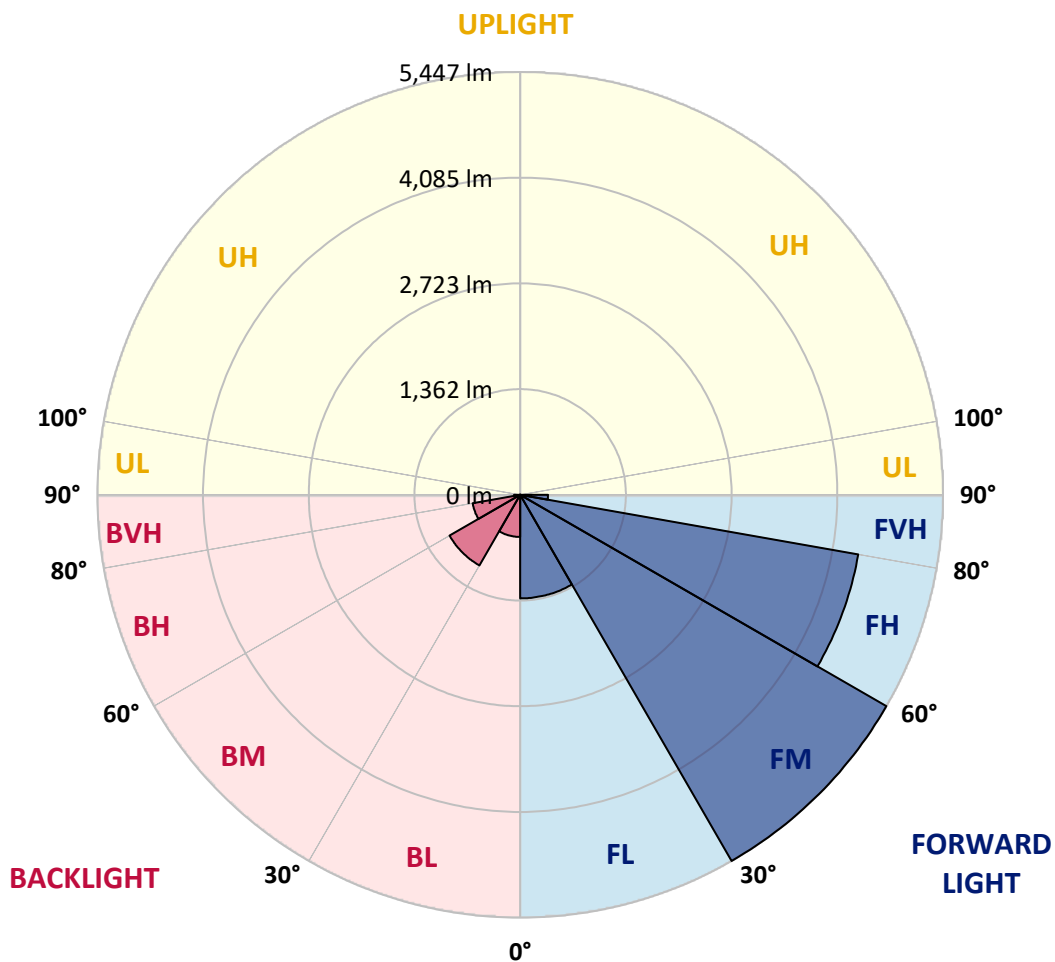
CATALOG NUMBER: GLNA-AF-04-LED-E1-SLL-600

**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1334.2	9.6			
FM	(30°-60°)	5446.6	39.3			
FH	(60°-80°)	4422.1	31.9			G2/5000
FVH	(80°-90°)	359.4	2.6			G3/500
BL	(0°-30°)	542.5	3.9	B2/1000		
BM	(30°-60°)	1050.6	7.6	B2/2500		
BH	(60°-80°)	621.6	4.5	B2/1000		G2/1000
BVH	(80°-90°)	78.2	0.6			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B2-U0-G3**

Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	4681.2	4681.2	4681.2	4681.2	4681.2	4681.2	4681.2	4681.2	4681.2	4681.2	4681.2
2.5°	4863.7	4941.6	5093.1	5206.4	5344.6	5376.5	5420.7	5377.2	5300.3	5198.2	5164.8
5°	4573.6	4739.8	5107.5	5431.4	5719.2	5853.2	5890.7	5780.0	5557.0	5263.7	5084.7
7.5°	4108.3	4344.4	4842.4	5319.4	5743.4	5994.1	5987.9	5731.3	5320.8	4843.1	4556.1
10°	3706.8	3976.5	4547.9	5081.0	5531.0	5774.0	5680.1	5352.2	4862.2	4312.3	4001.0
12.5°	3482.3	3746.6	4326.1	4861.4	5237.8	5321.6	5249.9	4928.4	4466.8	3911.0	3638.3
15°	3443.2	3733.7	4237.9	4673.5	4884.4	4811.5	4726.0	4582.1	4255.9	3781.5	3497.4
17.5°	3611.8	3931.5	4339.3	4542.5	4506.6	4379.3	4355.1	4371.1	4292.8	3925.4	3598.0
20°	3934.7	4318.5	4580.6	4480.9	4219.6	4044.3	4050.5	4295.0	4527.2	4290.3	3916.2
22.5°	4387.7	4825.8	4928.4	4513.6	4098.4	3890.5	3940.9	4337.0	4901.3	4823.6	4345.9
25°	4974.2	5373.5	5299.6	4632.2	4110.5	3909.5	3949.8	4481.7	5342.8	5356.7	4877.8
27.5°	5542.4	5912.8	5610.9	4790.0	4161.0	3954.5	4007.9	4709.1	5764.9	5935.5	5485.5
30°	5985.7	6243.3	5734.2	4933.9	4259.9	4042.1	4108.3	4925.5	5957.0	6326.2	5953.1
32.5°	6352.9	6537.8	5930.8	5112.2	4441.9	4179.8	4296.5	5188.3	6233.4	6698.0	6410.7
35°	6821.9	6874.6	6175.3	5310.9	4723.0	4419.9	4564.5	5445.7	6497.0	7073.3	6861.7
37.5°	7372.0	7304.3	6406.0	5582.9	5086.4	4795.2	4914.9	5728.3	6713.8	7499.1	7322.3
40°	7915.7	7752.5	6695.8	6004.7	5616.5	5237.8	5379.4	6030.0	6916.6	7925.6	7772.6
42.5°	8378.1	8136.5	6981.1	6468.6	6109.8	5726.1	5895.2	6333.8	7109.9	8289.6	8163.2
45°	8720.0	8419.9	7253.1	6914.1	6790.0	6374.9	6455.0	6681.7	7319.4	8593.7	8484.7
47.5°	9025.4	8704.7	7560.7	7363.6	7384.9	7218.7	7089.9	7086.9	7566.4	8841.9	8788.5
50°	9434.3	9100.1	7891.3	7826.5	8277.5	8166.9	7882.8	7559.9	7878.4	9123.8	9117.6
52.5°	9998.1	9726.4	8295.0	8325.4	9110.9	9183.1	8831.1	8128.4	8367.2	9640.8	9604.5
55°	10664.7	10505.9	8845.1	8899.0	10132.8	10184.8	9834.9	8838.7	9086.5	10389.7	10288.4
57.5°	11184.6	11151.3	9448.2	9587.6	10896.1	11129.3	10807.8	9661.6	9896.7	11020.2	10765.8
60°	11391.8	11554.0	10090.3	10282.2	11602.2	11860.1	11578.5	10384.0	10615.0	11281.6	10733.2
62.5°	11280.1	11642.3	10774.2	10758.1	11759.7	12037.7	11839.6	10786.3	11147.5	11011.8	10190.2
65°	10762.8	11324.8	11171.0	10635.5	11220.5	11243.2	11179.2	10606.6	11273.2	10159.5	9140.4
67.5°	9636.1	10445.1	10648.3	9584.7	9765.7	9617.3	9509.8	9622.5	10617.9	8882.2	7681.8
70°	7848.7	9065.9	9163.1	7666.0	7583.7	7483.8	7269.9	7889.0	9325.6	7279.8	6095.5
72.5°	5771.1	7050.6	7349.8	5622.5	5241.7	5262.0	5093.1	5945.1	7582.2	5407.6	4550.9
75°	3948.3	5105.2	5750.6	3923.1	3466.5	3474.6	3453.1	4212.7	6039.1	3761.7	3405.4
77.5°	2884.4	3647.4	4337.0	2637.4	2560.5	2513.3	2501.9	2947.5	4630.0	2731.4	2644.3
80°	2314.5	2694.8	2913.1	1827.9	1965.6	1961.9	1898.6	2026.7	3023.6	1997.8	1977.8
82.5°	1605.6	2071.0	2360.3	1432.6	1326.7	1304.5	1320.1	1509.5	2137.2	1365.6	1298.6
85°	847.1	1375.5	2337.5	1269.6	787.5	628.3	781.6	1236.0	1851.7	723.7	633.5
87.5°	108.3	397.6	1547.5	506.6	310.8	167.4	371.1	696.0	1189.0	147.6	128.8
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°	4681.2	4681.2	4681.2	4681.2	4681.2	4681.2	4681.2	4681.2	4681.2	4681.2	4681.2
2.5°	5078.8	4977.4	4844.9	4722.0	4594.9	4468.3	4303.2	4199.6	4128.1	4114.3	4084.1
5°	4955.4	4618.6	4364.2	4144.2	3944.6	3662.5	3506.5	3377.0	3307.7	3301.0	3284.2
7.5°	4386.2	3921.6	3578.2	3266.7	2984.1	2756.4	2504.9	2387.9	2339.7	2351.1	2362.5
10°	3794.3	3275.1	2880.5	2562.0	2313.0	2121.2	1919.4	1783.2	1688.5	1669.4	1665.7
12.5°	3361.9	2792.2	2409.2	2184.2	1991.9	1811.1	1597.2	1436.3	1313.9	1271.9	1243.9
15°	3178.9	2556.1	2154.8	1912.5	1699.8	1470.6	1271.9	1103.5	991.0	954.4	933.9
17.5°	3218.0	2490.6	1979.5	1669.4	1397.7	1158.4	907.9	763.8	696.0	678.7	678.7
20°	3422.2	2478.4	1834.6	1445.7	1106.4	829.3	623.8	541.5	519.5	517.2	523.2
22.5°	3708.5	2521.2	1726.8	1251.6	859.9	605.5	485.8	455.4	445.5	448.0	454.7
25°	4135.0	2665.1	1648.4	1078.5	674.7	495.7	433.2	415.1	410.4	416.6	425.0
27.5°	4640.6	2809.0	1599.5	948.2	569.7	453.2	411.9	393.1	396.1	403.8	411.2
30°	5084.7	2927.2	1522.6	855.5	537.0	455.4	411.9	386.2	383.2	384.7	386.9
32.5°	5483.3	3007.1	1432.6	767.0	463.1	404.5	384.7	381.0	364.0	357.8	358.8
35°	5826.7	3007.1	1378.7	715.3	415.1	358.8	326.9	307.8	299.2	299.9	308.6
37.5°	6158.0	2946.7	1352.0	686.1	389.2	341.2	313.0	296.2	284.8	282.6	284.1
40°	6450.3	2859.2	1321.6	674.0	369.4	330.6	304.1	290.0	277.9	274.2	274.9
42.5°	6684.9	2788.2	1287.9	658.2	357.0	322.9	297.7	285.6	272.0	268.0	267.3
45°	6938.6	2764.8	1243.9	626.0	363.2	323.7	296.2	283.3	269.5	265.1	263.6
47.5°	7272.9	2838.7	1198.2	588.0	376.3	327.6	298.4	283.3	268.8	265.1	263.6
50°	7693.9	3012.3	1140.1	532.3	363.2	338.2	297.7	280.9	268.8	265.1	262.1
52.5°	8234.9	3246.9	1064.2	468.5	355.5	364.0	296.2	276.4	265.1	259.9	254.4
55°	8892.1	3438.8	973.2	415.9	338.2	357.0	294.0	271.2	259.1	251.5	246.8
57.5°	9373.5	3508.0	857.0	381.8	313.8	345.7	290.8	264.3	251.5	245.3	239.3
60°	9278.3	3374.0	758.6	360.2	299.2	312.3	288.5	258.1	244.5	240.1	234.4
62.5°	8516.1	3023.6	695.3	350.4	290.0	284.8	290.8	252.2	238.6	233.7	232.2
65°	7372.8	2506.4	670.3	348.1	282.6	268.8	270.5	245.3	231.4	227.7	226.2
67.5°	6081.6	2023.0	648.3	355.5	272.7	257.4	250.0	236.1	224.5	220.8	217.8
70°	4795.9	1682.5	638.2	351.1	260.6	246.0	237.9	226.2	216.3	212.4	210.2
72.5°	3862.1	1421.2	632.7	346.4	244.5	230.7	223.0	213.1	202.5	201.0	198.8
75°	3268.4	1117.3	579.8	332.1	226.2	212.4	207.2	198.0	187.4	187.4	185.9
77.5°	2521.2	808.0	482.1	294.0	207.2	191.9	187.4	180.5	168.4	170.6	169.9
80°	1862.3	527.1	377.1	243.8	183.7	169.1	166.6	160.0	146.9	150.1	150.1
82.5°	1275.8	345.7	271.2	199.5	156.8	143.2	143.2	136.2	121.9	123.4	128.1
85°	640.6	237.9	202.5	154.5	121.9	115.0	115.0	109.8	95.2	95.9	102.1
87.5°	195.1	143.2	134.0	110.5	87.5	86.0	82.1	78.4	69.2	68.5	72.4
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):**

	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°	285°
0°	4681.2	4681.2	4681.2	4681.2	4681.2	4681.2	4681.2	4681.2	4681.2	4681.2	4681.2
2.5°	4037.4	3993.8	3941.7	3825.7	3786.9	3784.4	3819.8	3782.9	3853.2	3823.5	3856.1
5°	3255.8	3213.5	3154.7	3007.1	2917.1	2856.0	2827.3	2742.0	2803.6	2758.6	2796.2
7.5°	2394.6	2404.5	2365.7	2278.9	2083.1	1984.9	1927.1	1875.1	1920.1	1915.5	1987.2
10°	1683.3	1709.7	1682.5	1595.0	1436.3	1382.4	1393.0	1413.5	1472.4	1502.5	1613.1
12.5°	1211.8	1210.3	1192.7	1114.4	1010.0	1016.0	1059.5	1095.1	1149.2	1181.4	1293.9
15°	904.7	891.1	883.4	819.4	760.0	773.2	794.4	798.1	832.5	851.5	943.0
17.5°	683.9	690.8	699.0	653.5	608.5	600.1	583.5	562.7	572.9	576.6	622.1
20°	543.0	570.4	591.2	559.0	513.5	488.8	467.6	454.0	454.0	453.2	466.1
22.5°	474.5	494.3	516.5	494.3	453.2	431.7	419.6	409.0	407.5	407.5	419.6
25°	437.4	451.7	473.0	457.9	427.2	411.2	399.8	386.2	381.0	379.3	387.7
27.5°	418.8	425.0	435.7	421.8	396.1	388.4	385.5	373.3	366.2	362.5	371.1
30°	387.7	386.2	386.9	373.3	352.6	351.8	357.0	359.5	357.0	356.3	369.4
32.5°	358.8	355.5	354.8	342.7	323.7	319.2	323.7	328.3	333.5	341.2	356.3
35°	322.2	329.8	334.3	323.7	300.7	287.1	281.9	273.5	268.8	268.8	286.3
37.5°	293.2	310.8	317.7	307.8	282.6	263.6	254.4	252.9	253.7	256.6	273.5
40°	283.3	296.2	302.1	292.5	267.3	250.0	244.5	243.0	244.5	249.2	265.8
42.5°	277.2	286.3	285.6	273.5	252.9	240.8	237.9	236.1	237.9	242.3	260.6
45°	272.0	277.9	272.0	257.4	238.6	232.2	232.9	232.2	233.7	238.6	255.9
47.5°	267.3	269.5	262.1	247.5	227.7	226.2	229.2	231.4	232.9	237.1	255.2
50°	260.6	260.6	253.7	238.6	218.6	219.3	223.0	228.5	229.2	233.7	248.5
52.5°	252.2	251.5	246.8	232.2	210.9	213.1	213.1	219.3	220.8	226.2	241.6
55°	245.3	243.8	241.6	227.7	204.2	207.9	205.7	207.9	211.6	217.1	233.7
57.5°	239.3	236.1	236.1	223.8	198.8	200.3	195.1	198.0	202.5	207.2	224.5
60°	232.9	229.9	231.4	218.6	190.4	188.9	186.7	192.6	194.3	199.5	217.1
62.5°	226.2	223.8	224.5	212.4	184.4	180.5	180.5	185.9	186.7	194.3	210.9
65°	220.8	217.8	217.1	206.5	177.5	173.1	175.3	177.5	179.0	186.7	202.5
67.5°	215.6	209.4	209.4	201.0	169.9	165.2	169.9	169.1	171.6	178.3	191.1
70°	208.7	200.3	201.0	197.3	162.2	156.8	160.7	160.0	161.5	165.9	179.0
72.5°	198.0	191.1	192.6	191.1	154.5	146.9	148.4	148.4	148.4	152.3	165.9
75°	184.4	179.0	183.7	187.4	145.4	134.8	136.2	136.2	134.0	136.2	153.0
77.5°	167.4	164.4	179.8	174.6	134.8	121.9	121.9	120.4	116.0	118.9	137.0
80°	149.3	146.9	165.9	146.1	122.6	106.1	104.3	100.4	95.9	98.2	116.7
82.5°	130.3	128.1	139.4	112.0	106.1	87.5	83.8	76.9	72.4	74.7	91.2
85°	106.8	106.8	107.6	84.6	80.6	67.0	62.6	53.4	48.0	49.5	65.5
87.5°	76.2	78.4	72.4	57.9	48.0	37.3	34.4	28.9	24.2	28.2	34.4
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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CATALOG NUMBER: GLNA-AF-04-LED-E1-SLL-600

**CANDELA DISTRIBUTION (continued):**

	295°	305°	315°	325°	335°	345°	355°	360°
0°	4681.2	4681.2	4681.2	4681.2	4681.2	4681.2	4681.2	4681.2
2.5°	4023.8	4107.6	4202.8	4324.4	4429.0	4600.1	4764.8	4863.7
5°	3008.5	3148.0	3321.3	3544.8	3752.8	4064.8	4374.9	4573.6
7.5°	2153.1	2302.4	2489.8	2768.5	3062.7	3460.8	3870.7	4108.3
10°	1781.7	1934.7	2092.2	2280.4	2521.2	2954.4	3438.8	3706.8
12.5°	1473.9	1637.5	1807.4	2005.5	2228.5	2615.4	3173.7	3482.3
15°	1128.0	1310.7	1510.9	1761.7	2041.1	2488.3	3108.2	3443.2
17.5°	773.2	977.4	1223.1	1532.5	1874.4	2447.0	3225.6	3611.8
20°	532.3	680.9	943.8	1306.2	1717.7	2441.8	3450.9	3934.7
22.5°	445.5	511.8	703.7	1098.3	1599.5	2507.4	3800.7	4387.7
25°	411.9	451.7	562.0	917.8	1513.4	2658.2	4282.1	4974.2
27.5°	392.4	428.0	510.3	799.9	1445.7	2833.2	4750.4	5542.4
30°	399.8	436.4	495.7	739.5	1353.5	2979.4	5166.3	5985.7
32.5°	360.2	376.3	425.0	686.1	1287.2	3102.0	5530.3	6352.9
35°	307.1	335.0	379.3	661.1	1288.7	3184.3	5927.1	6821.9
37.5°	292.5	320.7	352.6	652.0	1306.2	3272.1	6382.5	7372.0
40°	283.3	309.3	336.8	646.8	1323.0	3352.0	6829.1	7915.7
42.5°	277.2	300.7	335.0	628.3	1331.4	3423.7	7196.0	8378.1
45°	276.4	300.7	341.2	610.0	1344.3	3500.6	7503.8	8720.0
47.5°	277.2	310.8	329.8	588.0	1344.3	3629.1	7864.8	9025.4
50°	274.2	327.6	317.7	556.8	1313.1	3872.9	8359.8	9434.3
52.5°	272.7	325.4	294.0	508.8	1259.0	4259.9	8994.2	9998.1
55°	268.8	313.8	277.2	437.4	1196.0	4681.9	9673.7	10664.7
57.5°	265.1	277.9	268.0	374.8	1098.3	4978.9	10141.2	11184.6
60°	296.9	243.0	260.6	344.2	968.0	5060.2	10123.2	11391.8
62.5°	274.9	227.7	250.7	337.5	876.8	4831.8	9655.4	11280.1
65°	215.6	217.8	240.8	357.0	852.3	4226.5	8826.6	10762.8
67.5°	197.3	207.9	230.7	382.5	854.7	3383.9	7588.4	9636.1
70°	185.9	197.3	219.3	395.4	860.7	2522.7	5999.3	7848.7
72.5°	173.1	183.0	206.5	397.6	820.9	1832.4	4624.1	5771.1
75°	157.5	166.6	188.2	346.4	680.2	1271.1	3537.2	3948.3
77.5°	140.2	146.9	165.2	267.3	505.1	813.5	2655.0	2884.4
80°	119.7	123.4	138.7	195.8	345.7	508.8	2100.6	2314.5
82.5°	95.9	97.4	107.6	146.9	224.5	326.9	1406.9	1605.6
85°	67.7	67.7	73.9	106.8	153.0	207.2	763.8	847.1
87.5°	31.9	32.6	32.6	58.6	79.9	105.3	176.0	108.3
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)