

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: P228126

Luminaire Tested: **ISC-AF-450-LED-E1-SL2-8030-ULG**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P228126
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P29761)-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-SL2-8030-ULG
Description: IMPACT ELITE LED CYLINDER LUMINAIRE WITH UPLIGHT
LIGHT SQUARE WITH ACCULED OPTICS-TYPE II W/SPILL CONTROL, WITH UPLIGHT
GLOW
Light Source: (16) 3000K CCT, 80 CRI LEDs and (1) UPLIGHT LED
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3738.2 lumens
Efficiency: N/A
Efficacy: 89.0 lumens/watt
Luminous Opening: Rectangular w/ Sides (W: 0.5' x L: 0.5' x H: 0.54')
IES Classification: Type III - Medium - Non-Cutoff
BUG Rating: B1 - 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

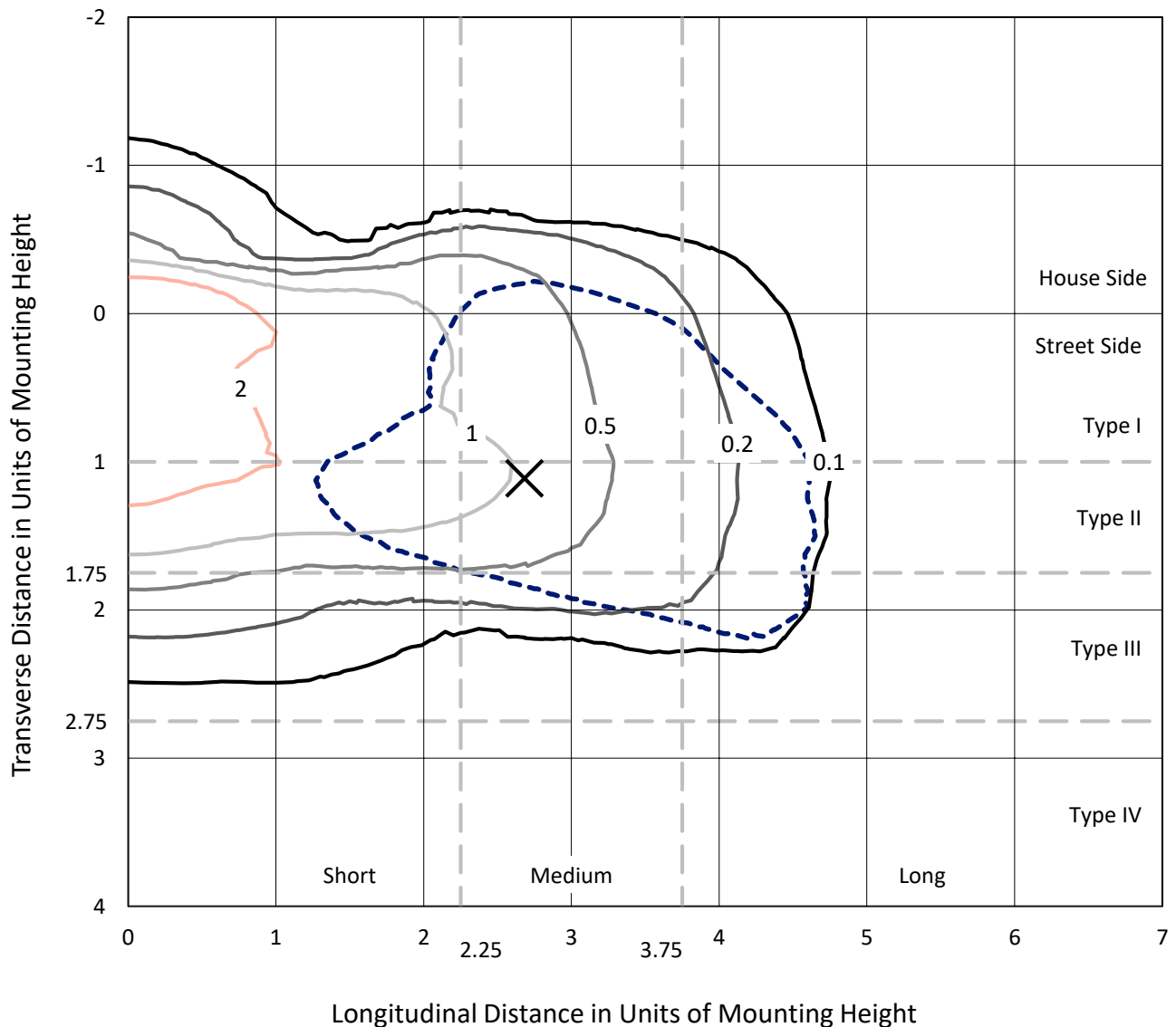


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Iso-Footcandle Lines of Horizontal Illumination

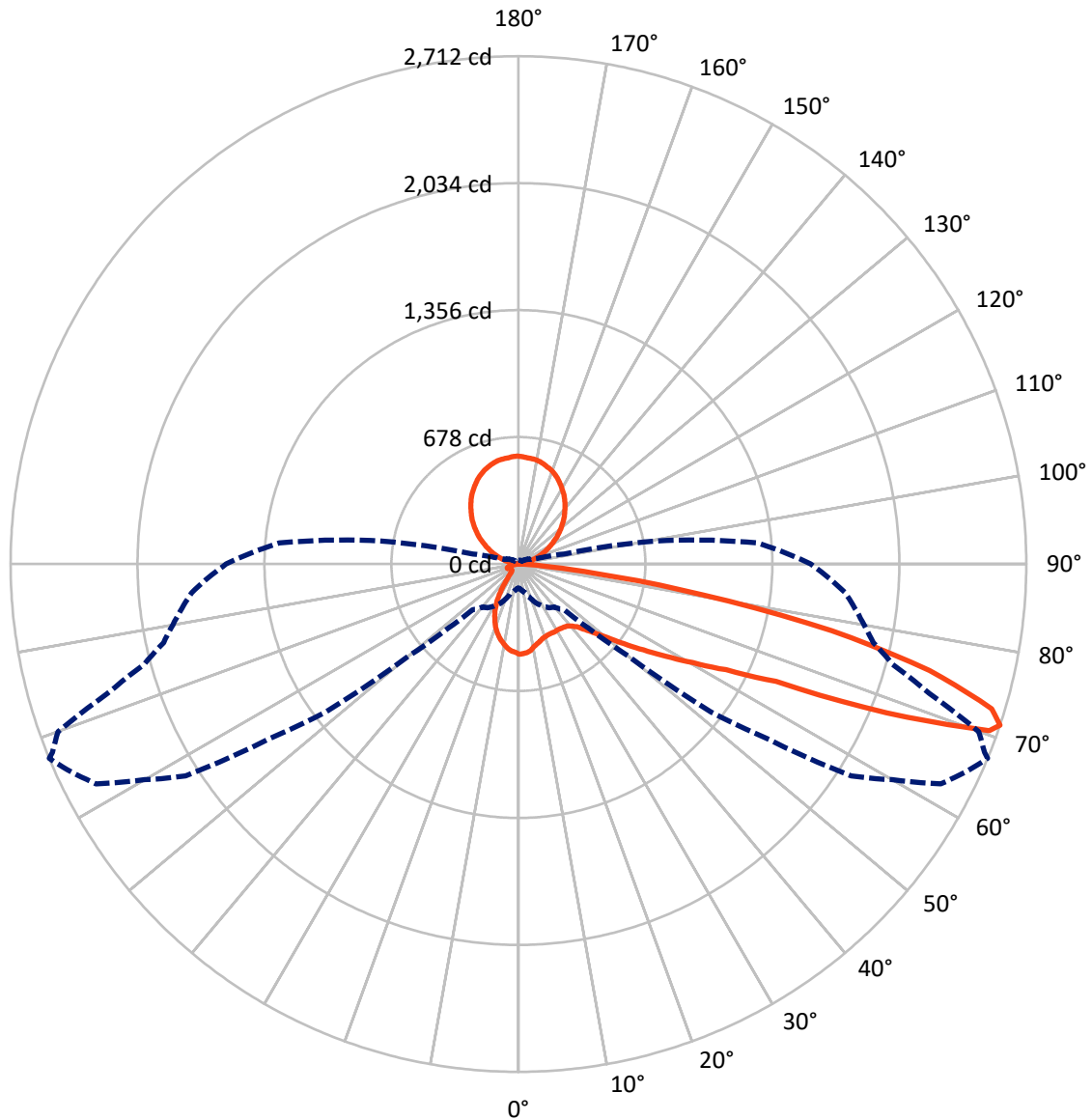
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 4.8 fc
 Type III - Medium - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 67.5-Deg Lateral - - - Horizontal Cone Through 71-Deg Vertical

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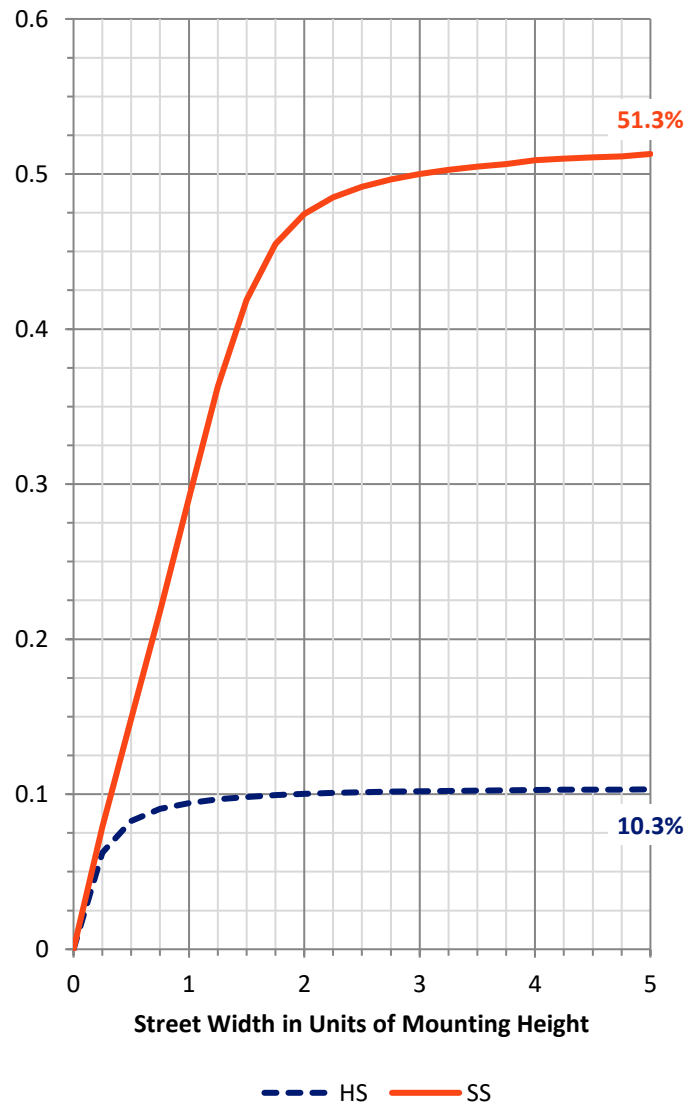
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	389.6	713.1	1102.7
	% Fixture	10.4	19.1	29.5
Street Side	Lumens	1922.4	713.1	2635.5
	% Fixture	51.4	19.1	70.5
Total	Lumens	2312.0	1426.2	3738.2
	% Fixture	61.8	38.2	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	42.0	1.1
10°-20°	100.6	2.7
20°-30°	136.8	3.7
30°-40°	186.9	5.0
40°-50°	281.7	7.5
50°-60°	446.4	11.9
60°-70°	591.0	15.8
70°-80°	470.8	12.6
80°-90°	55.8	1.5
90°-100°	4.7	0.1
100°-110°	69.0	1.8
110°-120°	153.0	4.1
120°-130°	223.9	6.0
130°-140°	265.6	7.1
140°-150°	269.3	7.2
150°-160°	231.1	6.2
160°-170°	155.1	4.1
170°-180°	54.3	1.5
0°-90°	2312.0	61.8
0°-180°	3738.2	100.0



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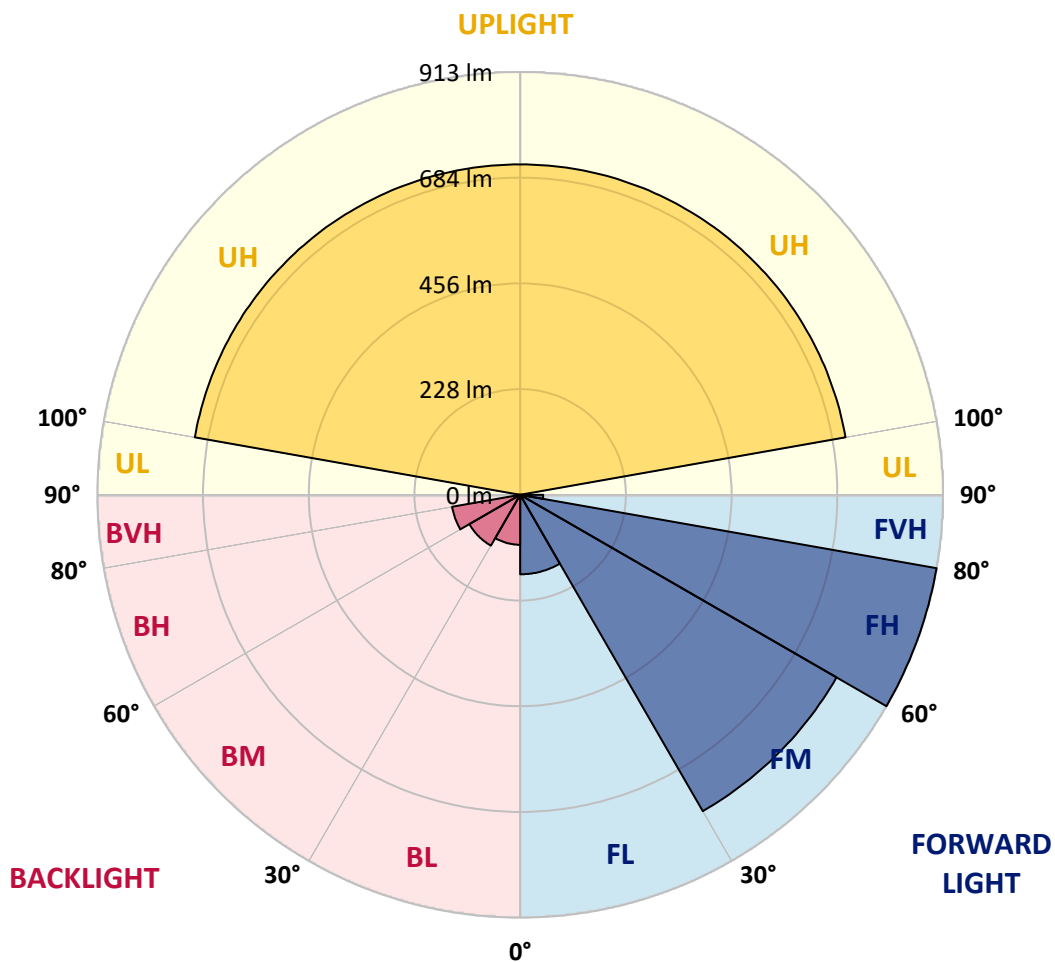
CATALOG NUMBER: ISC-AF-450-LED-E1-SL2-8030-ULG

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	171.5	4.6			
FM (30°-60°)	788.4	21.1			
FH (60°-80°)	912.7	24.4			G1/1800
FVH (80°-90°)	49.8	1.3			G1/100
BL (0°-30°)	107.8	2.9	B0/110		
BM (30°-60°)	126.6	3.4	B0/220		
BH (60°-80°)	149.1	4.0	B1/500		G1/500
BVH (80°-90°)	6.0	0.2			G0/10
UL (90°-100°)	4.7	0.1		U1/10	
UH (100°-180°)	713.1	19.1		U4/1000	

BUG Rating: B1-U5-G1

Type III Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	37.5°	40°	42.5°	45°	47.5°	50°
0°	481.8	481.8	481.8	481.8	481.8	481.8	481.8	481.8	481.8	481.8	481.8
2.5°	472.9	471.3	471.3	473.7	477.8	474.5	477.0	477.0	477.8	480.2	481.0
5°	438.2	435.0	438.2	441.4	450.3	448.7	451.1	453.5	458.4	459.2	465.7
7.5°	406.7	405.1	407.5	414.0	425.3	422.1	425.3	428.5	434.2	436.6	443.1
10°	382.5	380.1	383.3	388.2	399.5	398.7	400.3	404.3	410.8	412.4	420.5
12.5°	364.8	364.8	366.4	372.8	382.5	381.7	386.6	389.0	394.6	396.2	405.1
15°	355.9	353.5	356.7	362.4	372.0	372.0	375.3	377.7	385.8	386.6	394.6
17.5°	347.8	348.6	349.4	355.9	364.8	363.2	367.2	368.8	377.7	376.1	385.8
20°	347.8	349.4	348.6	352.7	359.1	355.9	360.7	361.5	371.2	368.8	379.3
22.5°	357.5	359.1	356.7	355.9	358.3	355.9	358.3	359.9	367.2	365.6	375.3
25°	374.5	377.7	374.5	368.8	366.4	359.9	361.5	364.0	369.6	365.6	374.5
27.5°	401.1	403.5	397.9	392.2	380.9	373.7	371.2	370.4	376.9	370.4	377.7
30°	431.8	435.0	430.1	419.7	403.5	391.4	386.6	384.1	388.2	378.5	385.8
32.5°	464.8	468.1	464.8	456.8	435.0	417.2	410.8	405.1	408.4	395.4	398.7
35°	498.7	502.0	505.2	500.4	472.1	451.9	441.4	436.6	435.8	419.7	420.5
37.5°	528.6	531.8	542.3	547.2	521.3	493.9	484.2	473.7	474.5	451.9	451.9
40°	564.9	569.0	582.7	594.0	577.0	543.9	532.6	521.3	521.3	491.5	492.3
42.5°	614.1	619.0	627.9	643.2	637.5	603.7	591.5	576.2	577.8	542.3	541.5
45°	683.6	686.8	686.8	696.5	697.3	665.0	656.9	641.6	644.8	599.6	602.0
47.5°	773.9	769.9	753.8	759.4	765.9	732.0	724.7	715.0	719.1	670.6	675.5
50°	857.9	854.6	821.6	823.2	846.6	811.9	809.4	797.3	803.0	754.6	761.8
52.5°	889.3	883.7	850.6	868.4	933.7	914.4	918.4	912.7	916.0	864.3	862.7
55°	853.8	853.8	833.7	865.9	999.1	1009.6	1042.7	1055.6	1069.3	1017.7	1006.4
57.5°	755.4	761.8	765.1	822.4	988.6	1033.8	1096.7	1151.6	1221.8	1218.6	1235.6
60°	592.4	603.7	622.2	715.8	943.4	1017.7	1099.2	1181.5	1278.3	1340.5	1432.5
62.5°	415.6	425.3	440.6	505.2	811.9	939.4	1057.2	1183.9	1307.4	1405.0	1526.1
65°	282.5	292.1	324.4	359.9	489.9	675.5	855.4	1065.3	1253.3	1434.9	1597.9
67.5°	203.4	209.0	234.0	293.8	326.0	359.9	426.9	673.9	905.5	1271.1	1509.1
70°	152.5	158.2	180.8	246.9	286.5	295.4	311.5	355.1	414.0	714.2	1026.5
71°	127.5	135.6	163.0	232.4	284.9	292.1	299.4	325.2	344.6	505.2	761.8
72.5°	89.6	95.2	121.1	214.7	273.6	290.5	307.5	306.7	305.1	344.6	460.8
75°	57.3	57.3	57.3	121.1	292.1	281.7	288.1	322.8	305.1	289.7	303.4
77.5°	45.2	44.4	42.0	60.5	228.4	285.7	302.6	311.5	328.5	302.6	288.9
80°	33.9	33.1	33.1	37.9	105.7	184.8	255.8	284.1	296.2	322.0	293.8
82.5°	17.8	17.8	19.4	22.6	39.5	64.6	132.4	217.9	243.7	245.3	247.8
85°	5.6	4.8	6.5	10.5	16.9	21.0	37.1	88.0	130.7	158.2	167.1
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.4	3.2	5.6	7.3
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	5.2	6.5	7.8	9.0	10.0	11.0
100°	8.0	8.0	10.0	14.0	22.0	24.0	26.0	28.0	30.0	30.5	31.0
102.5°	28.0	28.0	32.0	38.0	45.0	46.2	47.5	48.8	50.0	50.2	50.5
105°	54.0	54.0	56.0	61.0	66.0	67.0	68.0	69.0	70.0	70.2	70.5
107.5°	78.0	77.0	80.0	84.0	88.0	88.8	89.5	90.2	91.0	91.5	92.0



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CATALOG NUMBER: ISC-AF-450-LED-E1-SL2-8030-ULG

CANDELA DISTRIBUTION (continued):

	0°	5°	15°	25°	35°	37.5°	40°	42.5°	45°	47.5°	50°
110°	101.0	102.0	103.0	106.0	110.0	110.5	111.0	111.5	112.0	112.5	113.0
112.5°	124.0	124.0	126.0	129.0	132.0	132.5	133.0	133.5	134.0	134.5	135.0
115°	146.0	147.0	149.0	151.0	154.0	154.5	155.0	155.5	156.0	156.5	157.0
117.5°	169.0	170.0	172.0	174.0	177.0	177.5	178.0	178.5	179.0	179.2	179.5
120°	193.0	195.0	196.0	198.0	201.0	201.2	201.5	201.8	202.0	202.5	203.0
122.5°	219.0	220.0	221.0	223.0	226.0	226.2	226.5	226.8	227.0	227.2	227.5
125°	244.0	246.0	247.0	248.0	251.0	251.2	251.5	251.8	252.0	252.2	252.5
127.5°	267.0	269.0	270.0	272.0	274.0	274.5	275.0	275.5	276.0	276.5	277.0
130°	290.0	292.0	293.0	294.0	298.0	298.2	298.5	298.8	299.0	299.5	300.0
132.5°	313.0	314.0	317.0	318.0	321.0	321.2	321.5	321.8	322.0	322.8	323.5
135°	336.0	337.0	339.0	341.0	345.0	345.0	345.0	345.0	345.0	345.8	346.5
137.5°	359.0	360.0	363.0	364.0	367.0	367.0	367.0	367.0	367.0	367.5	368.0
140°	382.0	383.0	385.0	386.0	388.0	388.2	388.5	388.8	389.0	389.2	389.5
142.5°	404.0	406.0	408.0	407.0	410.0	410.0	410.0	410.0	410.0	410.5	411.0
145°	425.0	426.0	428.0	428.0	431.0	431.2	431.5	431.8	432.0	432.5	433.0
147.5°	444.0	444.0	447.0	448.0	452.0	452.2	452.5	452.8	453.0	453.2	453.5
150°	461.0	462.0	464.0	465.0	469.0	469.2	469.5	469.8	470.0	470.2	470.5
152.5°	479.0	480.0	483.0	482.0	485.0	485.2	485.5	485.8	486.0	486.2	486.5
155°	499.0	500.0	502.0	501.0	503.0	503.0	503.0	503.0	503.0	503.2	503.5
157.5°	513.0	515.0	517.0	516.0	519.0	519.0	519.0	519.0	519.0	519.0	519.0
160°	525.0	527.0	529.0	529.0	532.0	532.0	532.0	532.0	532.0	532.0	532.0
162.5°	535.0	536.0	539.0	538.0	541.0	541.0	541.0	541.0	541.0	541.2	541.5
165°	546.0	547.0	549.0	548.0	552.0	552.0	552.0	552.0	552.0	552.2	552.5
167.5°	555.0	556.0	559.0	558.0	561.0	560.8	560.5	560.2	560.0	560.0	560.0
170°	562.0	563.0	566.0	565.0	567.0	566.8	566.5	566.2	566.0	565.8	565.5
172.5°	565.0	566.0	569.0	567.0	569.0	568.8	568.5	568.2	568.0	568.2	568.5
175°	567.0	569.0	570.0	569.0	572.0	572.0	572.0	572.0	572.0	572.2	572.5
177.5°	572.0	573.0	575.0	574.0	578.0	577.8	577.5	577.2	577.0	577.0	577.0
180°	576.0	576.0	576.0	576.0	576.0	576.0	576.0	576.0	576.0	576.0	576.0



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CANDELA DISTRIBUTION (continued):

	52.5°	55°	57.5°	60°	62.5°	65°	67.5°	68°	70°	72.5°	75°
0°	481.8	481.8	481.8	481.8	481.8	481.8	481.8	481.8	481.8	481.8	481.8
2.5°	478.6	481.8	479.4	482.6	478.6	483.4	479.4	481.8	482.6	479.4	483.4
5°	461.6	471.3	468.1	475.3	472.1	478.6	475.3	481.8	481.8	479.4	485.0
7.5°	440.6	450.3	451.1	458.4	458.4	466.5	466.5	472.9	476.1	476.1	484.2
10°	419.7	428.5	430.1	438.2	439.8	449.5	449.5	458.4	464.8	467.3	477.0
12.5°	403.5	414.8	414.8	423.7	422.1	436.6	438.2	446.3	452.7	458.4	471.3
15°	393.8	404.3	404.3	413.2	411.6	426.1	428.5	436.6	446.3	449.5	467.3
17.5°	384.1	394.6	392.2	404.3	403.5	419.7	418.0	430.1	438.2	443.1	463.2
20°	376.1	388.2	386.6	398.7	395.4	413.2	413.2	425.3	433.4	437.4	460.8
22.5°	372.0	385.0	381.7	393.8	391.4	409.2	409.2	421.3	430.1	436.6	460.0
25°	372.0	383.3	380.1	393.8	389.8	409.2	408.4	420.5	429.3	435.0	460.8
27.5°	373.7	385.0	382.5	395.4	392.2	409.2	410.8	421.3	430.1	436.6	462.4
30°	379.3	389.8	384.1	396.2	393.8	410.0	409.2	420.5	429.3	437.4	462.4
32.5°	391.4	397.1	389.8	400.3	395.4	411.6	411.6	419.7	430.1	439.8	462.4
35°	408.4	412.4	401.1	408.4	399.5	415.6	414.8	423.7	431.8	439.8	464.0
37.5°	432.6	437.4	419.7	426.1	411.6	424.5	421.3	431.8	439.8	444.7	472.1
40°	468.9	470.5	447.1	451.9	431.8	443.1	435.0	449.5	453.5	456.8	484.2
42.5°	513.3	514.9	485.0	488.3	462.4	472.1	458.4	473.7	479.4	478.6	508.4
45°	568.1	569.0	535.1	537.5	507.6	515.7	498.7	511.7	515.7	513.3	543.9
47.5°	627.9	634.3	596.4	599.6	568.1	572.2	551.2	565.7	565.7	563.3	594.8
50°	707.0	716.6	672.3	677.1	640.8	644.0	619.8	635.1	633.5	627.1	662.6
52.5°	805.4	814.3	767.5	773.9	735.2	736.8	707.0	724.7	719.9	709.4	750.5
55°	925.7	926.5	882.9	888.5	849.8	847.4	810.3	832.0	824.8	810.3	848.2
57.5°	1118.5	1095.1	1023.3	1021.7	979.7	976.5	928.9	955.5	943.4	912.7	962.8
60°	1429.2	1436.5	1253.3	1225.1	1146.8	1132.3	1069.3	1100.0	1085.4	1035.4	1084.6
62.5°	1604.4	1719.8	1708.5	1606.8	1405.0	1350.2	1243.6	1279.9	1242.0	1168.6	1214.6
65°	1734.3	1890.9	1981.2	2078.9	1988.5	1764.2	1512.4	1563.2	1470.4	1330.8	1375.2
67.5°	1782.7	1971.6	2162.0	2300.8	2395.3	2412.2	2120.9	2134.6	1906.2	1627.0	1632.6
70°	1529.3	1807.7	2180.6	2356.5	2543.7	2635.7	2666.4	2651.9	2504.2	2108.8	1957.8
71°	1296.1	1633.4	2106.3	2302.4	2542.1	2630.9	2711.6	2684.2	2615.6	2300.0	2068.4
72.5°	878.0	1301.7	1889.2	2137.8	2457.4	2522.0	2643.0	2594.6	2580.1	2442.9	2171.7
75°	413.2	648.8	1229.1	1605.2	2079.7	2141.8	2268.5	2208.8	2170.9	2217.7	2066.0
77.5°	304.2	354.3	674.7	997.5	1512.4	1600.3	1709.3	1635.8	1587.4	1634.2	1528.5
80°	276.8	278.4	349.4	526.2	902.3	954.7	995.9	936.1	862.7	859.5	761.8
82.5°	255.0	241.3	226.8	278.4	462.4	439.8	406.7	376.9	293.0	234.8	169.5
85°	162.2	177.5	161.4	152.5	184.0	151.7	120.2	115.4	81.5	54.9	50.8
87.5°	11.3	12.9	15.3	17.8	21.8	17.8	11.3	13.7	8.1	0.0	4.0
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°	12.0	13.0	11.5	10.0	8.5	7.0	6.5	6.4	6.0	5.5	5.0
100°	31.5	32.0	31.5	31.0	30.5	30.0	29.2	29.1	28.5	27.8	27.0
102.5°	50.8	51.0	50.8	50.5	50.2	50.0	49.5	49.4	49.0	48.5	48.0
105°	70.8	71.0	71.0	71.0	71.0	71.0	70.5	70.4	70.0	69.5	69.0
107.5°	92.5	93.0	92.8	92.5	92.2	92.0	91.8	91.7	91.5	91.2	91.0



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CATALOG NUMBER: ISC-AF-450-LED-E1-SL2-8030-ULG

CANDELA DISTRIBUTION (continued):

	52.5°	55°	57.5°	60°	62.5°	65°	67.5°	68°	70°	72.5°	75°
110°	113.5	114.0	114.0	114.0	114.0	114.0	113.8	113.7	113.5	113.2	113.0
112.5°	135.5	136.0	136.0	136.0	136.0	136.0	135.8	135.7	135.5	135.2	135.0
115°	157.5	158.0	158.0	158.0	158.0	158.0	158.0	158.0	158.0	158.0	158.0
117.5°	179.8	180.0	180.2	180.5	180.8	181.0	180.8	180.7	180.5	180.2	180.0
120°	203.5	204.0	204.0	204.0	204.0	204.0	204.0	204.0	204.0	204.0	204.0
122.5°	227.8	228.0	228.0	228.0	228.0	228.0	228.2	228.3	228.5	228.8	229.0
125°	252.8	253.0	253.2	253.5	253.8	254.0	254.0	254.0	254.0	254.0	254.0
127.5°	277.5	278.0	277.8	277.5	277.2	277.0	277.2	277.3	277.5	277.8	278.0
130°	300.5	301.0	301.0	301.0	301.0	301.0	301.2	301.3	301.5	301.8	302.0
132.5°	324.2	325.0	325.0	325.0	325.0	325.0	325.2	325.3	325.5	325.8	326.0
135°	347.2	348.0	348.0	348.0	348.0	348.0	348.2	348.3	348.5	348.8	349.0
137.5°	368.5	369.0	369.0	369.0	369.0	369.0	369.2	369.3	369.5	369.8	370.0
140°	389.8	390.0	390.0	390.0	390.0	390.0	390.5	390.6	391.0	391.5	392.0
142.5°	411.5	412.0	412.0	412.0	412.0	412.0	412.2	412.3	412.5	412.8	413.0
145°	433.5	434.0	433.8	433.5	433.2	433.0	433.2	433.3	433.5	433.8	434.0
147.5°	453.8	454.0	453.5	453.0	452.5	452.0	452.2	452.3	452.5	452.8	453.0
150°	470.8	471.0	470.5	470.0	469.5	469.0	469.0	469.0	469.0	469.0	469.0
152.5°	486.8	487.0	486.8	486.5	486.2	486.0	486.0	486.0	486.0	486.0	486.0
155°	503.8	504.0	503.8	503.5	503.2	503.0	503.2	503.3	503.5	503.8	504.0
157.5°	519.0	519.0	518.5	518.0	517.5	517.0	517.2	517.3	517.5	517.8	518.0
160°	532.0	532.0	531.5	531.0	530.5	530.0	530.0	530.0	530.0	530.0	530.0
162.5°	541.8	542.0	541.5	541.0	540.5	540.0	539.5	539.4	539.0	538.5	538.0
165°	552.8	553.0	552.2	551.5	550.8	550.0	549.5	549.4	549.0	548.5	548.0
167.5°	560.0	560.0	559.5	559.0	558.5	558.0	558.2	558.3	558.5	558.8	559.0
170°	565.2	565.0	564.8	564.5	564.2	564.0	564.5	564.6	565.0	565.5	566.0
172.5°	568.8	569.0	568.5	568.0	567.5	567.0	567.2	567.3	567.5	567.8	568.0
175°	572.8	573.0	572.2	571.5	570.8	570.0	569.5	569.4	569.0	568.5	568.0
177.5°	577.0	577.0	576.2	575.5	574.8	574.0	574.0	574.0	574.0	574.0	574.0
180°	576.0	576.0	576.0	576.0	576.0	576.0	576.0	576.0	576.0	576.0	576.0



REPORT NUMBER: P228126

CATALOG NUMBER: ISC-AF-450-LED-E1-SL2-8030-ULG

CANDELA DISTRIBUTION (continued):

	77.5°	80°	85°	90°	95°	100°	102.5°	105°	107.5°	110°	112.5°
0°	481.8	481.8	481.8	481.8	481.8	481.8	481.8	481.8	481.8	481.8	481.8
2.5°	477.8	481.8	483.4	482.6	481.0	479.4	473.7	477.8	472.1	476.1	471.3
5°	480.2	485.8	486.6	485.0	483.4	480.2	470.5	476.1	469.7	472.9	465.7
7.5°	479.4	488.3	489.1	487.4	484.2	478.6	468.9	472.9	462.4	464.8	455.2
10°	475.3	488.3	489.1	485.0	480.2	471.3	460.0	461.6	451.1	451.1	438.2
12.5°	471.3	486.6	490.7	485.0	477.0	464.8	451.9	450.3	438.2	437.4	422.9
15°	471.3	488.3	493.9	486.6	474.5	457.6	442.2	439.0	425.3	421.3	405.1
17.5°	470.5	488.3	496.3	486.6	472.1	450.3	431.0	427.7	410.0	403.5	385.0
20°	469.7	489.9	497.9	485.0	464.8	441.4	419.7	413.2	393.8	383.3	361.5
22.5°	468.9	493.1	499.5	483.4	460.0	430.1	407.5	396.2	373.7	359.9	334.1
25°	472.9	497.1	500.4	481.8	452.7	418.0	393.8	378.5	353.5	335.7	305.1
27.5°	474.5	501.2	502.0	478.6	443.9	405.1	379.3	358.3	330.1	308.3	273.6
30°	479.4	502.0	499.5	472.1	433.4	389.0	362.4	336.5	305.1	276.8	235.7
32.5°	481.0	504.4	497.9	464.8	422.9	372.8	343.0	313.1	275.2	242.1	192.1
35°	484.2	506.0	496.3	460.8	411.6	355.9	322.8	288.9	245.3	203.4	146.1
37.5°	489.1	513.3	500.4	459.2	405.9	341.4	300.2	263.9	209.8	160.6	96.8
40°	501.2	527.8	507.6	461.6	401.9	329.3	278.4	238.1	169.5	118.6	67.0
42.5°	525.4	552.8	526.2	473.7	404.3	318.8	255.8	210.6	128.3	84.7	55.7
45°	561.7	585.1	556.8	493.9	414.0	313.1	234.8	182.4	92.0	67.8	50.8
47.5°	615.0	637.5	602.0	526.2	431.0	310.7	213.1	152.5	71.0	61.3	49.2
50°	685.2	711.8	667.4	577.0	462.4	313.1	189.7	124.3	62.1	59.7	48.4
52.5°	771.5	797.3	753.0	652.1	514.1	326.8	164.6	108.1	58.9	58.9	47.6
55°	869.2	905.5	861.9	756.2	594.0	356.7	149.3	102.5	58.9	59.7	46.8
57.5°	984.6	1015.2	976.5	856.3	690.0	405.9	150.9	108.1	58.9	59.7	46.0
60°	1097.6	1135.5	1091.1	983.8	799.8	480.2	184.0	137.2	61.3	62.1	46.0
62.5°	1215.4	1244.4	1208.1	1095.1	924.0	572.2	250.2	198.5	71.0	73.4	49.2
65°	1344.5	1392.1	1354.2	1261.4	1100.0	719.1	376.1	297.8	104.9	85.5	54.1
67.5°	1568.0	1587.4	1568.9	1484.1	1305.8	840.1	447.9	302.6	104.9	83.1	60.5
70°	1870.7	1827.1	1744.0	1585.8	1327.6	753.8	321.2	184.8	89.6	79.1	63.8
71°	1940.9	1873.9	1751.2	1560.8	1282.4	680.3	249.4	146.1	83.9	77.5	63.8
72.5°	1983.7	1883.6	1698.0	1487.3	1193.6	535.9	164.6	114.6	76.7	73.4	61.3
75°	1928.0	1743.2	1499.5	1287.2	977.3	278.4	103.3	87.2	65.4	63.8	53.3
77.5°	1530.9	1368.7	1106.4	935.3	628.7	123.5	74.2	66.2	51.6	50.0	41.2
80°	714.2	573.0	335.7	288.1	197.7	72.6	50.8	45.2	37.1	35.5	29.1
82.5°	129.9	97.7	75.9	73.4	66.2	42.8	29.9	27.4	23.4	22.6	18.6
85°	44.4	42.8	32.3	32.3	33.1	22.6	16.9	16.1	12.1	12.1	8.1
87.5°	0.8	4.0	4.0	5.6	4.8	4.0	1.6	2.4	0.8	2.4	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°	4.8	4.5	4.0	4.0	4.0	4.5	4.8	5.0	5.5	6.0	6.5
100°	26.8	26.5	26.0	25.0	26.0	26.5	26.8	27.0	27.8	28.5	29.2
102.5°	48.2	48.5	49.0	48.0	49.0	48.5	48.2	48.0	48.5	49.0	49.5
105°	69.5	70.0	71.0	69.0	71.0	70.0	69.5	69.0	69.5	70.0	70.5
107.5°	91.2	91.5	92.0	91.0	92.0	91.5	91.2	91.0	91.2	91.5	91.8



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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°	113.2	113.5	114.0	113.0	114.0	113.5	113.2	113.0	113.2	113.5	113.8	0°
112.5°	135.5	136.0	137.0	135.0	137.0	136.0	135.5	135.0	135.2	135.5	135.8	2.5°
115°	158.5	159.0	160.0	159.0	160.0	159.0	158.5	158.0	158.0	158.0	158.0	5°
117.5°	180.5	181.0	182.0	180.0	182.0	181.0	180.5	180.0	180.2	180.5	180.8	7.5°
120°	204.5	205.0	206.0	204.0	206.0	205.0	204.5	204.0	204.0	204.0	204.0	10°
122.5°	230.0	231.0	233.0	232.0	233.0	231.0	230.0	229.0	228.8	228.5	228.2	12.5°
125°	254.8	255.5	257.0	256.0	257.0	255.5	254.8	254.0	254.0	254.0	254.0	15°
127.5°	278.8	279.5	281.0	278.0	281.0	279.5	278.8	278.0	277.8	277.5	277.2	17.5°
130°	302.8	303.5	305.0	303.0	305.0	303.5	302.8	302.0	301.8	301.5	301.2	20°
132.5°	326.8	327.5	329.0	327.0	329.0	327.5	326.8	326.0	325.8	325.5	325.2	22.5°
135°	349.5	350.0	351.0	350.0	351.0	350.0	349.5	349.0	348.8	348.5	348.2	25°
137.5°	371.0	372.0	374.0	372.0	374.0	372.0	371.0	370.0	369.8	369.5	369.2	27.5°
140°	393.0	394.0	396.0	394.0	396.0	394.0	393.0	392.0	391.5	391.0	390.5	30°
142.5°	413.8	414.5	416.0	415.0	416.0	414.5	413.8	413.0	412.8	412.5	412.2	32.5°
145°	434.8	435.5	437.0	435.0	437.0	435.5	434.8	434.0	433.8	433.5	433.2	35°
147.5°	453.8	454.5	456.0	453.0	456.0	454.5	453.8	453.0	452.8	452.5	452.2	37.5°
150°	470.0	471.0	473.0	470.0	473.0	471.0	470.0	469.0	469.0	469.0	469.0	40°
152.5°	486.8	487.5	489.0	486.0	489.0	487.5	486.8	486.0	486.0	486.0	486.0	42.5°
155°	504.8	505.5	507.0	505.0	507.0	505.5	504.8	504.0	503.8	503.5	503.2	45°
157.5°	519.2	520.5	523.0	520.0	523.0	520.5	519.2	518.0	517.8	517.5	517.2	47.5°
160°	530.8	531.5	533.0	531.0	533.0	531.5	530.8	530.0	530.0	530.0	530.0	50°
162.5°	538.5	539.0	540.0	537.0	540.0	539.0	538.5	538.0	538.5	539.0	539.5	52.5°
165°	548.5	549.0	550.0	548.0	550.0	549.0	548.5	548.0	548.5	549.0	549.5	55°
167.5°	560.0	561.0	563.0	561.0	563.0	561.0	560.0	559.0	558.8	558.5	558.2	57.5°
170°	567.2	568.5	571.0	569.0	571.0	568.5	567.2	566.0	565.5	565.0	564.5	60°
172.5°	568.8	569.5	571.0	568.0	571.0	569.5	568.8	568.0	567.8	567.5	567.2	62.5°
175°	568.8	569.5	571.0	568.0	571.0	569.5	568.8	568.0	568.5	569.0	569.5	65°
177.5°	574.8	575.5	577.0	574.0	577.0	575.5	574.8	574.0	574.0	574.0	574.0	67.5°
180°	576.0	576.0	576.0	576.0	576.0	576.0	576.0	576.0	576.0	576.0	576.0	70°
												71°
												72.5°
												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
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DISTRIBUTION (continued):

CANDELA DISTRIBUTION

115°	117.5°	120°	122.5°	125°	127.5°	130°	135°	145°	155°	165°	110°	115°
481.8	481.8	481.8	481.8	481.8	481.8	481.8	481.8	481.8	481.8	481.8	110°	114.0
475.3	468.9	474.5	468.9	472.1	465.7	469.7	467.3	467.3	464.8	463.2	112.5°	136.0
468.1	460.0	464.0	457.6	460.8	451.1	453.5	449.5	441.4	436.6	430.1	115°	158.0
457.6	445.5	448.7	439.0	441.4	428.5	431.0	423.7	408.4	398.7	389.0	117.5°	181.0
439.0	427.7	428.5	416.4	415.6	402.7	400.3	390.6	368.0	351.9	339.0	120°	204.0
420.5	407.5	405.9	391.4	389.0	373.7	370.4	355.1	322.0	290.5	270.4	122.5°	228.0
401.1	385.0	380.1	364.8	355.9	343.0	334.1	311.5	263.9	222.7	196.1	125°	254.0
379.3	358.3	351.1	333.3	320.4	301.0	288.1	257.4	196.1	151.7	133.2	127.5°	277.0
351.1	328.5	315.5	293.0	276.0	252.6	236.5	196.9	130.7	108.1	105.7	130°	301.0
319.6	293.0	276.8	248.6	227.6	202.6	176.7	133.2	92.8	88.0	91.2	132.5°	325.0
286.5	253.4	232.4	197.7	169.5	140.4	116.2	88.8	75.9	75.1	79.9	135°	348.0
246.9	209.0	179.2	138.0	112.2	89.6	79.1	70.2	64.6	65.4	70.2	137.5°	369.0
203.4	154.1	122.7	86.4	75.1	65.4	63.8	60.5	58.1	59.7	62.9	140°	390.0
151.7	98.5	79.1	62.1	61.3	55.7	57.3	55.7	54.9	55.7	58.1	142.5°	412.0
102.5	65.4	62.1	53.3	54.9	50.8	53.3	52.5	51.6	51.6	53.3	145°	433.0
71.0	54.1	55.7	49.2	51.6	48.4	50.8	50.0	49.2	48.4	49.2	147.5°	452.0
58.9	49.2	51.6	46.8	49.2	46.0	48.4	47.6	46.8	45.2	45.2	150°	469.0
54.1	46.8	49.2	44.4	47.6	43.6	46.8	45.2	43.6	42.0	42.8	152.5°	486.0
52.5	45.2	47.6	42.8	46.0	42.0	44.4	43.6	40.4	39.5	40.4	155°	503.0
50.8	44.4	46.8	42.0	44.4	40.4	42.8	41.2	37.9	37.1	37.9	157.5°	517.0
50.0	42.8	45.2	40.4	42.8	39.5	41.2	39.5	36.3	35.5	35.5	160°	530.0
49.2	42.0	44.4	38.7	41.2	36.3	38.7	37.1	33.9	33.1	33.1	162.5°	540.0
49.2	41.2	42.8	37.1	39.5	34.7	36.3	34.7	33.1	31.5	31.5	165°	550.0
48.4	39.5	42.0	35.5	37.1	33.1	34.7	33.1	30.7	29.9	29.9	167.5°	558.0
48.4	38.7	41.2	34.7	36.3	31.5	33.1	31.5	29.1	28.2	28.2	170°	564.0
50.8	40.4	42.0	35.5	36.3	31.5	32.3	29.9	27.4	27.4	26.6	172.5°	567.0
55.7	45.2	45.2	37.1	37.1	31.5	32.3	29.1	25.8	25.8	25.8	175°	570.0
60.5	50.0	49.2	39.5	38.7	31.5	31.5	27.4	24.2	24.2	24.2	177.5°	574.0
63.8	52.5	50.8	40.4	38.7	30.7	29.9	25.8	22.6	22.6	22.6	180°	576.0
62.9	52.5	50.0	39.5	37.1	29.1	29.1	25.0	21.8	21.8	21.0		
59.7	49.2	46.8	37.1	35.5	27.4	27.4	23.4	20.2	20.2	19.4		
50.8	42.0	39.5	31.5	29.9	24.2	23.4	19.4	17.8	16.9	16.9		
39.5	33.1	30.7	25.0	24.2	19.4	18.6	16.1	14.5	14.5	13.7		
28.2	23.4	21.8	16.9	15.3	12.9	13.7	12.1	11.3	11.3	10.5		
16.9	12.1	12.1	9.7	10.5	8.1	8.9	8.9	8.1	6.5	6.5		
8.9	5.6	7.3	4.0	5.6	2.4	4.0	3.2	3.2	2.4	2.4		
1.6	0.0	0.8	0.0	0.8	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	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		
7.0	8.5	10.0	11.5	13.0	12.0	11.0	9.0	4.0	3.0	2.0		
30.0	30.5	31.0	31.5	32.0	31.5	31.0	30.0	22.0	14.0	10.0		
50.0	50.2	50.5	50.8	51.0	50.8	50.5	50.0	45.0	38.0	32.0		
71.0	71.0	71.0	71.0	71.0	70.8	70.5	70.0	66.0	61.0	56.0		
92.0	92.2	92.5	92.8	93.0	92.5	92.0	91.0	88.0	84.0	80.0		

'228126
 ISC-AF-450-LED-E1-SL2-8030-ULG

REPORT NUMBER: P228126
 CATALOG NUMBER: ISC-AF-45

TION (continued):

CANDELA DISTRIBUTION (con

117.5°	120°	122.5°	125°	127.5°	130°	135°	145°	155°	165°		175°	180°
114.0	114.0	114.0	114.0	113.5	113.0	112.0	110.0	106.0	103.0	0°	481.8	481.8
136.0	136.0	136.0	136.0	135.5	135.0	134.0	132.0	129.0	126.0	2.5°	458.4	459.2
158.0	158.0	158.0	158.0	157.5	157.0	156.0	154.0	151.0	149.0	5°	426.9	428.5
180.8	180.5	180.2	180.0	179.8	179.5	179.0	177.0	174.0	172.0	7.5°	381.7	384.1
204.0	204.0	204.0	204.0	203.5	203.0	202.0	201.0	198.0	196.0	10°	327.7	329.3
228.0	228.0	228.0	228.0	227.8	227.5	227.0	226.0	223.0	221.0	12.5°	258.2	258.2
253.8	253.5	253.2	253.0	252.8	252.5	252.0	251.0	248.0	247.0	15°	180.8	182.4
277.2	277.5	277.8	278.0	277.5	277.0	276.0	274.0	272.0	270.0	17.5°	126.7	127.5
301.0	301.0	301.0	301.0	300.5	300.0	299.0	298.0	294.0	293.0	20°	106.5	107.3
325.0	325.0	325.0	325.0	324.2	323.5	322.0	321.0	318.0	317.0	22.5°	95.2	96.0
348.0	348.0	348.0	348.0	347.2	346.5	345.0	345.0	341.0	339.0	25°	84.7	85.5
369.0	369.0	369.0	369.0	368.5	368.0	367.0	367.0	364.0	363.0	27.5°	73.4	74.2
390.0	390.0	390.0	390.0	389.8	389.5	389.0	388.0	386.0	385.0	30°	66.2	67.0
412.0	412.0	412.0	412.0	411.5	411.0	410.0	410.0	407.0	408.0	32.5°	59.7	60.5
433.2	433.5	433.8	434.0	433.5	433.0	432.0	431.0	428.0	428.0	35°	54.1	54.1
452.5	453.0	453.5	454.0	453.8	453.5	453.0	452.0	448.0	447.0	37.5°	50.0	50.0
469.5	470.0	470.5	471.0	470.8	470.5	470.0	469.0	465.0	464.0	40°	46.0	46.0
486.2	486.5	486.8	487.0	486.8	486.5	486.0	485.0	482.0	483.0	42.5°	43.6	43.6
503.2	503.5	503.8	504.0	503.8	503.5	503.0	503.0	501.0	502.0	45°	41.2	41.2
517.5	518.0	518.5	519.0	519.0	519.0	519.0	519.0	516.0	517.0	47.5°	38.7	38.7
530.5	531.0	531.5	532.0	532.0	532.0	532.0	532.0	529.0	529.0	50°	36.3	37.1
540.5	541.0	541.5	542.0	541.8	541.5	541.0	541.0	538.0	539.0	52.5°	33.9	33.9
550.8	551.5	552.2	553.0	552.8	552.5	552.0	552.0	548.0	549.0	55°	31.5	31.5
558.5	559.0	559.5	560.0	560.0	560.0	560.0	561.0	558.0	559.0	57.5°	29.1	29.9
564.2	564.5	564.8	565.0	565.2	565.5	566.0	567.0	565.0	566.0	60°	27.4	27.4
567.5	568.0	568.5	569.0	568.8	568.5	568.0	569.0	567.0	569.0	62.5°	25.8	25.8
570.8	571.5	572.2	573.0	572.8	572.5	572.0	572.0	569.0	570.0	65°	25.0	25.0
574.8	575.5	576.2	577.0	577.0	577.0	577.0	578.0	574.0	575.0	67.5°	23.4	23.4
576.0	576.0	576.0	576.0	576.0	576.0	576.0	576.0	576.0	576.0	70°	21.8	21.8
										71°	21.0	21.0
										72.5°	19.4	19.4
										75°	16.9	16.1
										77.5°	13.7	13.7
										80°	10.5	9.7
										82.5°	6.5	5.6
										85°	2.4	1.6
										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°	8.0	8.0
										102.5°	28.0	28.0
										105°	54.0	54.0
										107.5°	77.0	78.0



REPORT NUMBER: P228126

CATALOG NUMBER: ISC-AF-450-LED-E1-S

CANDELA DISTRIBUTION (continued):

	175°	180°
110°	102.0	101.0
112.5°	124.0	124.0
115°	147.0	146.0
117.5°	170.0	169.0
120°	195.0	193.0
122.5°	220.0	219.0
125°	246.0	244.0
127.5°	269.0	267.0
130°	292.0	290.0
132.5°	314.0	313.0
135°	337.0	336.0
137.5°	360.0	359.0
140°	383.0	382.0
142.5°	406.0	404.0
145°	426.0	425.0
147.5°	444.0	444.0
150°	462.0	461.0
152.5°	480.0	479.0
155°	500.0	499.0
157.5°	515.0	513.0
160°	527.0	525.0
162.5°	536.0	535.0
165°	547.0	546.0
167.5°	556.0	555.0
170°	563.0	562.0
172.5°	566.0	565.0
175°	569.0	567.0
177.5°	573.0	572.0
180°	576.0	576.0

(END OF REPORT)

Cooper Lighting Solutions Photometric Lab
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Peachtree City, GA 30269

Scaled Data Report

