

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: P271444

Luminaire Tested: **ISC-AF-450-LED-E1-SL4-7027-ULG**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P271444
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P29763)-DOWNLIGHT AND
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: MCGRAW-EDISON
Catalog Number: ISC-AF-450-LED-E1-SL4-7027-ULG
Description: IMPACT ELITE LED CYLINDER LUMINAIRE WITH UPLIGHT
LIGHT SQUARE WITH ACCUED OPTICS-TYPE IV W/SPILL CONTROL, WITH UPLIGHT
GLOW
Light Source: (16) 2700K CCT, 70 CRI LEDs and (1) UPLIGHT LED
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3701.3 lumens
Efficiency: N/A
Efficacy: 88.1 lumens/watt
Luminous Opening: Rectangular w/ Sides (W: 0.5' x L: 0.5' x H: 0.54')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B0 - U5 - G1

Input Watts (W): 42.01
Input Voltage (V): 120
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

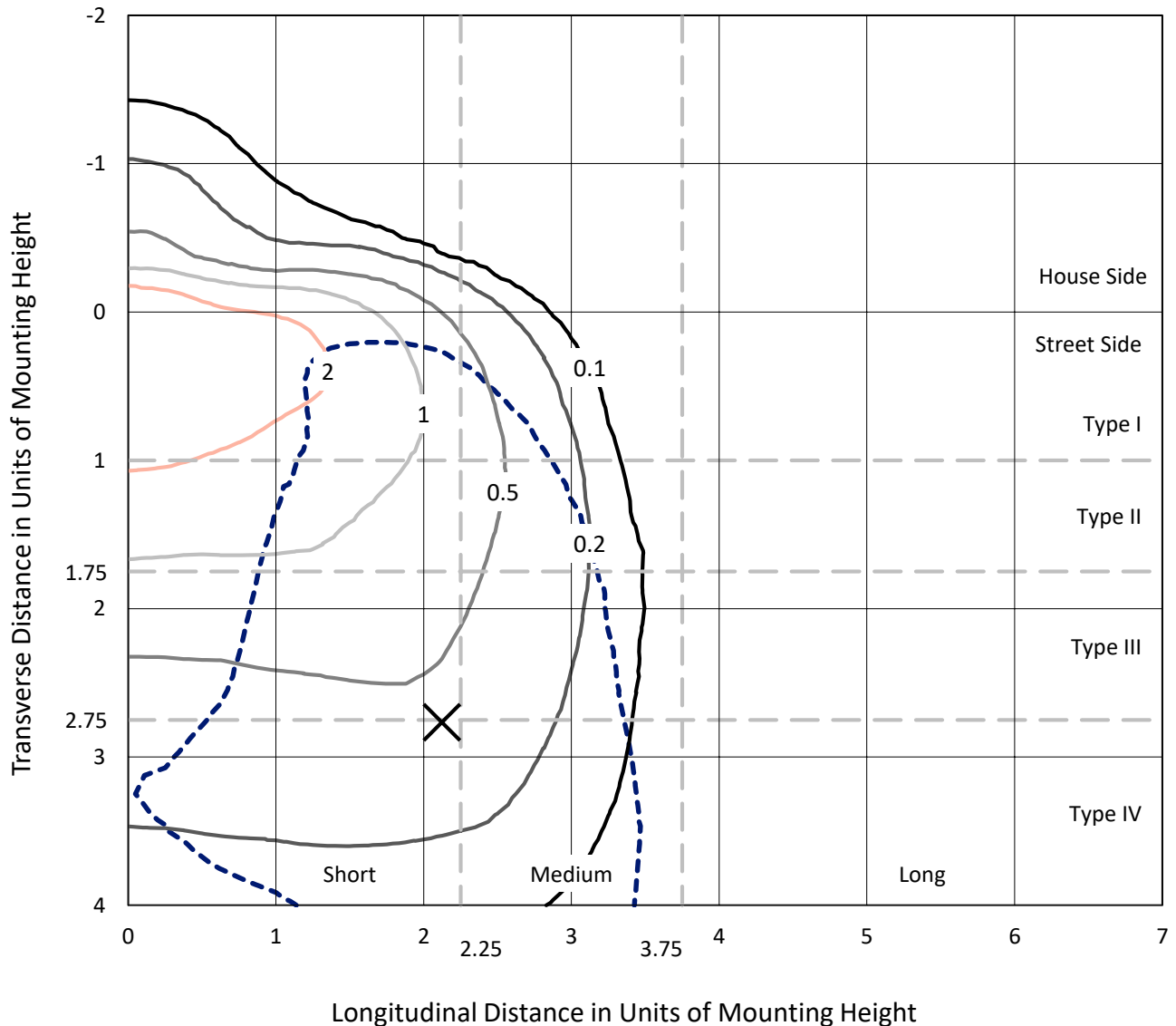


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

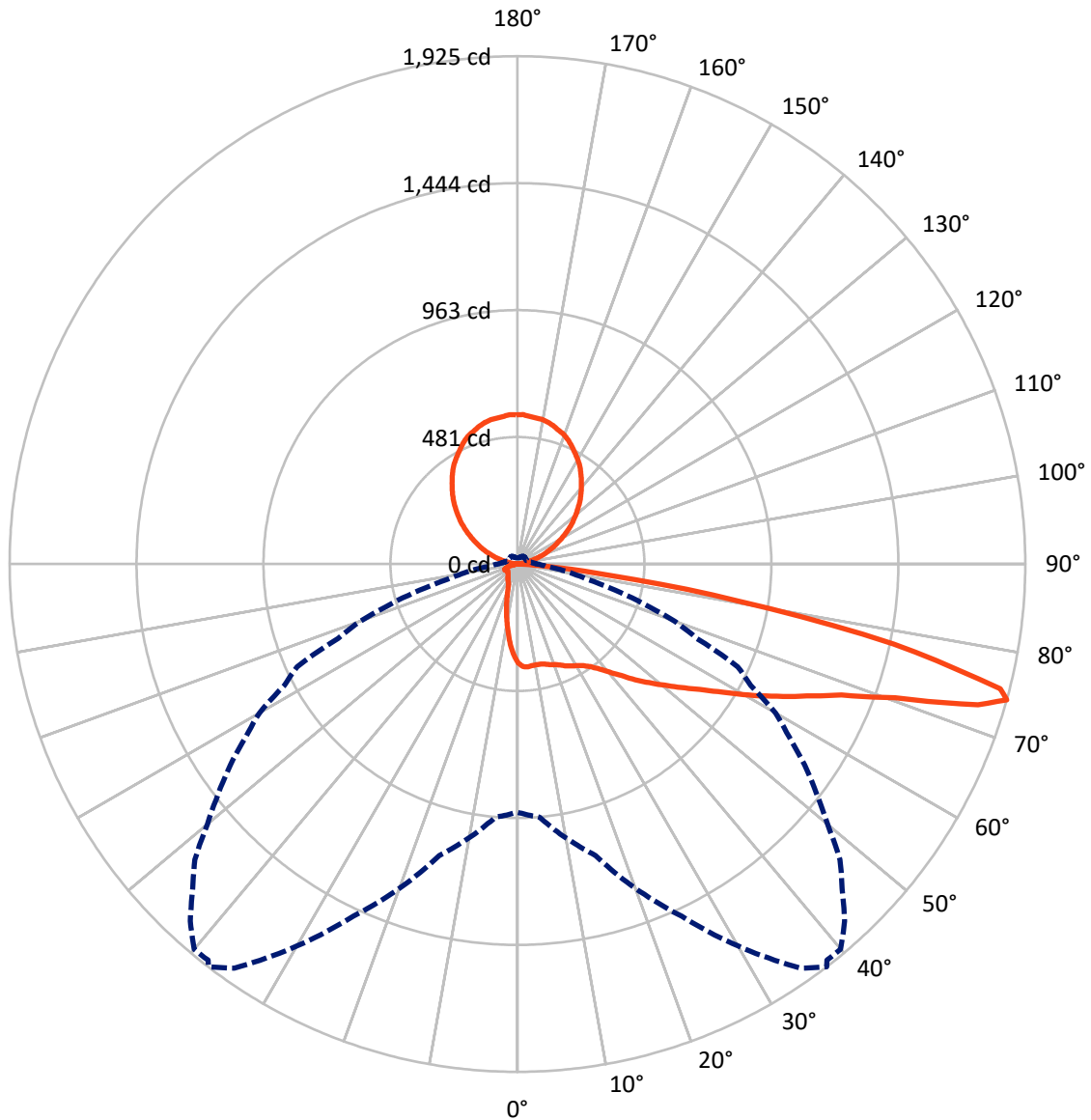


Based on 10 foot mounting height. Maximum calculated value = 4 fc
 Type IV - Short - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 37.5-Deg Lateral - - - Horizontal Cone Through 74-Deg Vertical

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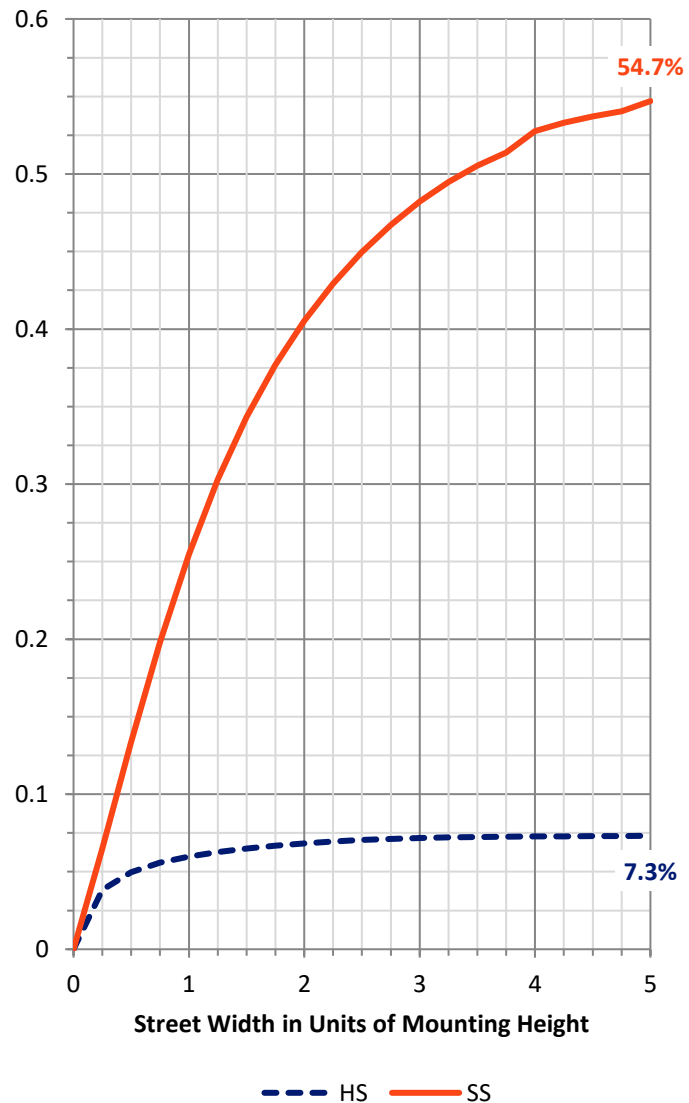
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	272.9	699.9	972.8
	% Fixture	7.4	18.9	26.3
Street Side	Lumens	2028.7	699.9	2728.5
	% Fixture	54.8	18.9	73.7
Total	Lumens	2301.6	1399.8	3701.3
	% Fixture	62.2	37.8	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	32.7	0.9
10°-20°	83.3	2.3
20°-30°	129.1	3.5
30°-40°	191.5	5.2
40°-50°	294.5	8.0
50°-60°	435.4	11.8
60°-70°	580.3	15.7
70°-80°	500.9	13.5
80°-90°	53.9	1.5
90°-100°	4.7	0.1
100°-110°	67.7	1.8
110°-120°	150.2	4.1
120°-130°	219.7	5.9
130°-140°	260.7	7.0
140°-150°	264.3	7.1
150°-160°	226.8	6.1
160°-170°	152.2	4.1
170°-180°	53.3	1.4
0°-90°	2301.6	62.2
0°-180°	3701.3	100.0



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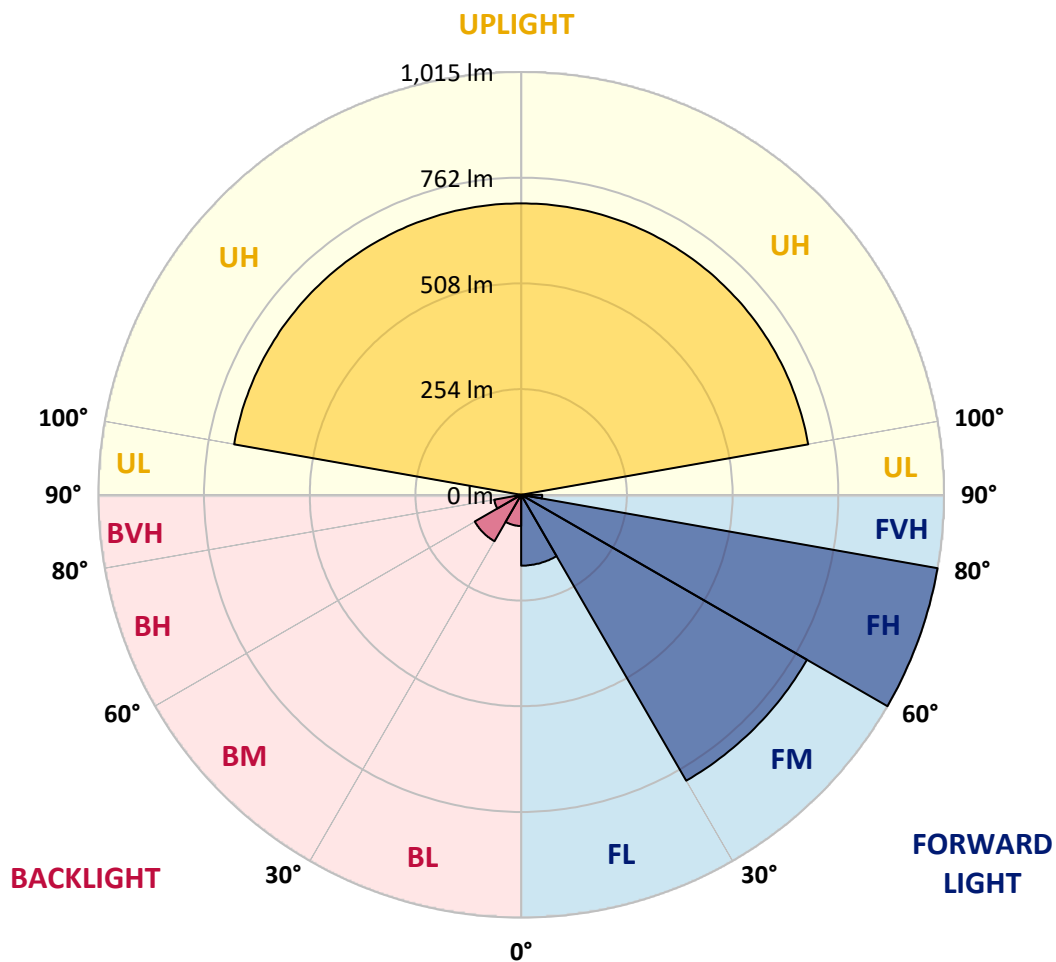
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	170.2	4.6			
FM (30°-60°)	792.7	21.4			
FH (60°-80°)	1015.5	27.4			G1/1800
FVH (80°-90°)	50.3	1.4			G1/100
BL (0°-30°)	74.9	2.0	B0/110		
BM (30°-60°)	128.6	3.5	B0/220		
BH (60°-80°)	65.8	1.8	B0/110		G0/110
BVH (80°-90°)	3.5	0.1			G0/10
UL (90°-100°)	4.7	0.1		U1/10	
UH (100°-180°)	699.9	18.9		U4/1000	

BUG Rating: B0-U5-G1

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	37.5°	38°	40°	42.5°	45°	47.5°
0°	375.6	375.6	375.6	375.6	375.6	375.6	375.6	375.6	375.6	375.6	375.6
2.5°	397.1	396.2	394.4	393.6	391.9	389.3	391.9	388.4	386.8	388.4	385.0
5°	404.0	403.1	401.4	397.9	396.2	391.9	394.4	390.2	389.3	391.0	386.8
7.5°	404.8	403.1	400.6	396.2	394.4	389.3	391.0	385.9	384.1	385.9	383.3
10°	402.2	401.4	398.8	391.9	390.2	388.4	387.6	384.1	383.3	382.5	381.6
12.5°	397.9	397.9	396.2	393.6	392.8	389.3	390.2	386.8	387.6	385.9	384.1
15°	396.2	395.3	397.1	398.8	398.8	393.6	397.1	394.4	392.8	393.6	391.0
17.5°	394.4	395.3	401.4	404.8	406.6	401.4	406.6	401.4	397.9	402.2	397.9
20°	393.6	396.2	406.6	414.3	415.1	406.6	415.1	406.6	406.6	411.6	404.0
22.5°	397.9	402.2	416.8	425.4	427.1	415.9	426.2	415.1	415.1	419.4	411.6
25°	411.6	415.9	432.4	441.8	440.0	428.0	437.5	426.2	425.4	430.6	420.2
27.5°	429.7	435.8	451.2	459.8	453.8	437.5	451.2	434.9	434.9	442.7	428.9
30°	455.5	459.8	473.6	474.5	466.7	446.9	462.4	444.3	441.8	455.5	438.4
32.5°	483.8	487.3	497.6	491.6	480.4	459.8	477.9	456.4	455.5	470.2	450.4
35°	513.9	517.4	520.8	510.5	500.2	477.9	497.6	476.1	475.2	491.6	472.7
37.5°	544.9	544.9	544.9	532.9	526.0	504.5	522.5	505.4	503.6	520.8	502.8
40°	569.9	571.5	569.0	557.8	554.3	538.8	554.3	538.8	541.5	556.9	542.3
42.5°	590.5	592.2	593.0	583.6	587.0	578.4	590.5	579.2	580.1	597.4	588.7
45°	611.0	610.2	617.0	614.5	624.8	625.7	632.6	628.3	630.0	642.8	640.3
47.5°	632.6	628.3	636.0	647.2	666.0	672.1	676.4	678.1	685.0	691.0	697.1
50°	653.2	648.8	654.1	679.0	709.0	722.0	722.8	731.4	739.1	747.7	759.8
52.5°	674.6	671.2	676.4	711.6	759.8	777.8	775.2	789.8	801.0	810.5	830.2
55°	697.1	693.6	698.7	751.2	814.0	838.8	836.2	856.8	878.4	881.8	904.1
57.5°	718.6	714.2	728.9	797.5	878.4	916.2	904.1	935.9	956.5	954.9	985.8
60°	741.7	738.2	761.4	854.3	959.1	1008.2	990.1	1032.2	1046.9	1040.8	1070.0
62.5°	764.1	763.2	801.8	920.4	1057.1	1104.4	1088.0	1124.9	1135.4	1127.6	1142.3
65°	784.7	789.8	845.8	986.7	1151.6	1205.9	1183.4	1220.3	1232.5	1226.5	1251.4
67.5°	819.1	825.0	899.8	1070.9	1268.6	1324.4	1305.5	1344.1	1362.2	1360.6	1388.0
70°	869.8	881.0	979.8	1190.3	1446.5	1517.8	1507.4	1554.8	1598.5	1595.1	1622.7
72.5°	958.3	976.4	1111.2	1375.9	1738.7	1825.4	1813.5	1840.1	1832.4	1769.6	1718.9
74°	941.2	963.4	1143.9	1473.1	1870.2	1925.2	1905.5	1906.2	1835.8	1740.4	1658.7
75°	878.4	901.6	1096.7	1461.0	1860.7	1890.8	1862.5	1827.2	1742.2	1645.0	1544.5
77.5°	602.4	632.6	806.2	1180.0	1498.0	1456.8	1450.0	1382.9	1270.2	1161.1	1032.2
80°	308.6	330.0	416.8	617.0	888.6	847.4	861.1	807.0	713.3	634.2	502.8
82.5°	73.9	79.1	122.9	238.9	385.0	352.3	357.5	316.2	262.1	214.0	165.8
85°	38.6	43.8	60.2	66.1	101.4	104.8	102.2	98.8	80.8	67.9	59.3
87.5°	0.0	0.0	0.0	1.8	0.9	0.0	0.9	0.0	0.0	0.9	1.8
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
92.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
95°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
97.5°	2.0	2.0	2.0	3.0	4.0	5.1	5.4	6.4	7.6	8.8	9.8
100°	7.8	7.8	9.8	13.7	21.6	23.5	24.0	25.5	27.5	29.5	29.9
102.5°	27.5	27.5	31.4	37.3	44.2	45.4	45.6	46.6	47.9	49.0	49.2
105°	53.0	53.0	55.0	59.8	64.8	65.8	65.9	66.7	67.7	68.7	68.9
107.5°	76.5	75.5	78.5	82.5	86.3	87.1	87.2	87.9	88.6	89.3	89.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	15°	25°	35°	37.5°	38°	40°	42.5°	45°	47.5°
110°	99.2	100.1	101.1	104.0	108.0	108.4	108.5	109.0	109.4	110.0	110.4
112.5°	121.7	121.7	123.7	126.6	129.5	130.1	130.2	130.5	131.1	131.5	132.1
115°	143.3	144.3	146.2	148.2	151.2	151.6	151.7	152.2	152.6	153.1	153.6
117.5°	165.8	166.8	168.8	170.8	173.7	174.2	174.3	174.7	175.2	175.7	175.9
120°	189.5	191.4	192.3	194.3	197.3	197.4	197.5	197.8	198.1	198.3	198.7
122.5°	215.0	216.0	216.9	218.8	221.8	222.0	222.2	222.3	222.6	222.8	223.0
125°	239.5	241.5	242.5	243.4	246.3	246.6	246.7	246.9	247.1	247.3	247.6
127.5°	262.0	264.0	265.0	267.0	269.0	269.4	269.5	269.9	270.4	270.9	271.4
130°	284.7	286.6	287.5	288.5	292.5	292.7	292.8	292.9	293.3	293.5	293.9
132.5°	307.2	308.2	311.2	312.1	315.0	315.2	315.3	315.6	315.8	316.0	316.8
135°	329.8	330.8	332.7	334.7	338.6	338.6	338.6	338.6	338.6	338.6	339.4
137.5°	352.3	353.3	356.3	357.3	360.2	360.2	360.2	360.2	360.2	360.2	360.7
140°	375.0	375.9	377.8	378.8	380.8	381.0	381.2	381.3	381.6	381.8	382.0
142.5°	396.5	398.5	400.5	399.5	402.4	402.4	402.4	402.4	402.4	402.4	402.9
145°	417.2	418.1	420.0	420.0	423.0	423.2	423.3	423.6	423.8	424.0	424.4
147.5°	435.8	435.8	438.7	439.7	443.7	443.9	443.9	444.1	444.4	444.6	444.8
150°	452.5	453.5	455.4	456.4	460.3	460.5	460.7	460.8	461.1	461.3	461.5
152.5°	470.2	471.1	474.0	473.0	476.0	476.2	476.3	476.6	476.8	477.0	477.2
155°	489.8	490.7	492.7	491.7	493.7	493.7	493.7	493.7	493.7	493.7	493.9
157.5°	503.5	505.5	507.5	506.5	509.4	509.4	509.4	509.4	509.4	509.4	509.4
160°	515.3	517.2	519.2	519.2	522.2	522.2	522.2	522.2	522.2	522.2	522.2
162.5°	525.1	526.0	529.0	528.0	531.0	531.0	531.0	531.0	531.0	531.0	531.2
165°	535.9	536.8	538.8	537.8	541.8	541.8	541.8	541.8	541.8	541.8	541.9
167.5°	544.7	545.7	548.7	547.7	550.6	550.4	550.3	550.1	549.9	549.7	549.7
170°	551.6	552.5	555.5	554.5	556.5	556.3	556.2	556.1	555.7	555.5	555.3
172.5°	554.5	555.5	558.5	556.5	558.5	558.3	558.2	557.9	557.7	557.5	557.7
175°	556.5	558.5	559.5	558.5	561.4	561.4	561.4	561.4	561.4	561.4	561.6
177.5°	561.4	562.4	564.3	563.3	567.3	567.1	567.0	566.8	566.5	566.3	566.3
180°	565.3	565.3	565.3	565.3	565.3	565.3	565.3	565.3	565.3	565.3	565.3



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CANDELA DISTRIBUTION (continued):

	50°	52.5°	55°	57.5°	60°	62.5°	65°	67.5°	70°	72.5°	75°
0°	375.6	375.6	375.6	375.6	375.6	375.6	375.6	375.6	375.6	375.6	375.6
2.5°	387.6	385.9	387.6	382.5	385.0	380.7	382.5	378.2	379.8	376.4	377.3
5°	389.3	385.0	387.6	383.3	384.1	380.7	379.8	378.2	377.3	374.8	373.0
7.5°	385.0	381.6	380.7	379.1	376.4	377.3	373.9	373.0	370.4	370.4	365.3
10°	380.7	381.6	376.4	378.2	373.9	374.8	368.8	370.4	366.1	369.6	361.8
12.5°	384.1	385.0	380.7	383.3	375.6	377.3	372.2	374.8	368.8	373.0	363.5
15°	391.9	391.0	389.3	389.3	381.6	385.0	379.1	380.7	374.8	379.8	369.6
17.5°	398.8	397.9	395.3	394.4	389.3	390.2	384.1	387.6	380.7	385.0	374.8
20°	406.6	402.2	401.4	400.6	394.4	394.4	390.2	391.9	385.0	390.2	378.2
22.5°	412.5	409.1	408.2	404.8	400.6	402.2	396.2	397.1	390.2	395.3	385.0
25°	422.0	417.7	417.7	412.5	410.0	409.1	405.7	408.2	401.4	404.8	395.3
27.5°	434.9	425.4	428.9	423.7	422.0	421.1	419.4	421.1	415.9	418.6	409.1
30°	446.9	434.9	440.0	433.2	436.6	433.2	435.8	433.2	433.2	433.2	428.9
32.5°	463.3	448.6	458.9	448.6	455.5	450.4	458.9	453.8	457.2	456.4	454.6
35°	486.4	469.3	483.8	470.2	482.1	475.2	487.3	484.7	491.6	488.2	491.6
37.5°	517.4	499.4	516.5	503.6	518.2	507.9	525.1	523.4	538.1	532.9	538.1
40°	556.1	543.1	556.1	546.6	562.1	557.8	575.8	576.7	593.0	590.5	596.5
42.5°	599.0	589.6	602.4	597.4	612.8	616.2	636.9	642.0	657.5	661.8	662.6
45°	645.4	643.7	654.1	659.2	674.6	685.0	703.0	715.9	733.1	742.6	740.8
47.5°	699.6	706.4	713.3	726.2	740.0	761.4	779.5	795.9	815.6	821.6	824.3
50°	760.7	772.6	778.7	796.7	810.5	837.1	862.0	882.7	904.1	901.6	903.2
52.5°	825.0	840.5	849.2	870.6	888.6	919.7	941.2	960.8	987.5	980.6	978.1
55°	896.4	919.7	926.5	950.6	966.0	997.8	1016.7	1051.1	1062.2	1055.4	1040.8
57.5°	972.1	999.5	1007.3	1040.0	1047.6	1082.1	1098.4	1121.5	1131.1	1119.8	1101.0
60°	1057.9	1082.9	1088.9	1118.1	1128.5	1160.3	1172.3	1192.9	1199.8	1172.3	1145.7
62.5°	1143.9	1169.8	1173.2	1199.0	1209.3	1236.8	1250.5	1262.6	1259.2	1218.7	1185.1
65°	1241.9	1266.8	1275.4	1301.3	1307.2	1327.9	1339.0	1325.3	1317.5	1256.5	1218.7
67.5°	1397.4	1424.2	1427.6	1433.5	1432.7	1422.4	1417.3	1369.9	1335.6	1223.0	1168.9
70°	1601.9	1582.3	1543.6	1498.9	1466.2	1407.7	1373.4	1276.3	1204.1	1077.8	986.7
72.5°	1639.0	1574.5	1479.1	1402.6	1323.6	1231.6	1157.6	1010.8	909.4	776.9	680.6
74°	1534.1	1429.2	1328.8	1221.2	1130.2	996.1	921.3	735.7	635.1	501.1	384.1
75°	1407.7	1284.8	1171.4	1034.8	949.7	789.0	718.6	518.2	417.7	297.4	200.2
77.5°	898.1	751.2	642.8	484.7	418.6	288.7	211.4	131.5	97.2	85.1	73.9
80°	403.1	287.1	227.8	157.2	131.5	100.6	85.1	68.8	62.7	55.0	52.4
82.5°	129.0	103.1	97.9	87.7	87.7	70.4	60.2	47.3	43.0	37.0	33.6
85°	55.9	52.4	54.2	49.9	50.8	38.6	30.9	23.2	23.2	16.3	14.6
87.5°	1.8	0.0	0.9	0.0	1.8	0.0	0.9	0.0	0.9	0.0	0.9
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
92.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
95°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
97.5°	10.8	11.8	12.8	11.3	9.8	8.4	6.8	6.4	5.9	5.4	4.9
100°	30.5	30.9	31.4	30.9	30.5	29.9	29.5	28.7	27.9	27.3	26.5
102.5°	49.6	49.9	50.0	49.9	49.6	49.2	49.0	48.6	48.1	47.6	47.1
105°	69.2	69.5	69.7	69.7	69.7	69.7	69.7	69.2	68.7	68.2	67.7
107.5°	90.3	90.8	91.3	91.1	90.8	90.5	90.3	90.1	89.8	89.5	89.3



REPORT NUMBER: P271444

CATALOG NUMBER: ISC-AF-450-LED-E1-SL4-7027-ULG

CANDELA DISTRIBUTION (continued):

	50°	52.5°	55°	57.5°	60°	62.5°	65°	67.5°	70°	72.5°	75°
110°	110.9	111.4	111.9	111.9	111.9	111.9	111.9	111.7	111.4	111.1	110.9
112.5°	132.5	132.9	133.5	133.5	133.5	133.5	133.5	133.3	132.9	132.7	132.5
115°	154.1	154.6	155.0	155.0	155.0	155.0	155.0	155.0	155.0	155.0	155.0
117.5°	176.2	176.4	176.7	176.9	177.1	177.4	177.7	177.4	177.1	176.9	176.7
120°	199.2	199.7	200.2	200.2	200.2	200.2	200.2	200.2	200.2	200.2	200.2
122.5°	223.3	223.6	223.8	223.8	223.8	223.8	223.8	223.9	224.3	224.6	224.8
125°	247.8	248.1	248.3	248.5	248.8	249.1	249.3	249.3	249.3	249.3	249.3
127.5°	271.8	272.4	272.8	272.6	272.4	272.1	271.8	272.1	272.4	272.6	272.8
130°	294.5	294.9	295.5	295.5	295.5	295.5	295.5	295.6	295.9	296.2	296.4
132.5°	317.6	318.2	319.0	319.0	319.0	319.0	319.0	319.2	319.4	319.8	320.0
135°	340.1	340.7	341.5	341.5	341.5	341.5	341.5	341.7	342.1	342.3	342.5
137.5°	361.2	361.7	362.2	362.2	362.2	362.2	362.2	362.4	362.6	362.9	363.2
140°	382.3	382.6	382.8	382.8	382.8	382.8	382.8	383.3	383.8	384.3	384.7
142.5°	403.4	403.9	404.3	404.3	404.3	404.3	404.3	404.6	404.9	405.1	405.3
145°	425.0	425.4	426.0	425.8	425.4	425.2	425.0	425.2	425.4	425.8	426.0
147.5°	445.1	445.4	445.6	445.1	444.6	444.1	443.7	443.9	444.1	444.4	444.6
150°	461.8	462.1	462.3	461.8	461.3	460.8	460.3	460.3	460.3	460.3	460.3
152.5°	477.4	477.8	478.0	477.8	477.4	477.2	477.0	477.0	477.0	477.0	477.0
155°	494.2	494.4	494.7	494.4	494.2	493.9	493.7	493.9	494.2	494.4	494.7
157.5°	509.4	509.4	509.4	508.9	508.4	507.9	507.5	507.6	507.9	508.2	508.4
160°	522.2	522.2	522.2	521.6	521.2	520.7	520.2	520.2	520.2	520.2	520.2
162.5°	531.4	531.8	532.0	531.4	531.0	530.4	530.0	529.6	529.0	528.6	528.0
165°	542.3	542.6	542.8	541.9	541.3	540.6	539.8	539.3	538.8	538.4	537.8
167.5°	549.7	549.7	549.7	549.1	548.7	548.1	547.7	547.9	548.1	548.4	548.7
170°	555.1	554.7	554.5	554.3	554.1	553.7	553.5	554.1	554.5	555.1	555.5
172.5°	557.9	558.3	558.5	557.9	557.5	556.9	556.5	556.7	556.9	557.3	557.5
175°	561.9	562.2	562.4	561.6	560.9	560.3	559.5	558.9	558.5	557.9	557.5
177.5°	566.3	566.3	566.3	565.6	564.9	564.1	563.3	563.3	563.3	563.3	563.3
180°	565.3	565.3	565.3	565.3	565.3	565.3	565.3	565.3	565.3	565.3	565.3



REPORT NUMBER: P271444

CATALOG NUMBER: ISC-AF-450-LED-E1-SL4-7027-ULG

CANDELA DISTRIBUTION (continued):

	77.5°	80°	85°	90°	95°	100°	102.5°	105°	107.5°	110°	112.5°
0°	375.6	375.6	375.6	375.6	375.6	375.6	375.6	375.6	375.6	375.6	375.6
2.5°	373.9	375.6	374.8	371.3	370.4	367.9	361.8	362.6	359.2	361.8	357.5
5°	370.4	369.6	366.1	361.8	357.5	352.3	348.0	346.4	343.0	341.2	338.6
7.5°	365.3	361.8	355.8	348.9	343.0	336.1	332.6	326.6	324.8	318.9	318.0
10°	363.5	357.5	350.7	342.1	331.7	321.4	320.5	310.3	309.4	299.9	297.4
12.5°	367.0	359.2	350.7	340.4	328.3	313.7	313.7	298.2	297.4	284.4	280.2
15°	373.9	364.4	353.2	341.2	325.7	307.7	306.8	288.7	287.1	271.6	266.4
17.5°	379.8	367.0	356.6	340.4	322.3	301.7	297.4	279.4	275.9	257.8	251.0
20°	384.1	369.6	357.5	338.6	316.2	292.2	286.2	267.2	259.6	241.6	232.0
22.5°	389.3	375.6	359.2	337.8	312.8	284.4	271.6	254.4	243.2	224.3	211.4
25°	397.1	385.0	365.3	340.4	310.3	276.8	259.6	241.6	226.0	207.1	188.3
27.5°	409.1	397.1	373.9	343.8	309.4	269.0	250.1	227.8	208.9	188.3	166.7
30°	426.2	413.4	388.4	353.2	310.3	263.0	239.8	215.8	193.3	169.3	147.0
32.5°	448.6	438.4	407.4	363.5	313.7	257.8	230.3	202.8	175.3	152.2	132.4
35°	479.5	472.7	434.0	383.3	322.3	255.3	220.8	190.8	159.9	136.6	115.2
37.5°	525.1	515.6	472.7	411.6	336.1	253.5	214.0	176.2	147.0	122.0	104.0
40°	582.7	569.9	518.2	446.1	357.5	254.4	208.0	165.0	135.8	109.1	94.5
42.5°	651.5	632.6	574.1	488.2	379.1	256.1	204.5	154.7	127.2	98.8	87.7
45°	728.9	707.3	640.3	540.6	410.0	260.4	202.0	146.2	119.5	91.1	83.4
47.5°	804.4	783.0	708.2	593.0	441.8	268.1	203.6	140.9	114.4	86.8	78.2
50°	878.4	856.1	768.3	640.3	469.3	278.5	210.6	141.8	113.5	85.1	75.6
52.5°	943.7	916.2	820.0	677.2	489.0	285.3	216.6	144.4	114.4	84.2	74.8
55°	1009.0	973.8	861.1	706.4	501.1	286.2	216.6	145.3	115.2	84.2	73.9
57.5°	1057.9	1017.6	892.9	723.7	505.4	281.9	211.4	140.9	110.0	83.4	72.2
60°	1088.9	1046.0	915.4	734.8	499.4	263.8	184.0	124.7	97.2	77.3	67.0
62.5°	1114.7	1070.9	922.2	715.9	448.6	209.8	143.5	101.4	80.8	68.8	61.8
65°	1120.7	1068.4	874.1	632.6	350.7	145.3	104.0	79.9	66.1	61.1	55.9
67.5°	1029.6	966.8	734.8	495.1	238.9	99.7	77.3	65.4	56.8	54.2	52.4
70°	837.1	768.3	538.1	324.0	133.2	69.6	59.3	54.2	49.0	49.0	46.4
72.5°	539.7	468.4	275.9	138.4	67.9	53.3	48.1	46.4	42.1	43.0	40.4
74°	275.9	214.9	112.6	73.0	55.9	47.3	43.0	42.1	37.8	38.6	36.1
75°	140.0	110.9	79.1	61.1	51.6	44.6	39.5	39.5	34.3	35.2	32.7
77.5°	65.4	62.7	54.2	48.1	43.8	37.8	32.7	31.8	26.6	28.4	25.0
80°	45.5	45.5	42.1	40.4	36.1	30.9	25.0	25.0	19.8	20.6	18.1
82.5°	25.8	24.1	24.1	27.5	28.4	23.2	18.1	17.2	14.6	14.6	12.0
85°	11.2	12.8	15.5	19.0	20.6	18.1	12.8	12.0	7.7	7.7	4.3
87.5°	0.0	0.9	0.9	1.8	3.4	3.4	0.0	1.8	0.0	0.9	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
92.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
95°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
97.5°	4.7	4.4	4.0	4.0	4.0	4.4	4.7	4.9	5.4	5.9	6.4
100°	26.3	26.1	25.5	24.5	25.5	26.1	26.3	26.5	27.3	27.9	28.7
102.5°	47.3	47.6	48.1	47.1	48.1	47.6	47.3	47.1	47.6	48.1	48.6
105°	68.2	68.7	69.7	67.7	69.7	68.7	68.2	67.7	68.2	68.7	69.2
107.5°	89.5	89.8	90.3	89.3	90.3	89.8	89.5	89.3	89.5	89.8	90.1



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REPORT N
 CATALOG

CANDELA DISTRIBUTION (continued):

CANDELA

	77.5°	80°	85°	90°	95°	100°	102.5°	105°	107.5°	110°	112.5°	
110°	111.1	111.4	111.9	110.9	111.9	111.4	111.1	110.9	111.1	111.4	111.7	0°
112.5°	132.9	133.5	134.5	132.5	134.5	133.5	132.9	132.5	132.7	132.9	133.3	2.5°
115°	155.6	156.0	157.0	156.0	157.0	156.0	155.6	155.0	155.0	155.0	155.0	5°
117.5°	177.1	177.7	178.7	176.7	178.7	177.7	177.1	176.7	176.9	177.1	177.4	7.5°
120°	200.7	201.2	202.2	200.2	202.2	201.2	200.7	200.2	200.2	200.2	200.2	10°
122.5°	225.7	226.7	228.7	227.7	228.7	226.7	225.7	224.8	224.6	224.3	223.9	12.5°
125°	250.1	250.8	252.2	251.3	252.2	250.8	250.1	249.3	249.3	249.3	249.3	15°
127.5°	273.6	274.3	275.8	272.8	275.8	274.3	273.6	272.8	272.6	272.4	272.1	17.5°
130°	297.2	297.9	299.3	297.4	299.3	297.9	297.2	296.4	296.2	295.9	295.6	20°
132.5°	320.8	321.4	322.9	321.0	322.9	321.4	320.8	320.0	319.8	319.4	319.2	22.5°
135°	343.1	343.5	344.5	343.5	344.5	343.5	343.1	342.5	342.3	342.1	341.7	25°
137.5°	364.2	365.1	367.0	365.1	367.0	365.1	364.2	363.2	362.9	362.6	362.4	27.5°
140°	385.7	386.7	388.7	386.7	388.7	386.7	385.7	384.7	384.3	383.8	383.3	30°
142.5°	406.1	406.8	408.3	407.3	408.3	406.8	406.1	405.3	405.1	404.9	404.6	32.5°
145°	426.8	427.4	428.9	427.0	428.9	427.4	426.8	426.0	425.8	425.4	425.2	35°
147.5°	445.4	446.1	447.5	444.6	447.5	446.1	445.4	444.6	444.4	444.1	443.9	37.5°
150°	461.3	462.3	464.2	461.3	464.2	462.3	461.3	460.3	460.3	460.3	460.3	40°
152.5°	477.8	478.4	480.0	477.0	480.0	478.4	477.8	477.0	477.0	477.0	477.0	42.5°
155°	495.4	496.1	497.6	495.7	497.6	496.1	495.4	494.7	494.4	494.2	493.9	45°
157.5°	509.6	510.9	513.3	510.3	513.3	510.9	509.6	508.4	508.2	507.9	507.6	47.5°
160°	520.9	521.6	523.2	521.2	523.2	521.6	520.9	520.2	520.2	520.2	520.2	50°
162.5°	528.6	529.0	530.0	527.0	530.0	529.0	528.6	528.0	528.6	529.0	529.6	52.5°
165°	538.4	538.8	539.8	537.8	539.8	538.8	538.4	537.8	538.4	538.8	539.3	55°
167.5°	549.7	550.6	552.5	550.6	552.5	550.6	549.7	548.7	548.4	548.1	547.9	57.5°
170°	556.7	557.9	560.5	558.5	560.5	557.9	556.7	555.5	555.1	554.5	554.1	60°
172.5°	558.3	558.9	560.5	557.5	560.5	558.9	558.3	557.5	557.3	556.9	556.7	62.5°
175°	558.3	558.9	560.5	557.5	560.5	558.9	558.3	557.5	557.9	558.5	558.9	65°
177.5°	564.1	564.9	566.3	563.3	566.3	564.9	564.1	563.3	563.3	563.3	563.3	67.5°
180°	565.3	565.3	565.3	565.3	565.3	565.3	565.3	565.3	565.3	565.3	565.3	70°
												72.5°
												74°
												75°
												77.5°
												80°
												82.5°
												85°
												87.5°
												90°
												92.5°
												95°
												97.5°
												100°
												102.5°
												105°
												107.5°



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REPORT NUMBER: P
 CATALOG NUMBER:

DISTRIBUTION (continued):

CANDELA DISTRIBUTION

115°	117.5°	120°	122.5°	125°	127.5°	130°	135°	145°	155°	165°	110°	115°
375.6	375.6	375.6	375.6	375.6	375.6	375.6	375.6	375.6	375.6	375.6	110°	111.9
359.2	355.0	357.5	353.2	355.0	350.7	352.3	349.8	347.3	343.8	343.0	112.5°	133.5
336.1	332.6	331.7	327.4	328.3	324.8	321.4	317.1	312.0	305.2	302.5	115°	155.0
310.3	309.4	303.4	300.8	297.4	293.9	287.9	281.0	270.7	261.2	255.3	117.5°	177.7
287.9	285.3	276.8	272.5	267.2	263.0	254.4	245.0	230.3	215.8	208.0	120°	200.2
269.0	265.6	254.4	249.2	241.6	236.3	226.0	214.0	193.3	172.7	163.3	122.5°	223.8
253.5	248.4	235.4	227.8	217.4	212.3	201.1	184.0	159.0	137.5	124.7	125°	249.3
235.4	228.6	214.9	205.4	195.1	185.6	174.5	156.5	128.1	108.2	95.4	127.5°	271.8
215.8	207.1	192.5	179.6	168.4	159.9	148.7	130.6	102.2	86.8	79.9	130°	295.5
195.1	181.4	168.4	157.2	144.4	135.8	124.7	108.2	86.8	78.2	75.6	132.5°	319.0
173.6	158.1	145.3	134.0	122.0	114.4	104.8	92.0	79.1	76.4	76.4	135°	341.5
152.2	136.6	124.7	113.5	103.1	97.9	89.4	80.8	74.8	75.6	76.4	137.5°	362.2
132.4	116.9	105.7	97.2	87.7	84.2	77.3	72.2	71.3	73.9	74.8	140°	382.8
115.2	101.4	91.1	84.2	76.4	74.8	68.8	66.1	68.8	72.2	71.3	142.5°	404.3
100.6	89.4	79.1	74.8	67.9	67.0	62.7	61.1	64.5	68.8	68.8	145°	425.0
89.4	79.1	71.3	67.9	62.7	61.8	58.4	56.8	59.3	65.4	67.0	147.5°	443.7
79.9	73.9	66.1	62.7	59.3	57.6	55.9	54.2	55.0	62.7	63.6	150°	460.3
73.9	69.6	62.7	61.1	56.8	55.9	53.3	51.6	52.4	58.4	61.1	152.5°	477.0
69.6	66.1	60.2	59.3	55.0	54.2	51.6	49.9	50.8	55.9	58.4	155°	493.7
66.1	62.7	57.6	55.9	53.3	52.4	50.8	49.0	49.0	54.2	56.8	157.5°	507.5
64.5	61.1	55.9	54.2	51.6	50.8	49.0	47.3	48.1	52.4	54.2	160°	520.2
63.6	59.3	55.0	52.4	50.8	49.0	47.3	45.5	46.4	50.8	52.4	162.5°	530.0
63.6	58.4	55.0	52.4	49.9	47.3	46.4	43.8	45.5	49.0	51.6	165°	539.8
63.6	58.4	55.0	52.4	50.8	48.1	46.4	44.6	45.5	49.0	51.6	167.5°	547.7
61.8	57.6	55.9	53.3	52.4	49.9	49.0	47.3	47.3	51.6	55.9	170°	553.5
59.3	56.8	55.9	54.2	54.2	52.4	52.4	50.8	50.8	55.9	60.2	172.5°	556.5
55.9	54.2	55.0	54.2	54.2	54.2	53.3	53.3	53.3	57.6	62.7	175°	559.5
52.4	51.6	52.4	52.4	53.3	52.4	53.3	52.4	52.4	56.8	61.8	177.5°	563.3
47.3	47.3	48.1	47.3	48.1	48.1	49.0	49.0	49.0	51.6	56.8	180°	565.3
41.2	40.4	41.2	40.4	42.1	40.4	42.1	43.0	42.1	43.0	45.5		
37.0	36.1	37.0	36.1	37.8	36.1	37.0	37.0	36.1	29.3	25.0		
33.6	32.7	33.6	32.7	34.3	32.7	34.3	33.6	31.8	21.5	20.6		
26.6	24.1	26.6	24.1	25.8	23.2	25.0	21.5	16.3	15.5	15.5		
19.8	17.2	19.0	16.3	15.5	12.0	12.8	12.0	11.2	12.0	12.0		
12.0	8.6	10.3	7.7	9.4	6.8	8.6	7.7	6.8	6.8	6.8		
6.0	4.3	6.0	3.4	5.2	3.4	4.3	4.3	2.5	2.5	2.5		
0.9	0.0	1.8	0.0	1.8	0.0	0.9	0.9	0.0	0.0	0.0		
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		
6.8	8.4	9.8	11.3	12.8	11.8	10.8	8.8	4.0	3.0	2.0		
29.5	29.9	30.5	30.9	31.4	30.9	30.5	29.5	21.6	13.7	9.8		
49.0	49.2	49.6	49.9	50.0	49.9	49.6	49.0	44.2	37.3	31.4		
69.7	69.7	69.7	69.7	69.7	69.5	69.2	68.7	64.8	59.8	55.0		
90.3	90.5	90.8	91.1	91.3	90.8	90.3	89.3	86.3	82.5	78.5		

'271444
 ISC-AF-450-LED-E1-SL4-7027-ULG

REPORT NUMBER: P271444
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TION (continued):

CANDELA DISTRIBUTION (con

117.5°	120°	122.5°	125°	127.5°	130°	135°	145°	155°	165°		175°	180°
111.9	111.9	111.9	111.9	111.4	110.9	110.0	108.0	104.0	101.1	0°	375.6	375.6
133.5	133.5	133.5	133.5	132.9	132.5	131.5	129.5	126.6	123.7	2.5°	340.4	341.2
155.0	155.0	155.0	155.0	154.6	154.1	153.1	151.2	148.2	146.2	5°	298.2	300.8
177.4	177.1	176.9	176.7	176.4	176.2	175.7	173.7	170.8	168.8	7.5°	251.9	253.5
200.2	200.2	200.2	200.2	199.7	199.2	198.3	197.3	194.3	192.3	10°	202.8	204.5
223.8	223.8	223.8	223.8	223.6	223.3	222.8	221.8	218.8	216.9	12.5°	156.5	158.1
249.1	248.8	248.5	248.3	248.1	247.8	247.3	246.3	243.4	242.5	15°	117.8	116.0
272.1	272.4	272.6	272.8	272.4	271.8	270.9	269.0	267.0	265.0	17.5°	90.2	88.6
295.5	295.5	295.5	295.5	294.9	294.5	293.5	292.5	288.5	287.5	20°	76.4	76.4
319.0	319.0	319.0	319.0	318.2	317.6	316.0	315.0	312.1	311.2	22.5°	74.8	73.9
341.5	341.5	341.5	341.5	340.7	340.1	338.6	338.6	334.7	332.7	25°	75.6	74.8
362.2	362.2	362.2	362.2	361.7	361.2	360.2	360.2	357.3	356.3	27.5°	75.6	74.8
382.8	382.8	382.8	382.8	382.6	382.3	381.8	380.8	378.8	377.8	30°	73.9	73.0
404.3	404.3	404.3	404.3	403.9	403.4	402.4	402.4	399.5	400.5	32.5°	71.3	70.4
425.2	425.4	425.8	426.0	425.4	425.0	424.0	423.0	420.0	420.0	35°	68.8	68.8
444.1	444.6	445.1	445.6	445.4	445.1	444.6	443.7	439.7	438.7	37.5°	67.0	67.9
460.8	461.3	461.8	462.3	462.1	461.8	461.3	460.3	456.4	455.4	40°	64.5	65.4
477.2	477.4	477.8	478.0	477.8	477.4	477.0	476.0	473.0	474.0	42.5°	61.8	62.7
493.9	494.2	494.4	494.7	494.4	494.2	493.7	493.7	491.7	492.7	45°	59.3	60.2
507.9	508.4	508.9	509.4	509.4	509.4	509.4	509.4	506.5	507.5	47.5°	56.8	56.8
520.7	521.2	521.6	522.2	522.2	522.2	522.2	522.2	519.2	519.2	50°	53.3	53.3
530.4	531.0	531.4	532.0	531.8	531.4	531.0	531.0	528.0	529.0	52.5°	52.4	52.4
540.6	541.3	541.9	542.8	542.6	542.3	541.8	541.8	537.8	538.8	55°	52.4	52.4
548.1	548.7	549.1	549.7	549.7	549.7	549.7	550.6	547.7	548.7	57.5°	54.2	54.2
553.7	554.1	554.3	554.5	554.7	555.1	555.5	556.5	554.5	555.5	60°	59.3	60.2
556.9	557.5	557.9	558.5	558.3	557.9	557.5	558.5	556.5	558.5	62.5°	69.6	70.4
560.3	560.9	561.6	562.4	562.2	561.9	561.4	561.4	558.5	559.5	65°	79.9	81.7
564.1	564.9	565.6	566.3	566.3	566.3	566.3	567.3	563.3	564.3	67.5°	80.8	83.4
565.3	565.3	565.3	565.3	565.3	565.3	565.3	565.3	565.3	565.3	70°	78.2	80.8
										72.5°	54.2	54.2
										74°	24.1	23.2
										75°	20.6	19.8
										77.5°	15.5	15.5
										80°	11.2	10.3
										82.5°	6.0	6.0
										85°	1.8	1.8
										87.5°	0.0	0.0
										90°	0.0	0.0
										92.5°	0.0	0.0
										95°	1.0	1.0
										97.5°	2.0	2.0
										100°	7.8	7.8
										102.5°	27.5	27.5
										105°	53.0	53.0
										107.5°	75.5	76.5



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CANDELA DISTRIBUTION (continued):

	175°	180°
110°	100.1	99.2
112.5°	121.7	121.7
115°	144.3	143.3
117.5°	166.8	165.8
120°	191.4	189.5
122.5°	216.0	215.0
125°	241.5	239.5
127.5°	264.0	262.0
130°	286.6	284.7
132.5°	308.2	307.2
135°	330.8	329.8
137.5°	353.3	352.3
140°	375.9	375.0
142.5°	398.5	396.5
145°	418.1	417.2
147.5°	435.8	435.8
150°	453.5	452.5
152.5°	471.1	470.2
155°	490.7	489.8
157.5°	505.5	503.5
160°	517.2	515.3
162.5°	526.0	525.1
165°	536.8	535.9
167.5°	545.7	544.7
170°	552.5	551.6
172.5°	555.5	554.5
175°	558.5	556.5
177.5°	562.4	561.4
180°	565.3	565.3

(END OF REPORT)

Cooper Lighting Solutions Photometric Lab
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Scaled Data Report

