

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: P299356

Luminaire Tested: **GLNA-AF-04-LED-E1-SLR**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P299356
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P194679)
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-SLR
Description: GALLEONAIRE AREA AND ROADWAY LUMINAIRE
(4) 70 CRI, 4000K CCT 1050mA LIGHTSQUARE WITH 16 LEDS EACH AND 90° Spill
Light Eliminator Right OPTICS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 21032.2 lumens
Efficiency: N/A
Efficacy: 93.5 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B2 - U0 - G4

Input Watts (W): 225
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

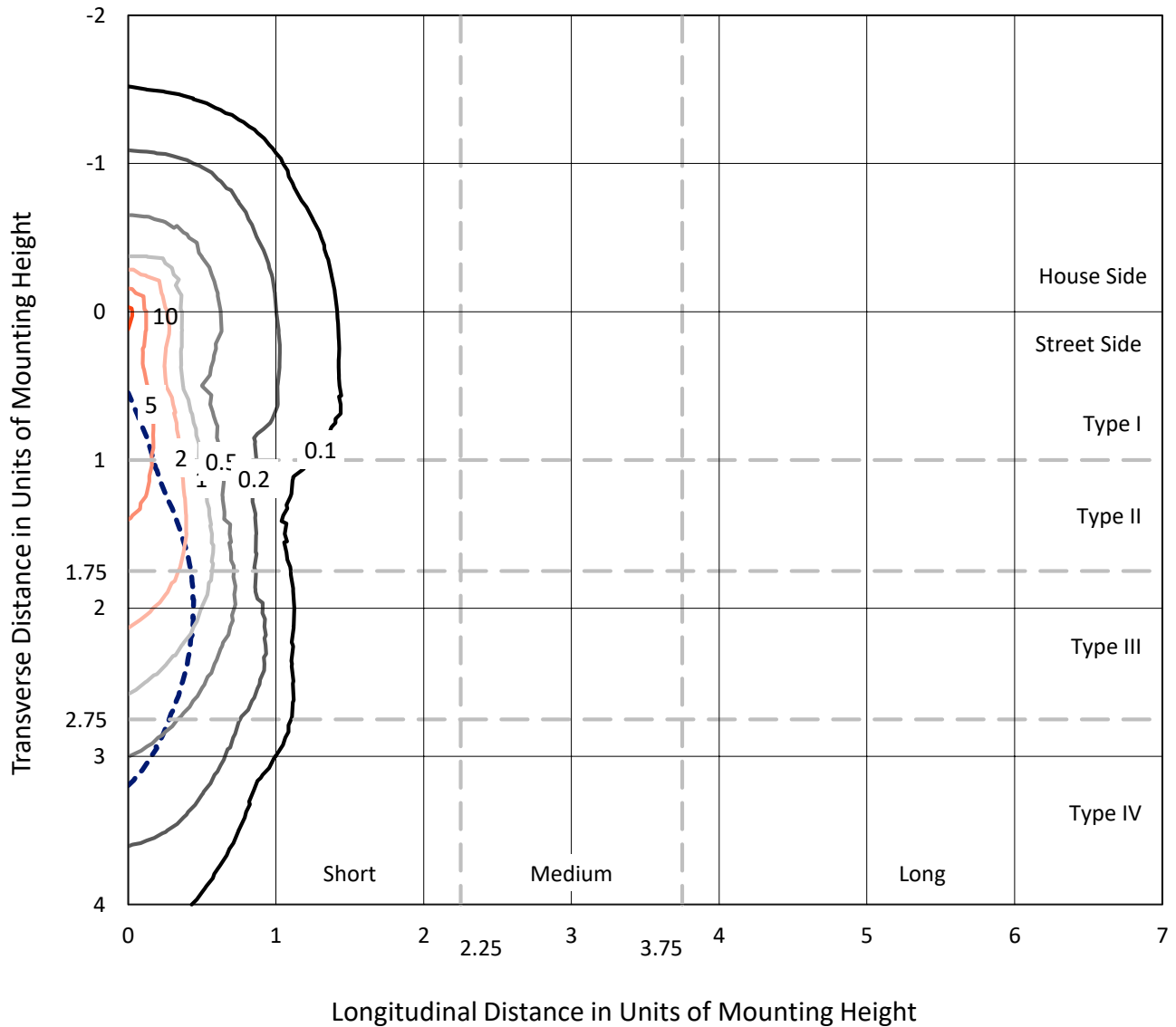


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

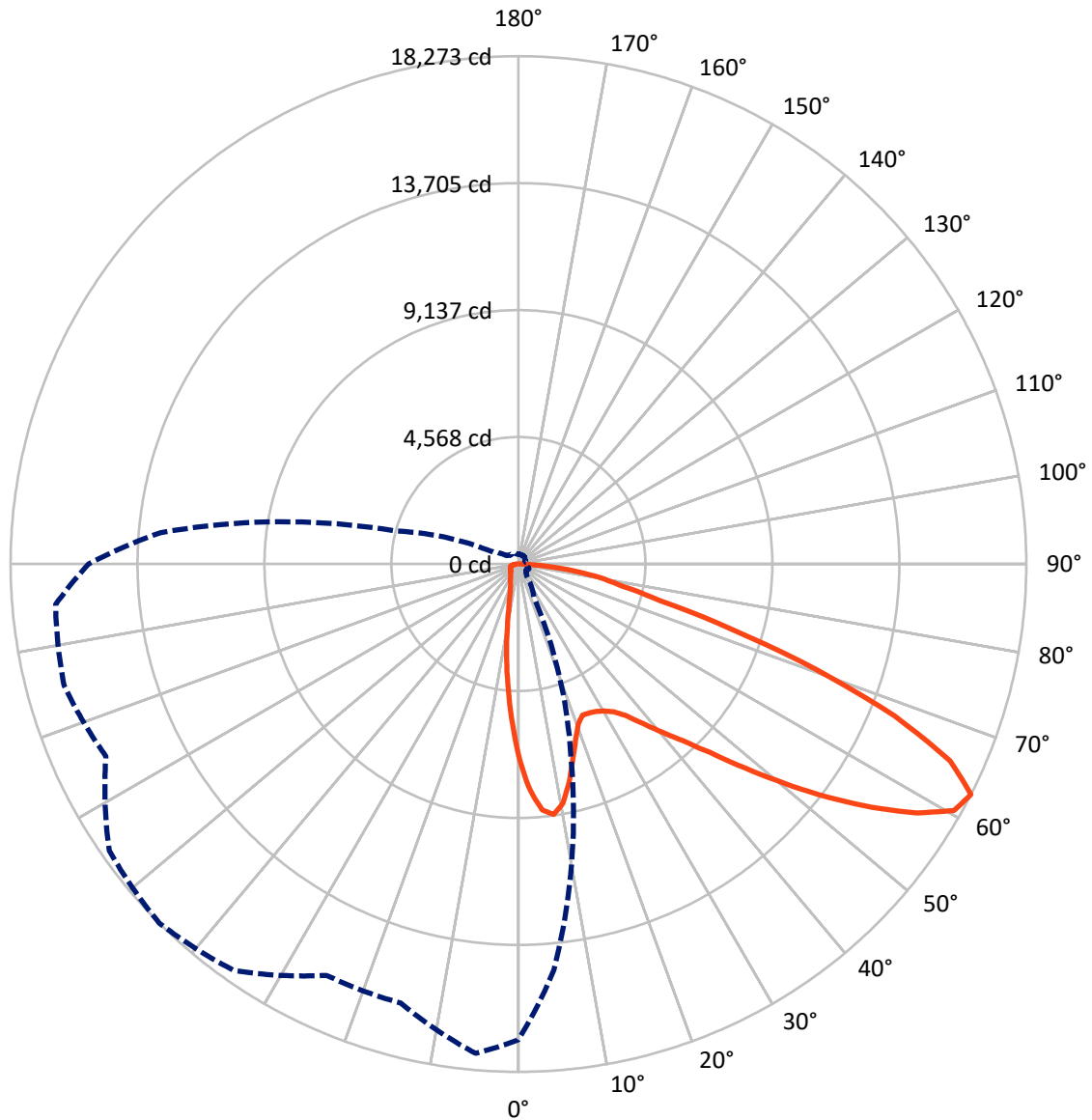


Based on 25 foot mounting height. Maximum calculated value = 11.4 fc
 Type IV - Short - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 315-Deg Lateral - - - Horizontal Cone Through 62.5-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	3480.6	0.0	3480.6
	% Fixture	16.5	0.0	16.5
Street Side	Lumens	17551.6	0.0	17551.6
	% Fixture	83.5	0.0	83.5
Total	Lumens	21032.2	0.0	21032.2
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	517.3	2.5
10°-20°	948.5	4.5
20°-30°	1383.0	6.6
30°-40°	2130.0	10.1
40°-50°	3134.7	14.9
50°-60°	4598.0	21.9
60°-70°	5139.9	24.4
70°-80°	2516.4	12.0
80°-90°	664.4	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°	21032.2	100.0
0°-180°	21032.2	100.0



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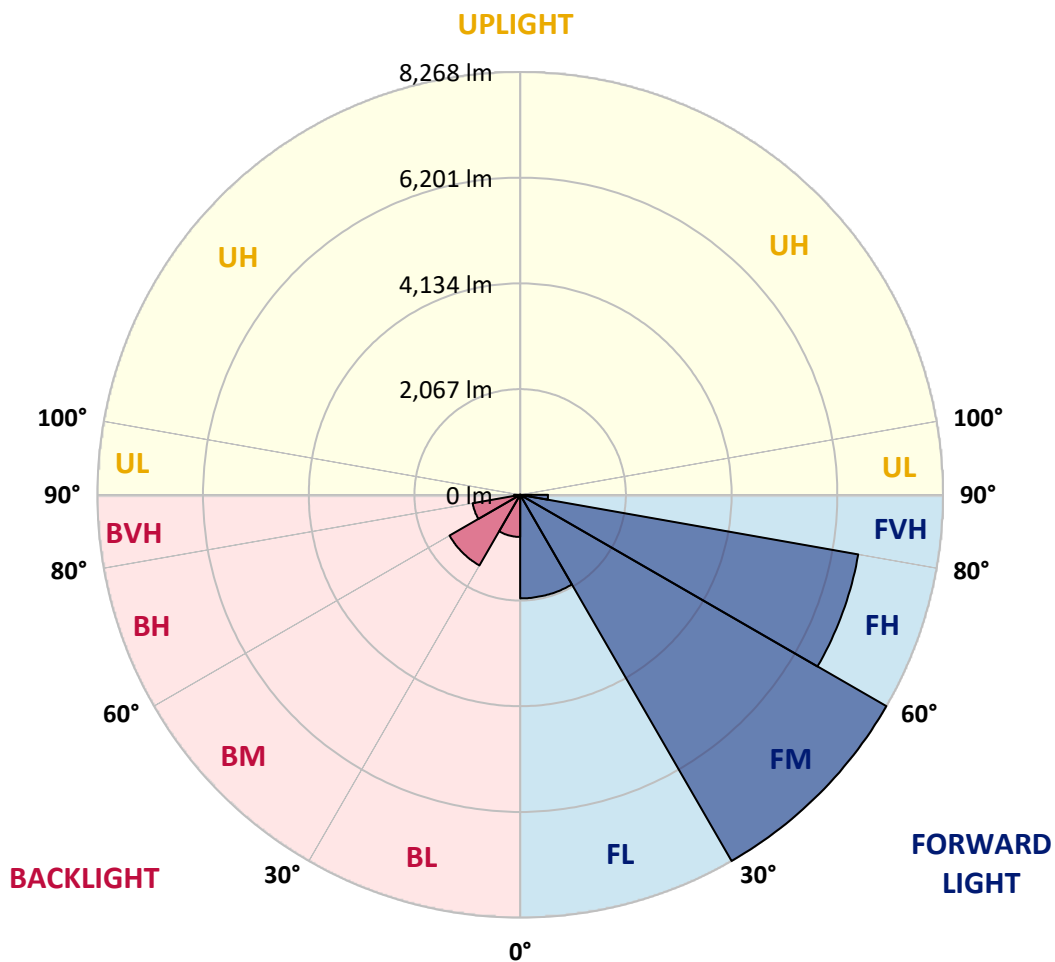
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	2025.3	9.6			
FM (30°-60°)	8267.9	39.3			
FH (60°-80°)	6712.7	31.9			G3/7500
FVH (80°-90°)	545.6	2.6			G4/750
BL (0°-30°)	823.4	3.9	B2/1000		
BM (30°-60°)	1594.8	7.6	B2/2500		
BH (60°-80°)	943.6	4.5	B2/1000		G2/1000
BVH (80°-90°)	118.8	0.6			G2/225
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G4

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	7105.9	7105.9	7105.9	7105.9	7105.9	7105.9	7105.9	7105.9	7105.9	7105.9	7105.9
2.5°	7383.1	7233.0	6983.1	6723.0	6564.8	6379.7	6235.1	6108.0	5853.6	5803.9	5849.0
5°	6942.8	6641.1	6170.3	5696.4	5380.7	5041.9	4778.4	4566.9	4244.2	4187.5	4255.8
7.5°	6236.5	5875.6	5253.7	4648.8	4202.6	3779.4	3495.2	3268.4	3016.4	2907.9	2914.5
10°	5627.1	5220.1	4484.7	3827.0	3461.6	3176.0	2936.6	2704.2	2448.7	2281.0	2234.8
12.5°	5285.9	4817.9	3970.2	3382.9	3044.0	2743.7	2485.8	2237.3	1964.3	1793.1	1744.8
15°	5227.1	4718.1	3777.3	3098.6	2674.1	2294.0	1989.8	1712.3	1431.2	1292.6	1263.5
17.5°	5482.6	4896.3	3714.7	2845.2	2326.2	1856.8	1483.3	1173.6	944.7	875.4	869.4
20°	5972.6	5238.6	3706.6	2607.2	1982.8	1432.6	1033.6	808.2	707.7	687.8	689.2
22.5°	6660.7	5769.2	3806.0	2428.0	1667.1	1068.2	777.0	676.2	637.0	618.5	618.5
25°	7550.8	6500.1	4034.9	2297.5	1393.0	853.3	685.7	625.5	588.4	575.8	578.2
27.5°	8413.6	7210.9	4300.9	2194.6	1213.8	774.6	649.6	595.4	563.2	550.2	556.2
30°	9086.3	7842.3	4522.8	2054.6	1122.5	752.5	662.6	606.9	560.7	541.1	542.2
32.5°	9643.5	8395.0	4709.0	1953.8	1041.6	645.1	571.2	546.7	541.1	518.0	506.5
35°	10355.8	8997.4	4834.0	1956.2	1003.5	575.8	508.6	465.9	434.7	408.1	408.1
37.5°	11190.6	9688.7	4967.0	1982.8	989.8	535.2	486.9	443.8	415.1	389.6	385.0
40°	12015.9	10366.3	5088.5	2008.4	981.4	511.0	469.4	430.2	403.6	378.0	371.0
42.5°	12718.0	10923.5	5197.0	2021.0	953.8	508.6	456.8	420.7	395.5	367.5	360.9
45°	13237.1	11390.4	5313.9	2040.6	926.1	518.0	456.8	419.7	388.5	361.9	354.9
47.5°	13700.5	11938.5	5509.2	2040.6	892.5	500.5	471.8	420.7	387.5	359.5	353.9
50°	14321.4	12690.0	5879.1	1993.3	845.3	482.0	497.0	416.2	377.0	354.9	347.9
52.5°	15176.8	13653.2	6466.5	1911.1	772.5	446.3	493.5	414.1	366.5	343.4	335.3
55°	16188.7	14684.4	7107.0	1815.2	663.6	420.7	476.4	408.1	354.9	329.4	321.3
57.5°	16978.3	15394.2	7557.8	1667.1	568.8	407.1	422.1	402.5	340.9	314.3	307.7
60°	17292.6	15366.5	7681.7	1469.3	522.6	395.5	368.9	450.8	329.4	302.8	294.7
62.5°	17122.9	14656.7	7334.8	1330.7	512.1	380.5	345.8	417.2	320.3	294.7	283.2
65°	16337.8	13398.8	6415.7	1293.6	542.2	365.4	330.8	327.3	307.7	283.2	271.6
67.5°	14627.7	11518.9	5136.8	1297.1	580.3	350.4	315.7	299.6	290.2	270.6	260.1
70°	11914.4	9107.3	3829.1	1306.6	599.9	332.9	299.6	282.1	271.6	252.0	245.0
72.5°	8760.4	7019.1	2781.9	1246.4	603.4	313.3	277.6	262.5	252.0	231.4	225.4
75°	5993.6	5369.2	1929.6	1032.5	526.1	285.6	253.1	239.4	232.4	206.9	203.4
77.5°	4378.3	4030.4	1234.8	766.5	405.7	251.0	223.3	212.8	208.3	180.3	175.7
80°	3513.8	3188.6	772.5	525.0	297.2	210.4	187.3	181.7	176.8	149.1	145.6
82.5°	2437.1	2135.4	496.0	340.9	223.3	163.1	148.1	145.6	138.6	113.4	109.9
85°	1285.6	1159.6	314.3	232.4	161.7	112.0	102.9	102.9	99.4	75.3	72.8
87.5°	164.2	267.1	159.6	121.5	88.9	49.7	49.7	48.7	52.2	42.7	37.1
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°	7105.9	7105.9	7105.9	7105.9	7105.9	7105.9	7105.9	7105.9	7105.9	7105.9	7105.9
2.5°	5742.6	5798.3	5745.1	5748.6	5807.4	5983.1	6062.9	6128.7	6199.4	6245.6	6266.2
5°	4162.3	4291.8	4335.6	4428.0	4564.5	4788.9	4877.8	4942.5	4985.6	5010.8	5021.3
7.5°	2846.6	2925.0	3012.9	3162.0	3459.2	3591.1	3649.9	3634.9	3586.6	3569.1	3551.9
10°	2145.9	2114.8	2098.3	2180.6	2421.0	2554.0	2595.7	2555.1	2528.5	2534.4	2563.1
12.5°	1662.6	1608.3	1542.5	1533.0	1691.6	1810.6	1837.2	1839.3	1888.0	1930.7	1994.4
15°	1211.7	1205.8	1173.6	1154.0	1243.9	1341.2	1352.8	1373.4	1417.5	1448.7	1504.0
17.5°	854.4	885.5	911.1	923.7	991.9	1061.2	1048.6	1038.1	1030.1	1030.1	1056.7
20°	689.2	709.8	742.4	779.1	848.8	897.1	865.9	824.3	794.2	785.1	788.6
22.5°	620.9	637.0	655.6	687.8	750.4	784.0	750.4	720.3	690.2	679.7	676.2
25°	586.3	606.9	624.4	648.6	694.8	717.9	685.7	663.6	645.1	632.5	623.0
27.5°	566.7	584.9	589.8	601.3	640.5	661.2	645.1	636.0	624.4	612.9	601.3
30°	545.7	542.2	534.1	535.2	566.7	587.3	586.3	588.4	587.3	583.8	581.7
32.5°	498.4	491.4	484.4	491.4	520.1	538.7	540.1	544.6	544.6	543.6	552.7
35°	415.1	427.7	435.8	456.8	491.4	507.5	500.5	489.0	468.3	455.4	454.3
37.5°	384.0	386.1	400.1	428.8	467.3	482.0	471.8	445.2	431.2	428.8	432.3
40°	368.9	371.0	379.1	405.7	443.8	458.9	449.8	430.2	417.2	416.2	422.1
42.5°	358.4	360.9	365.4	384.0	415.1	433.7	434.7	420.7	405.7	407.1	412.7
45°	352.5	353.9	352.5	361.9	390.6	412.7	422.1	412.7	400.1	402.5	409.2
47.5°	351.4	347.9	343.4	345.8	375.9	397.6	409.2	405.7	400.1	402.5	408.1
50°	346.9	338.8	332.9	331.8	361.9	385.0	395.5	395.5	397.6	402.5	408.1
52.5°	332.9	323.8	323.8	320.3	352.5	374.5	381.5	382.6	386.1	394.1	402.5
55°	315.7	312.2	315.7	309.8	345.8	366.5	370.0	372.4	374.5	381.5	393.1
57.5°	300.7	296.1	304.2	301.7	339.9	358.4	358.4	363.0	363.0	372.4	381.5
60°	292.6	283.2	286.7	289.1	331.8	351.4	349.3	353.9	356.0	364.4	371.0
62.5°	282.1	274.1	274.1	279.7	322.7	340.9	339.9	343.4	352.5	354.9	361.9
65°	269.5	266.0	262.5	269.5	313.3	329.4	330.8	335.3	343.4	345.8	351.4
67.5°	256.6	258.0	251.0	258.0	305.2	317.8	317.8	327.3	330.8	335.3	340.9
70°	242.9	244.0	238.0	246.4	299.6	305.2	304.2	316.8	319.2	322.7	328.3
72.5°	225.4	225.4	223.3	234.9	290.2	292.6	290.2	300.7	301.7	305.2	307.7
75°	206.9	206.9	204.8	220.9	284.6	278.6	271.6	279.7	282.1	284.6	284.6
77.5°	182.7	185.2	185.2	204.8	264.6	273.0	249.6	254.5	258.0	259.0	255.5
80°	152.6	158.6	160.7	186.2	221.9	252.0	223.3	226.5	227.9	227.9	223.3
82.5°	116.9	127.1	133.0	160.7	170.1	211.4	194.3	197.8	194.3	187.3	185.2
85°	80.9	94.9	101.9	122.5	128.5	163.1	161.7	161.7	155.1	145.6	144.6
87.5°	44.1	52.2	56.7	72.8	87.9	109.9	119.0	115.5	109.9	104.0	105.4
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°	7105.9	7105.9	7105.9	7105.9	7105.9	7105.9	7105.9	7105.9	7105.9	7105.9	7105.9
2.5°	6375.1	6532.3	6783.2	6975.0	7168.2	7354.4	7555.7	7709.3	7839.9	7891.0	8045.7
5°	5126.6	5323.0	5559.9	5987.6	6290.7	6624.7	7011.1	7522.1	7718.4	7990.4	8435.3
7.5°	3624.7	3802.5	4184.0	4529.8	4959.0	5431.8	5953.0	6658.3	6916.2	7352.0	8076.9
10°	2706.6	2913.5	3219.8	3511.3	3889.3	4372.7	4971.6	5760.1	6073.4	6546.3	7381.0
12.5°	2180.6	2424.5	2749.3	3023.4	3316.0	3656.9	4238.6	5103.2	5523.2	5936.9	6780.8
15°	1675.2	1930.7	2232.7	2580.6	2903.0	3270.9	3880.2	4826.0	5309.0	5740.5	6460.5
17.5°	1159.6	1378.0	1758.5	2121.4	2534.4	3004.8	3780.8	4884.8	5461.6	5958.9	6516.2
20°	822.2	946.8	1259.0	1680.1	2194.6	2785.0	3762.3	5194.5	5944.9	6512.7	6872.1
22.5°	691.3	737.5	919.1	1305.2	1899.5	2620.9	3827.0	5629.2	6597.0	7321.9	7439.8
25°	630.0	658.0	752.5	1024.5	1637.0	2501.9	4045.4	6276.7	7404.1	8131.5	8110.5
27.5°	596.4	625.5	687.8	864.9	1439.6	2428.0	4263.8	7044.7	8326.8	9010.0	8751.0
30°	586.3	625.5	691.3	815.2	1298.5	2311.1	4443.0	7718.4	9036.6	9603.3	9042.5
32.5°	578.2	583.8	613.9	702.8	1164.1	2174.6	4564.5	8323.3	9731.4	10167.5	9462.2
35°	467.3	496.0	544.6	630.0	1085.7	2092.7	4564.5	8844.8	10416.0	10737.3	9862.3
37.5°	449.8	475.3	518.0	590.8	1041.6	2052.1	4473.1	9347.7	11115.3	11383.8	10191.6
40°	440.7	461.3	501.9	560.7	1023.1	2005.9	4340.1	9791.6	11798.5	12030.9	10499.3
42.5°	433.7	452.2	490.4	542.2	998.9	1955.2	4232.7	10147.5	12391.8	12583.6	10792.9
45°	430.2	449.8	491.4	551.6	950.3	1888.0	4197.0	10532.5	12879.7	13044.9	11110.8
47.5°	430.2	453.3	497.0	571.2	892.5	1818.7	4309.0	11040.4	13341.0	13421.9	11485.3
50°	426.7	452.2	513.5	551.6	808.2	1730.8	4572.5	11679.5	13840.5	13849.6	11959.5
52.5°	419.7	449.8	552.7	540.1	710.9	1615.3	4928.9	12500.6	14579.4	14634.7	12701.6
55°	411.6	446.3	542.2	513.5	631.4	1477.7	5220.1	13498.2	15617.5	15771.1	13793.2
57.5°	401.1	441.7	525.0	476.4	579.3	1300.6	5325.4	14229.0	16342.4	16728.4	15023.2
60°	392.0	438.2	473.9	454.3	546.7	1151.5	5121.7	14084.4	16292.7	17125.0	16113.5
62.5°	382.6	441.7	432.3	440.7	531.7	1055.6	4590.0	12927.0	15468.4	16715.8	16921.6
65°	372.4	410.6	408.1	428.8	528.5	1017.5	3805.0	11191.6	13875.1	15422.2	17112.4
67.5°	358.4	379.1	390.6	414.1	540.1	983.9	3070.6	9231.9	11661.0	13483.1	16118.0
70°	343.4	360.9	373.5	395.5	533.1	968.8	2554.0	7280.2	9252.9	11050.5	14156.2
72.5°	323.8	338.8	350.4	371.0	526.1	960.8	2157.5	5863.0	6908.2	8208.8	11509.8
75°	300.7	314.3	322.7	343.4	504.0	879.9	1696.2	4961.1	5169.3	5710.4	9167.1
77.5°	274.1	284.6	291.2	314.3	446.3	731.9	1226.8	3827.0	4014.3	4145.9	7028.2
80°	242.9	253.1	256.6	278.6	370.0	572.3	800.1	2826.7	3002.4	3032.5	4590.0
82.5°	206.9	217.4	217.4	238.0	302.8	411.6	525.0	1936.6	1971.3	2073.1	3244.3
85°	166.6	174.7	174.7	185.2	234.9	307.7	360.9	972.3	961.8	1098.3	2810.6
87.5°	119.0	125.0	130.6	133.0	167.7	203.4	217.4	296.1	195.3	224.4	1804.7
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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CATALOG NUMBER: GLNA-AF-04-LED-E1-SLR

CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	7105.9	7105.9	7105.9	7105.9	7105.9	7105.9	7105.9	7105.9
2.5°	8162.6	8228.4	8161.2	8112.9	7903.6	7731.4	7501.1	7383.1
5°	8774.1	8941.7	8885.0	8681.7	8244.5	7753.1	7194.8	6942.8
7.5°	8700.2	9089.8	9098.9	8718.8	8074.8	7350.9	6594.9	6236.5
10°	8124.5	8622.5	8765.0	8396.1	7712.8	6903.6	6036.3	5627.1
12.5°	7481.5	7969.4	8078.3	7950.9	7380.0	6566.9	5687.3	5285.9
15°	6955.4	7174.2	7303.3	7414.6	7094.4	6432.9	5667.4	5227.1
17.5°	6635.2	6611.0	6648.1	6841.0	6895.2	6586.5	5968.0	5482.6
20°	6519.7	6148.6	6139.2	6405.2	6801.8	6953.3	6555.4	5972.6
22.5°	6583.4	5982.0	5905.7	6221.4	6851.5	7481.5	7325.4	6660.7
25°	6802.8	5996.0	5934.4	6240.0	7031.7	8044.7	8156.7	7550.8
27.5°	7148.6	6083.9	6002.7	6316.3	7271.1	8517.5	8975.3	8413.6
30°	7476.9	6236.5	6135.7	6466.5	7489.5	8704.8	9477.2	9086.3
32.5°	7875.9	6522.1	6345.0	6742.6	7760.1	9003.0	9924.6	9643.5
35°	8266.6	6928.8	6709.4	7169.3	8061.8	9374.3	10435.6	10355.8
37.5°	8695.7	7460.8	7279.2	7720.9	8474.8	9724.4	11087.7	11190.6
40°	9153.5	8166.1	7950.9	8525.6	9115.3	10164.0	11768.8	12015.9
42.5°	9614.8	8948.7	8692.2	9274.6	9819.2	10597.3	12351.2	12718.0
45°	10143.0	9798.6	9677.1	10307.1	10495.8	11010.3	12781.4	13237.1
47.5°	10758.3	10762.8	10958.1	11210.2	11178.0	11477.2	13214.0	13700.5
50°	11476.2	11966.2	12397.7	12565.0	11880.8	11979.1	13813.9	14321.4
52.5°	12338.6	13405.8	13939.9	13830.0	12638.2	12591.6	14764.2	15176.8
55°	13417.3	14929.7	15460.3	15381.6	13508.7	13426.4	15948.3	16188.7
57.5°	14665.8	16406.1	16894.0	16540.1	14553.8	14342.4	16927.6	16978.3
60°	15763.1	17576.2	18003.9	17611.9	15608.4	15316.8	17539.1	17292.6
62.5°	16373.5	17972.7	18273.4	17851.3	16330.8	16355.0	17673.1	17122.9
65°	16100.9	16970.3	17067.2	17032.6	16144.6	16957.3	17191.1	16337.8
67.5°	14607.0	14435.9	14599.0	14824.4	14549.3	16164.2	15855.5	14627.7
70°	11975.6	11035.5	11360.7	11511.9	11636.8	13909.8	13761.7	11914.4
72.5°	9025.0	7731.4	7988.0	7956.8	8534.7	11157.0	10702.6	8760.4
75°	6394.7	5242.1	5274.3	5261.7	5955.4	8728.9	7749.9	5993.6
77.5°	4474.2	3798.0	3815.5	3886.9	4003.8	6583.4	5536.8	4378.3
80°	3076.6	2882.3	2978.2	2984.2	2774.9	4422.4	4090.6	3513.8
82.5°	2291.5	2003.5	1980.4	2014.0	2174.6	3583.1	3143.4	2437.1
85°	1876.4	1186.2	953.8	1195.6	1927.2	3548.4	2088.2	1285.6
87.5°	1056.7	563.2	254.5	471.8	769.0	2349.3	603.4	164.2
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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