

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: P227612

Luminaire Tested: **ISC-AF-450-LED-E1-T2-7030-ULG**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P227612  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P29758)-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-T2-7030-ULG  
Description: IMPACT ELITE LED CYLINDER LUMINAIRE WITH UPLIGHT  
LIGHT SQUARE WITH ACCULED OPTICS-TYPE II, WITH UPLIGHT GLOW  
Light Source: (16) 3000K CCT, 70 CRI LEDs and (1) UPLIGHT LED  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

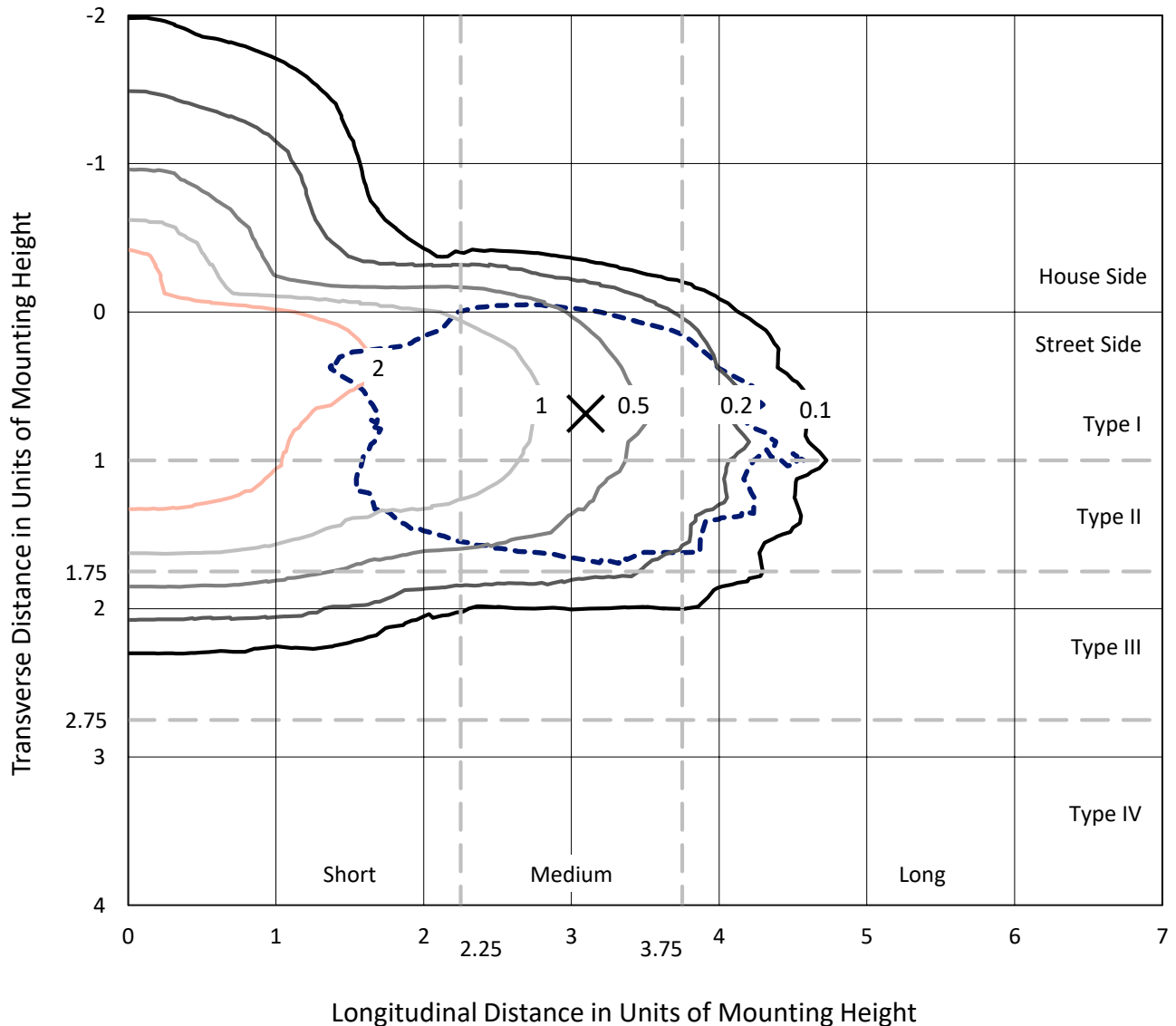
Lumens per Lamp: N/A  
Luminaire Lumens: 4023.2 lumens  
Efficiency: N/A  
Efficacy: 95.8 lumens/watt  
Luminous Opening: Rectangular w/ Sides (W: 0.5' x L: 0.5' x H: 0.54')  
IES Classification: Type II - Medium - Non-Cutoff  
BUG Rating: B1 - U5 - G1  
  
Input Watts (W): 42.01  
Input Voltage (V): 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

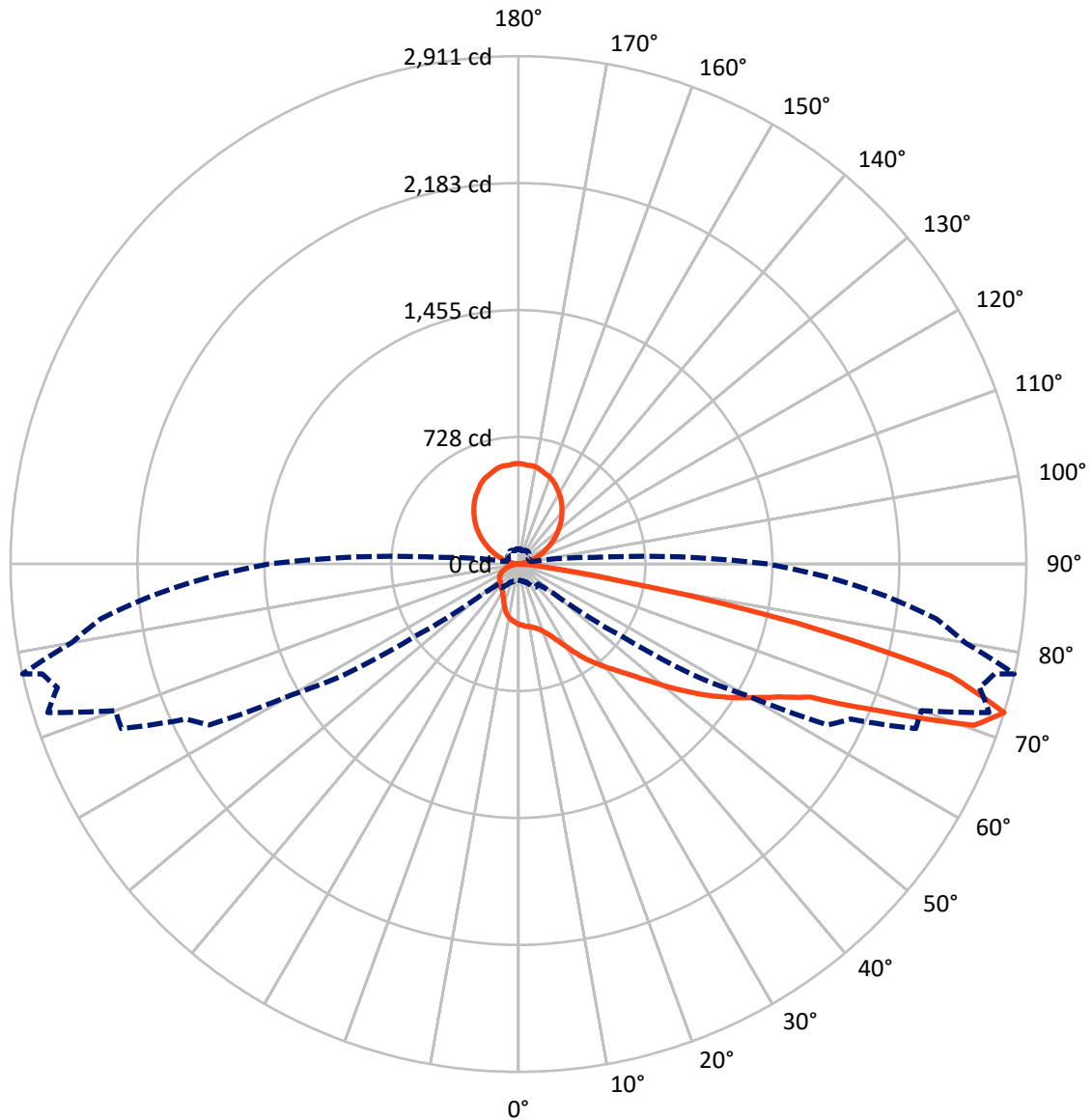
× Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 4.2 fc  
 Type II - Medium - Non-Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 77.5-Deg Lateral    - - - Horizontal Cone Through 72.5-Deg Vertical

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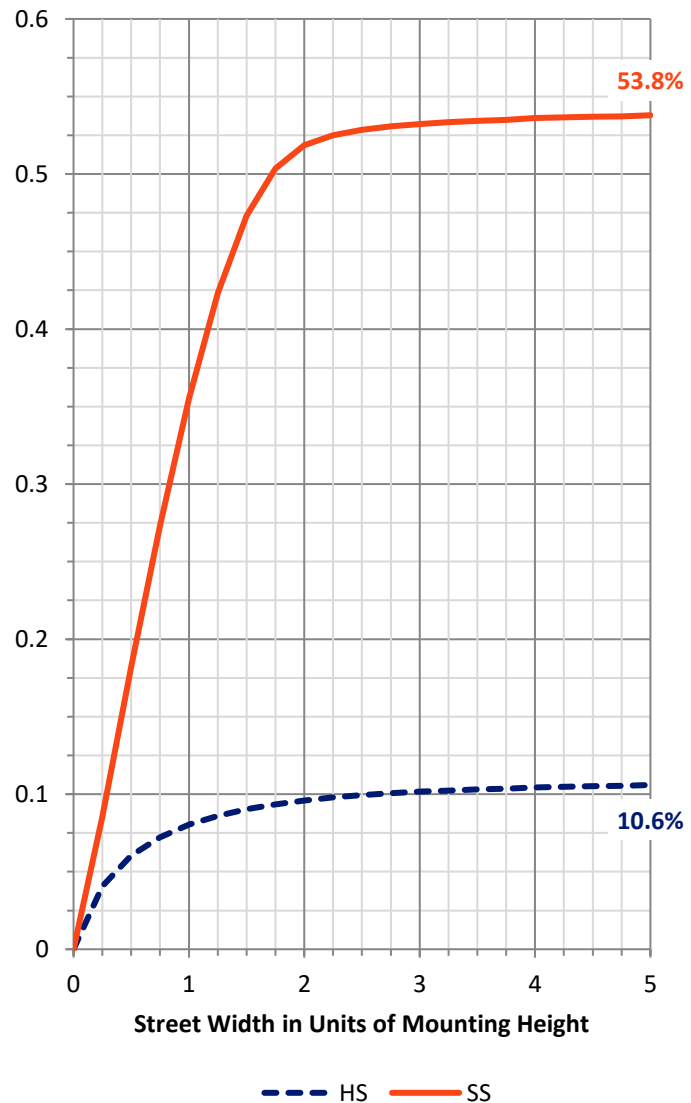
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	430.3	713.1	1143.4
	% Fixture	10.7	17.7	28.4
<b>Street Side</b>	Lumens	2166.7	713.1	2879.8
	% Fixture	53.9	17.7	71.6
<b>Total</b>	Lumens	2597.0	1426.2	4023.2
	% Fixture	64.6	35.4	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	32.2	0.8
10°-20°	98.8	2.5
20°-30°	175.3	4.4
30°-40°	277.8	6.9
40°-50°	416.7	10.4
50°-60°	540.0	13.4
60°-70°	613.5	15.3
70°-80°	407.1	10.1
80°-90°	35.6	0.9
90°-100°	4.7	0.1
100°-110°	69.0	1.7
110°-120°	153.0	3.8
120°-130°	223.9	5.6
130°-140°	265.6	6.6
140°-150°	269.3	6.7
150°-160°	231.1	5.7
160°-170°	155.1	3.9
170°-180°	54.3	1.4
0°-90°	2597.0	64.6
0°-180°	4023.2	100.0



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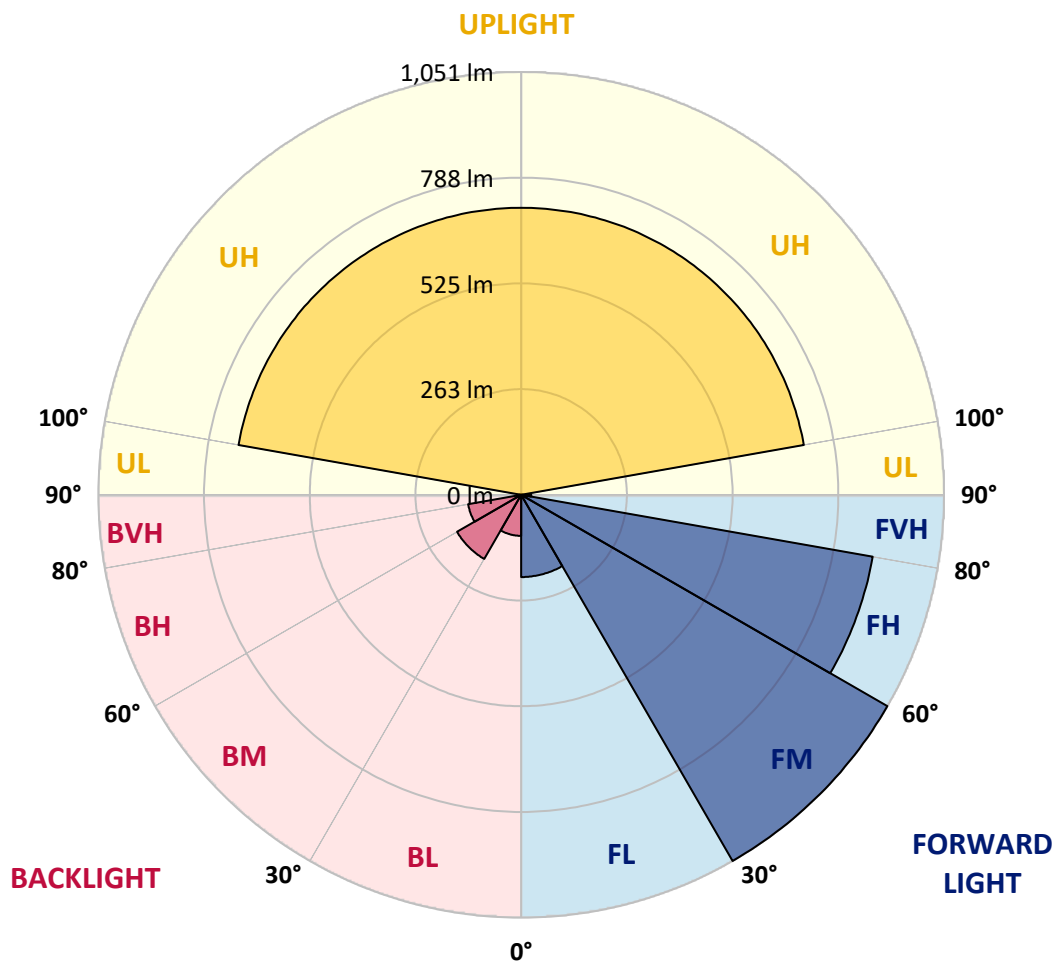
CATALOG NUMBER: ISC-AF-450-LED-E1-T2-7030-ULG

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

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	204.3	5.1			
FM	(30°-60°)	1050.6	26.1			
FH	(60°-80°)	886.9	22.0			G1/1800
FVH	(80°-90°)	24.9	0.6			G1/100
BL	(0°-30°)	101.9	2.5	B0/110		
BM	(30°-60°)	183.8	4.6	B0/220		
BH	(60°-80°)	133.8	3.3	B1/500		G1/500
BVH	(80°-90°)	10.7	0.3			G1/100
UL	(90°-100°)	4.7	0.1		U1/10	
UH	(100°-180°)	713.1	17.7		U4/1000	

**BUG Rating: B1-U5-G1**

Type II Medium





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	37.5°	40°	42.5°	45°	47.5°	50°
0°	346.7	346.7	346.7	346.7	346.7	346.7	346.7	346.7	346.7	346.7	346.7
2.5°	375.6	373.9	373.0	371.3	369.5	368.6	366.0	364.3	366.9	366.0	366.0
5°	403.7	401.9	399.3	396.7	393.2	390.5	387.9	385.3	387.0	385.3	383.5
7.5°	426.4	424.7	421.2	418.5	415.0	411.5	408.0	407.2	405.4	402.8	401.9
10°	439.6	437.8	436.1	434.3	429.1	426.4	422.0	419.4	420.3	416.8	416.8
12.5°	451.8	450.1	449.2	449.2	444.8	442.2	440.4	437.8	439.6	434.3	432.6
15°	463.2	461.5	458.8	461.5	460.6	459.7	458.8	457.9	460.6	455.3	456.2
17.5°	481.6	480.7	475.5	472.0	472.8	475.5	477.2	476.3	476.3	473.7	474.6
20°	510.5	510.5	503.5	497.4	487.7	487.7	488.6	487.7	489.5	491.2	493.8
22.5°	532.4	530.6	528.0	522.7	512.2	503.5	503.5	500.0	502.6	503.5	508.7
25°	560.4	558.6	552.5	552.5	542.0	530.6	528.9	523.6	529.7	518.4	527.1
27.5°	594.5	592.8	584.9	581.4	576.2	562.1	558.6	559.5	565.6	549.0	557.8
30°	637.5	635.7	626.1	616.4	607.7	592.8	591.0	590.2	604.2	584.9	596.3
32.5°	691.7	691.7	681.2	668.1	650.6	630.4	623.4	624.3	643.6	622.6	641.8
35°	774.0	763.5	744.3	724.1	705.7	682.1	672.5	670.7	688.2	667.2	689.1
37.5°	826.6	819.6	802.1	787.2	767.0	744.3	737.3	739.9	754.8	724.1	755.7
40°	873.9	873.0	861.6	852.0	831.8	809.1	817.8	852.9	892.3	832.7	833.6
42.5°	905.4	907.1	906.3	907.1	895.8	872.1	887.0	936.0	1003.5	968.4	936.0
45°	910.6	916.8	919.4	936.9	948.3	934.3	942.2	993.8	1128.7	1183.0	1036.7
47.5°	923.8	929.9	924.7	945.7	998.2	997.3	1028.9	1048.1	1066.5	1075.3	1185.6
50°	941.3	952.7	947.4	964.9	1007.8	1032.4	1059.5	1084.0	1069.1	1014.0	1043.7
52.5°	942.2	955.3	984.2	1001.7	1043.7	1038.5	1056.9	1043.7	1066.5	1009.6	1038.5
55°	865.1	867.7	951.8	1040.2	1113.8	1098.9	1087.5	1057.7	1086.6	1015.7	1052.5
57.5°	743.4	752.2	839.7	988.6	1146.2	1159.3	1155.8	1153.2	1176.0	1081.4	1121.7
60°	609.4	619.9	703.1	878.2	1078.8	1112.9	1160.2	1189.1	1247.8	1210.1	1276.7
62.5°	380.0	387.9	479.8	698.7	951.8	1019.2	1088.4	1122.5	1207.5	1225.0	1337.9
65°	181.3	183.9	219.8	380.0	691.7	818.7	921.2	993.8	1098.0	1176.8	1329.2
67.5°	141.0	141.9	155.0	202.3	354.6	439.6	556.0	652.3	763.5	978.9	1168.1
70°	113.0	113.0	123.5	148.9	219.8	231.2	260.9	293.3	340.6	514.0	667.2
72.5°	94.6	94.6	101.6	117.3	162.9	165.5	163.7	161.1	161.1	203.1	259.2
75°	79.7	78.8	83.2	93.7	120.8	124.3	122.6	116.5	109.5	109.5	123.5
77.5°	64.8	64.8	68.3	73.6	87.6	89.3	89.3	84.1	77.9	78.8	84.9
80°	50.8	50.8	53.4	56.9	61.3	60.4	60.4	55.2	50.8	49.9	53.4
82.5°	36.8	37.7	43.8	41.2	39.4	36.8	36.8	35.9	32.4	29.8	31.5
85°	11.4	12.3	21.0	24.5	20.1	16.6	15.8	13.1	14.0	11.4	13.1
87.5°	0.0	0.0	0.0	0.0	0.9	0.0	0.0	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°	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
110°	101.0	102.0	103.0	106.0	110.0	110.5	111.0	111.5	112.0	112.5	113.0



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	15°	25°	35°	37.5°	40°	42.5°	45°	47.5°	50°
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°	70°	72.5°	75°	77°
0°	346.7	346.7	346.7	346.7	346.7	346.7	346.7	346.7	346.7	346.7	346.7
2.5°	361.6	363.4	359.9	359.9	355.5	358.1	353.8	354.6	350.2	352.0	352.0
5°	379.1	380.0	375.6	373.9	369.5	369.5	365.1	365.1	359.0	360.8	359.0
7.5°	395.8	395.8	391.4	387.9	383.5	381.8	376.5	373.9	368.6	367.8	365.1
10°	409.8	409.8	403.7	400.2	394.9	392.3	385.3	382.6	376.5	372.1	369.5
12.5°	427.3	425.6	418.5	415.0	406.3	405.4	394.9	393.2	384.4	381.8	377.4
15°	448.3	450.1	438.7	437.8	425.6	424.7	410.7	409.8	396.7	395.8	389.7
17.5°	471.1	474.6	465.0	464.1	449.2	449.2	432.6	431.7	414.2	413.3	405.4
20°	491.2	495.6	489.5	491.2	478.1	479.0	460.6	460.6	436.1	434.3	427.3
22.5°	509.6	518.4	513.1	522.7	509.6	515.7	491.2	495.6	466.7	463.2	452.7
25°	528.0	539.4	537.6	553.4	543.8	554.3	528.9	537.6	500.0	502.6	488.6
27.5°	546.4	561.3	559.5	582.3	578.8	599.8	577.9	587.5	546.4	549.0	533.3
30°	577.0	593.7	587.5	611.2	611.2	645.3	628.7	643.6	598.0	603.3	584.9
32.5°	618.2	637.5	619.1	649.7	648.0	692.6	679.5	704.9	660.2	667.2	644.5
35°	662.8	693.5	663.7	697.9	692.6	739.0	730.3	771.4	724.1	732.0	709.3
37.5°	721.5	758.3	718.9	748.7	725.0	778.4	773.2	829.2	781.1	801.2	774.0
40°	790.7	819.6	770.5	795.9	756.5	811.7	802.9	880.0	835.3	867.7	843.2
42.5°	854.6	874.7	809.9	841.5	794.2	850.2	834.5	927.3	888.8	938.7	911.5
45°	912.4	935.2	849.4	884.4	831.8	893.1	866.0	972.8	946.5	1021.8	994.7
47.5°	994.7	961.4	885.3	930.8	872.1	939.5	903.6	1026.2	1016.6	1123.4	1091.9
50°	967.6	989.4	915.0	962.3	908.9	991.2	951.8	1090.1	1092.8	1233.7	1215.4
52.5°	970.2	1007.0	937.8	1003.5	951.8	1063.0	1021.8	1167.2	1179.5	1340.6	1315.2
55°	985.9	1040.2	971.9	1060.4	1012.2	1142.7	1113.8	1250.4	1271.4	1441.3	1426.4
57.5°	1025.4	1100.7	1030.6	1146.2	1096.3	1233.7	1207.5	1336.2	1365.1	1542.0	1537.6
60°	1176.8	1266.1	1143.6	1271.4	1204.9	1337.1	1302.0	1426.4	1455.3	1638.3	1649.7
62.5°	1345.8	1500.8	1428.1	1561.2	1385.2	1519.2	1415.9	1537.6	1539.3	1741.6	1777.5
65°	1389.6	1627.8	1689.9	1937.7	1845.8	1983.3	1707.5	1788.9	1683.8	1929.9	1981.5
67.5°	1373.0	1664.6	1837.0	2116.4	2220.6	2460.5	2414.1	2386.1	2142.6	2319.5	2381.7
70°	1007.8	1316.9	1739.0	2022.7	2323.0	2480.6	2730.2	2755.6	2745.1	2720.5	2761.7
72.5°	458.8	719.8	1176.8	1500.8	1996.4	2102.4	2464.0	2457.0	2828.2	2736.3	2801.1
75°	180.4	277.6	560.4	838.0	1380.9	1511.3	1921.1	1819.5	2282.7	2147.9	2286.2
77.5°	98.9	124.3	210.1	359.9	753.9	823.1	1176.0	1006.1	1415.9	1182.1	1228.5
80°	59.5	74.4	96.3	136.6	320.5	338.9	501.7	404.5	578.8	439.6	426.4
82.5°	32.4	40.3	48.2	67.4	119.1	132.2	173.4	155.9	185.6	158.5	155.0
85°	13.1	17.5	18.4	27.1	39.4	45.5	55.2	59.5	72.7	66.5	64.8
87.5°	0.0	0.9	0.0	1.8	0.0	1.8	0.0	2.6	2.6	4.4	5.3
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°	12.0	13.0	11.5	10.0	8.5	7.0	6.5	6.0	5.5	5.0	4.8
100°	31.5	32.0	31.5	31.0	30.5	30.0	29.2	28.5	27.8	27.0	26.8
102.5°	50.8	51.0	50.8	50.5	50.2	50.0	49.5	49.0	48.5	48.0	48.2
105°	70.8	71.0	71.0	71.0	71.0	71.0	70.5	70.0	69.5	69.0	69.4
107.5°	92.5	93.0	92.8	92.5	92.2	92.0	91.8	91.5	91.2	91.0	91.2
110°	113.5	114.0	114.0	114.0	114.0	114.0	113.8	113.5	113.2	113.0	113.2



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CATALOG NUMBER: ISC-AF-450-LED-E1-T2-7030-ULG

**CANDELA DISTRIBUTION (continued):**

	52.5°	55°	57.5°	60°	62.5°	65°	67.5°	70°	72.5°	75°	77°
112.5°	135.5	136.0	136.0	136.0	136.0	136.0	135.8	135.5	135.2	135.0	135.4
115°	157.5	158.0	158.0	158.0	158.0	158.0	158.0	158.0	158.0	158.0	158.4
117.5°	179.8	180.0	180.2	180.5	180.8	181.0	180.8	180.5	180.2	180.0	180.4
120°	203.5	204.0	204.0	204.0	204.0	204.0	204.0	204.0	204.0	204.0	204.4
122.5°	227.8	228.0	228.0	228.0	228.0	228.0	228.2	228.5	228.8	229.0	229.8
125°	252.8	253.0	253.2	253.5	253.8	254.0	254.0	254.0	254.0	254.0	254.6
127.5°	277.5	278.0	277.8	277.5	277.2	277.0	277.2	277.5	277.8	278.0	278.6
130°	300.5	301.0	301.0	301.0	301.0	301.0	301.2	301.5	301.8	302.0	302.6
132.5°	324.2	325.0	325.0	325.0	325.0	325.0	325.2	325.5	325.8	326.0	326.6
135°	347.2	348.0	348.0	348.0	348.0	348.0	348.2	348.5	348.8	349.0	349.4
137.5°	368.5	369.0	369.0	369.0	369.0	369.0	369.2	369.5	369.8	370.0	370.8
140°	389.8	390.0	390.0	390.0	390.0	390.0	390.5	391.0	391.5	392.0	392.8
142.5°	411.5	412.0	412.0	412.0	412.0	412.0	412.2	412.5	412.8	413.0	413.6
145°	433.5	434.0	433.8	433.5	433.2	433.0	433.2	433.5	433.8	434.0	434.6
147.5°	453.8	454.0	453.5	453.0	452.5	452.0	452.2	452.5	452.8	453.0	453.6
150°	470.8	471.0	470.5	470.0	469.5	469.0	469.0	469.0	469.0	469.0	469.8
152.5°	486.8	487.0	486.8	486.5	486.2	486.0	486.0	486.0	486.0	486.0	486.6
155°	503.8	504.0	503.8	503.5	503.2	503.0	503.2	503.5	503.8	504.0	504.6
157.5°	519.0	519.0	518.5	518.0	517.5	517.0	517.2	517.5	517.8	518.0	519.0
160°	532.0	532.0	531.5	531.0	530.5	530.0	530.0	530.0	530.0	530.0	530.6
162.5°	541.8	542.0	541.5	541.0	540.5	540.0	539.5	539.0	538.5	538.0	538.4
165°	552.8	553.0	552.2	551.5	550.8	550.0	549.5	549.0	548.5	548.0	548.4
167.5°	560.0	560.0	559.5	559.0	558.5	558.0	558.2	558.5	558.8	559.0	559.8
170°	565.2	565.0	564.8	564.5	564.2	564.0	564.5	565.0	565.5	566.0	567.0
172.5°	568.8	569.0	568.5	568.0	567.5	567.0	567.2	567.5	567.8	568.0	568.6
175°	572.8	573.0	572.2	571.5	570.8	570.0	569.5	569.0	568.5	568.0	568.6
177.5°	577.0	577.0	576.2	575.5	574.8	574.0	574.0	574.0	574.0	574.0	574.6
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):**

	77.5°	80°	82.5°	85°	87.5°	90°	95°	100°	102.5°	105°	107.5°
0°	346.7	346.7	346.7	346.7	346.7	346.7	346.7	346.7	346.7	346.7	346.7
2.5°	349.4	352.0	348.5	348.5	344.1	346.7	344.1	341.5	337.1	338.0	331.9
5°	355.5	357.3	352.9	351.1	348.5	347.6	342.4	337.1	331.0	331.0	324.0
7.5°	361.6	361.6	355.5	355.5	349.4	347.6	339.7	331.0	322.2	321.4	310.8
10°	365.1	364.3	356.4	356.4	347.6	346.7	337.1	324.0	311.7	308.2	293.3
12.5°	372.1	371.3	361.6	359.9	348.5	348.5	334.5	317.0	299.5	293.3	272.3
15°	380.9	381.8	370.4	367.8	354.6	353.8	334.5	308.2	284.6	274.9	249.6
17.5°	394.9	395.8	380.0	377.4	361.6	359.0	335.4	297.7	264.4	253.9	231.2
20°	413.3	410.7	389.7	388.8	367.8	365.1	334.5	281.9	244.3	233.8	213.7
22.5°	436.1	433.4	406.3	403.7	379.1	374.8	333.6	265.3	225.9	214.5	201.4
25°	467.6	464.1	430.8	427.3	396.7	389.7	332.7	247.8	210.1	201.4	193.5
27.5°	507.0	500.0	459.7	456.2	415.0	406.3	329.2	227.7	194.4	188.3	184.8
30°	554.3	548.1	496.5	491.2	439.6	428.2	325.7	209.3	183.0	180.4	177.8
32.5°	610.3	604.2	541.1	535.0	471.1	454.4	319.6	194.4	176.0	176.0	172.5
35°	669.0	663.7	589.3	584.9	506.1	484.2	311.7	181.3	169.9	169.9	166.4
37.5°	721.5	725.9	641.8	638.3	541.1	514.0	303.0	172.5	164.6	162.9	159.4
40°	778.4	788.9	690.9	693.5	577.9	545.5	292.5	165.5	158.5	156.7	155.9
42.5°	836.2	856.4	742.5	752.2	614.7	577.9	284.6	161.1	155.9	152.4	151.5
45°	908.0	936.9	806.4	824.8	657.6	617.3	281.9	155.9	148.0	143.6	141.0
47.5°	997.3	1035.9	885.3	906.3	714.5	664.6	287.2	154.1	142.7	137.5	132.2
50°	1103.3	1140.1	978.9	987.7	778.4	716.3	298.6	156.7	141.0	133.1	125.2
52.5°	1215.4	1243.4	1077.9	1068.3	845.0	767.0	311.7	157.6	136.6	128.7	119.1
55°	1330.9	1346.7	1169.8	1144.4	905.4	817.8	329.2	156.7	133.1	124.3	112.1
57.5°	1443.9	1449.1	1251.3	1226.7	964.9	878.2	351.1	154.1	127.8	119.1	105.9
60°	1554.2	1563.0	1341.4	1318.7	1029.7	956.2	382.6	149.7	120.8	114.7	100.7
62.5°	1675.1	1704.0	1449.1	1452.7	1119.0	1077.9	442.2	144.5	113.8	106.8	92.8
65°	1839.7	1950.0	1626.9	1709.2	1290.7	1307.3	556.0	129.6	104.2	95.4	85.8
67.5°	2252.1	2372.9	2058.6	2091.9	1692.6	1593.6	627.8	110.3	91.9	85.8	79.7
70°	2768.7	2682.0	2458.7	2257.3	1927.2	1638.3	552.5	92.8	81.4	77.9	74.4
72.5°	2910.6	2599.7	2415.8	2113.7	1781.9	1429.0	422.9	79.7	72.7	70.9	68.3
75°	2557.7	2107.6	2118.1	1679.4	1477.2	1089.3	289.0	68.3	63.0	62.2	61.3
77.5°	1635.7	1083.1	1318.7	830.1	852.9	504.4	141.0	56.9	54.3	54.3	52.5
80°	581.4	360.8	408.0	261.8	238.2	160.2	76.2	45.5	43.8	44.7	43.8
82.5°	174.2	138.3	135.7	105.9	82.3	67.4	42.0	35.0	33.3	34.1	32.4
85°	70.0	54.3	45.5	35.0	28.9	26.3	22.8	23.6	21.0	22.8	20.1
87.5°	4.4	3.5	2.6	3.5	0.0	1.8	4.4	3.5	0.9	3.5	2.6
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	4.2	4.0	4.0	4.0	4.0	4.5	4.8	5.0	5.5
100°	26.8	26.5	26.2	26.0	25.5	25.0	26.0	26.5	26.8	27.0	27.8
102.5°	48.2	48.5	48.8	49.0	48.5	48.0	49.0	48.5	48.2	48.0	48.5
105°	69.5	70.0	70.5	71.0	70.0	69.0	71.0	70.0	69.5	69.0	69.5
107.5°	91.2	91.5	91.8	92.0	91.5	91.0	92.0	91.5	91.2	91.0	91.2
110°	113.2	113.5	113.8	114.0	113.5	113.0	114.0	113.5	113.2	113.0	113.2



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REPORT N  
 CATALOG

**CANDELA DISTRIBUTION (continued):**

**CANDELA**

	77.5°	80°	82.5°	85°	87.5°	90°	95°	100°	102.5°	105°	107.5°	
112.5°	135.5	136.0	136.5	137.0	136.0	135.0	137.0	136.0	135.5	135.0	135.2	0°
115°	158.5	159.0	159.5	160.0	159.5	159.0	160.0	159.0	158.5	158.0	158.0	2.5°
117.5°	180.5	181.0	181.5	182.0	181.0	180.0	182.0	181.0	180.5	180.0	180.2	5°
120°	204.5	205.0	205.5	206.0	205.0	204.0	206.0	205.0	204.5	204.0	204.0	7.5°
122.5°	230.0	231.0	232.0	233.0	232.5	232.0	233.0	231.0	230.0	229.0	228.8	10°
125°	254.8	255.5	256.2	257.0	256.5	256.0	257.0	255.5	254.8	254.0	254.0	12.5°
127.5°	278.8	279.5	280.2	281.0	279.5	278.0	281.0	279.5	278.8	278.0	277.8	15°
130°	302.8	303.5	304.2	305.0	304.0	303.0	305.0	303.5	302.8	302.0	301.8	17.5°
132.5°	326.8	327.5	328.2	329.0	328.0	327.0	329.0	327.5	326.8	326.0	325.8	20°
135°	349.5	350.0	350.5	351.0	350.5	350.0	351.0	350.0	349.5	349.0	348.8	22.5°
137.5°	371.0	372.0	373.0	374.0	373.0	372.0	374.0	372.0	371.0	370.0	369.8	25°
140°	393.0	394.0	395.0	396.0	395.0	394.0	396.0	394.0	393.0	392.0	391.5	27.5°
142.5°	413.8	414.5	415.2	416.0	415.5	415.0	416.0	414.5	413.8	413.0	412.8	30°
145°	434.8	435.5	436.2	437.0	436.0	435.0	437.0	435.5	434.8	434.0	433.8	32.5°
147.5°	453.8	454.5	455.2	456.0	454.5	453.0	456.0	454.5	453.8	453.0	452.8	35°
150°	470.0	471.0	472.0	473.0	471.5	470.0	473.0	471.0	470.0	469.0	469.0	37.5°
152.5°	486.8	487.5	488.2	489.0	487.5	486.0	489.0	487.5	486.8	486.0	486.0	40°
155°	504.8	505.5	506.2	507.0	506.0	505.0	507.0	505.5	504.8	504.0	503.8	42.5°
157.5°	519.2	520.5	521.8	523.0	521.5	520.0	523.0	520.5	519.2	518.0	517.8	45°
160°	530.8	531.5	532.2	533.0	532.0	531.0	533.0	531.5	530.8	530.0	530.0	47.5°
162.5°	538.5	539.0	539.5	540.0	538.5	537.0	540.0	539.0	538.5	538.0	538.5	50°
165°	548.5	549.0	549.5	550.0	549.0	548.0	550.0	549.0	548.5	548.0	548.5	52.5°
167.5°	560.0	561.0	562.0	563.0	562.0	561.0	563.0	561.0	560.0	559.0	558.8	55°
170°	567.2	568.5	569.8	571.0	570.0	569.0	571.0	568.5	567.2	566.0	565.5	57.5°
172.5°	568.8	569.5	570.2	571.0	569.5	568.0	571.0	569.5	568.8	568.0	567.8	60°
175°	568.8	569.5	570.2	571.0	569.5	568.0	571.0	569.5	568.8	568.0	568.5	62.5°
177.5°	574.8	575.5	576.2	577.0	575.5	574.0	577.0	575.5	574.8	574.0	574.0	65°
180°	576.0	576.0	576.0	576.0	576.0	576.0	576.0	576.0	576.0	576.0	576.0	67.5°
												70°
												72.5°
												75°
												77.5°
												80°
												82.5°
												85°
												87.5°
												90°
												92.5°
												95°
												97.5°
												100°
												102.5°
												105°
												107.5°
												110°



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REPORT NUMBER: P  
 CATALOG NUMBER:

**DISTRIBUTION (continued):**

**CANDELA DISTRIBUTION**

110°	112.5°	115°	117.5°	120°	122.5°	125°	127.5°	130°	135°	145°	110°	
346.7	346.7	346.7	346.7	346.7	346.7	346.7	346.7	346.7	346.7	346.7	112.5°	135.5
336.2	330.1	332.7	330.1	331.9	326.6	328.4	324.0	324.0	323.1	318.7	115°	158.0
324.9	318.7	317.8	311.7	312.6	305.6	304.7	296.8	296.8	289.8	276.7	117.5°	180.5
309.1	299.5	298.6	286.3	285.5	275.8	272.3	263.6	262.7	254.8	246.9	120°	204.0
289.0	274.1	271.4	255.7	256.6	246.0	245.2	239.0	239.0	235.5	235.5	122.5°	228.5
266.2	249.6	247.8	235.5	236.4	229.4	230.3	226.8	228.5	230.3	236.4	125°	254.0
245.2	232.0	230.3	222.4	223.3	221.5	224.2	224.2	226.8	231.2	241.7	127.5°	277.5
227.7	216.3	217.2	213.7	217.2	216.3	221.5	220.7	225.9	231.2	244.3	130°	301.5
211.9	205.8	208.4	207.5	211.9	211.9	216.3	217.2	221.5	228.5	243.4	132.5°	325.5
201.4	199.6	202.3	202.3	205.8	206.6	211.0	213.7	216.3	223.3	236.4	135°	348.5
195.3	194.4	197.0	197.9	200.5	201.4	205.8	205.8	210.1	214.5	221.5	137.5°	369.5
186.5	184.8	188.3	188.3	191.8	190.9	196.1	194.4	198.8	200.5	202.3	140°	391.0
180.4	177.8	180.4	179.5	182.1	179.5	182.1	179.5	182.1	182.1	179.5	142.5°	412.5
174.2	171.6	172.5	169.0	171.6	168.1	169.0	165.5	167.2	165.5	166.4	145°	433.5
168.1	164.6	164.6	160.2	160.2	155.9	157.6	154.1	157.6	160.2	159.4	147.5°	452.5
159.4	156.7	156.7	153.2	155.0	153.2	156.7	155.0	155.9	152.4	146.2	150°	469.0
154.1	155.9	155.0	157.6	155.9	153.2	150.6	145.4	144.5	142.7	139.2	152.5°	486.0
146.2	148.0	143.6	147.1	144.5	145.4	143.6	141.0	139.2	137.5	134.0	155°	503.5
134.8	134.8	131.3	136.6	134.0	139.2	137.5	137.5	135.7	133.1	130.5	157.5°	517.5
125.2	126.1	122.6	127.0	125.2	132.2	131.3	134.0	134.0	132.2	125.2	160°	530.0
119.1	117.3	114.7	119.1	118.2	124.3	125.2	130.5	129.6	130.5	124.3	162.5°	539.0
113.8	110.3	107.7	110.3	110.3	115.6	117.3	123.5	124.3	126.1	122.6	165°	549.0
107.7	103.3	101.6	103.3	103.3	108.6	111.2	115.6	118.2	123.5	121.7	167.5°	558.5
102.4	96.3	94.6	96.3	97.2	102.4	105.1	109.5	113.0	120.0	119.1	170°	565.0
96.3	91.1	89.3	91.9	92.8	98.1	100.7	105.1	107.7	115.6	115.6	172.5°	567.5
89.3	84.9	84.9	85.8	87.6	92.8	94.6	100.7	101.6	111.2	112.1	175°	569.0
83.2	80.6	80.6	81.4	83.2	87.6	88.4	94.6	95.4	105.1	107.7	177.5°	574.0
77.9	76.2	76.2	77.1	77.9	81.4	82.3	88.4	90.2	98.9	103.3	180°	576.0
72.7	70.9	70.0	70.0	72.7	75.3	77.1	83.2	84.1	91.9	97.2		
66.5	64.8	64.8	63.9	66.5	68.3	71.8	75.3	77.1	84.9	88.4		
60.4	58.7	58.7	57.8	59.5	63.0	63.9	67.4	68.3	75.3	78.8		
52.5	50.8	50.8	50.8	52.5	53.4	54.3	57.8	59.5	65.7	69.2		
43.8	42.0	42.9	42.0	44.7	41.2	43.8	47.3	49.0	52.5	50.8		
33.3	30.6	31.5	31.5	32.4	29.8	31.5	33.3	35.0	37.7	36.8		
21.0	18.4	20.1	18.4	20.1	17.5	19.3	19.3	21.0	19.3	18.4		
4.4	1.8	4.4	1.8	5.3	0.0	2.6	0.0	1.8	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		
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		
6.0	6.5	7.0	8.5	10.0	11.5	13.0	12.0	11.0	9.0	4.0		
28.5	29.2	30.0	30.5	31.0	31.5	32.0	31.5	31.0	30.0	22.0		
49.0	49.5	50.0	50.2	50.5	50.8	51.0	50.8	50.5	50.0	45.0		
70.0	70.5	71.0	71.0	71.0	71.0	71.0	70.8	70.5	70.0	66.0		
91.5	91.8	92.0	92.2	92.5	92.8	93.0	92.5	92.0	91.0	88.0		
113.5	113.8	114.0	114.0	114.0	114.0	114.0	113.5	113.0	112.0	110.0		

'227612  
 ISC-AF-450-LED-E1-T2-7030-ULG

REPORT NUMBER: P227612  
 CATALOG NUMBER: ISC-AF-45

**TION (continued):**

**CANDELA DISTRIBUTION (con**

112.5°	115°	117.5°	120°	122.5°	125°	127.5°	130°	135°	145°		155°	165°
135.8	136.0	136.0	136.0	136.0	136.0	135.5	135.0	134.0	132.0	0°	346.7	346.7
158.0	158.0	158.0	158.0	158.0	158.0	157.5	157.0	156.0	154.0	2.5°	314.3	310.8
180.8	181.0	180.8	180.5	180.2	180.0	179.8	179.5	179.0	177.0	5°	269.7	263.6
204.0	204.0	204.0	204.0	204.0	204.0	203.5	203.0	202.0	201.0	7.5°	242.5	240.8
228.2	228.0	228.0	228.0	228.0	228.0	227.8	227.5	227.0	226.0	10°	237.3	239.9
254.0	254.0	253.8	253.5	253.2	253.0	252.8	252.5	252.0	251.0	12.5°	243.4	247.8
277.2	277.0	277.2	277.5	277.8	278.0	277.5	277.0	276.0	274.0	15°	251.3	259.2
301.2	301.0	301.0	301.0	301.0	301.0	300.5	300.0	299.0	298.0	17.5°	257.4	267.9
325.2	325.0	325.0	325.0	325.0	325.0	324.2	323.5	322.0	321.0	20°	258.3	268.8
348.2	348.0	348.0	348.0	348.0	348.0	347.2	346.5	345.0	345.0	22.5°	250.4	257.4
369.2	369.0	369.0	369.0	369.0	369.0	368.5	368.0	367.0	367.0	25°	230.3	233.8
390.5	390.0	390.0	390.0	390.0	390.0	389.8	389.5	389.0	388.0	27.5°	204.9	204.0
412.2	412.0	412.0	412.0	412.0	412.0	411.5	411.0	410.0	410.0	30°	178.6	176.9
433.2	433.0	433.2	433.5	433.8	434.0	433.5	433.0	432.0	431.0	32.5°	169.0	162.9
452.2	452.0	452.5	453.0	453.5	454.0	453.8	453.5	453.0	452.0	35°	154.1	152.4
469.0	469.0	469.5	470.0	470.5	471.0	470.8	470.5	470.0	469.0	37.5°	148.9	163.7
486.0	486.0	486.2	486.5	486.8	487.0	486.8	486.5	486.0	485.0	40°	142.7	161.1
503.2	503.0	503.2	503.5	503.8	504.0	503.8	503.5	503.0	503.0	42.5°	137.5	148.0
517.2	517.0	517.5	518.0	518.5	519.0	519.0	519.0	519.0	519.0	45°	127.8	132.2
530.0	530.0	530.5	531.0	531.5	532.0	532.0	532.0	532.0	532.0	47.5°	123.5	121.7
539.5	540.0	540.5	541.0	541.5	542.0	541.8	541.5	541.0	541.0	50°	120.0	120.0
549.5	550.0	550.8	551.5	552.2	553.0	552.8	552.5	552.0	552.0	52.5°	117.3	115.6
558.2	558.0	558.5	559.0	559.5	560.0	560.0	560.0	560.0	561.0	55°	113.8	112.1
564.5	564.0	564.2	564.5	564.8	565.0	565.2	565.5	566.0	567.0	57.5°	111.2	106.8
567.2	567.0	567.5	568.0	568.5	569.0	568.8	568.5	568.0	569.0	60°	108.6	104.2
569.5	570.0	570.8	571.5	572.2	573.0	572.8	572.5	572.0	572.0	62.5°	106.8	101.6
574.0	574.0	574.8	575.5	576.2	577.0	577.0	577.0	577.0	578.0	65°	104.2	98.9
576.0	576.0	576.0	576.0	576.0	576.0	576.0	576.0	576.0	576.0	67.5°	100.7	93.7
										70°	93.7	87.6
										72.5°	86.7	79.7
										75°	76.2	70.0
										77.5°	63.9	56.9
										80°	48.2	43.8
										82.5°	35.0	29.8
										85°	15.8	11.4
										87.5°	0.0	0.0
										90°	0.0	0.0
										92.5°	0.0	0.0
										95°	1.0	1.0
										97.5°	3.0	2.0
										100°	14.0	10.0
										102.5°	38.0	32.0
										105°	61.0	56.0
										107.5°	84.0	80.0
										110°	106.0	103.0



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**tinued):**

175°	180°
346.7	346.7
309.1	308.2
261.8	260.1
240.8	239.9
240.8	240.8
251.3	251.3
263.6	263.6
272.3	273.2
274.9	275.8
261.8	261.8
236.4	236.4
203.1	206.6
173.4	176.9
154.1	156.7
148.0	148.9
162.9	163.7
160.2	162.0
137.5	138.3
123.5	123.5
118.2	117.3
118.2	116.5
121.7	120.8
116.5	116.5
113.8	113.8
111.2	111.2
110.3	109.5
110.3	108.6
108.6	105.9
102.4	95.4
87.6	81.4
70.9	70.0
55.2	56.0
42.0	42.0
30.6	25.4
8.8	8.8
0.0	0.0
0.0	0.0
0.0	0.0
1.0	1.0
2.0	2.0
8.0	8.0
28.0	28.0
54.0	54.0
77.0	78.0
102.0	101.0

**CANDELA DISTRIBUTION (continued):**

	155°	165°	175°
112.5°	129.0	126.0	124.0
115°	151.0	149.0	147.0
117.5°	174.0	172.0	170.0
120°	198.0	196.0	195.0
122.5°	223.0	221.0	220.0
125°	248.0	247.0	246.0
127.5°	272.0	270.0	269.0
130°	294.0	293.0	292.0
132.5°	318.0	317.0	314.0
135°	341.0	339.0	337.0
137.5°	364.0	363.0	360.0
140°	386.0	385.0	383.0
142.5°	407.0	408.0	406.0
145°	428.0	428.0	426.0
147.5°	448.0	447.0	444.0
150°	465.0	464.0	462.0
152.5°	482.0	483.0	480.0
155°	501.0	502.0	500.0
157.5°	516.0	517.0	515.0
160°	529.0	529.0	527.0
162.5°	538.0	539.0	536.0
165°	548.0	549.0	547.0
167.5°	558.0	559.0	556.0
170°	565.0	566.0	563.0
172.5°	567.0	569.0	566.0
175°	569.0	570.0	569.0
177.5°	574.0	575.0	573.0
180°	576.0	576.0	576.0



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180°
124.0
146.0
169.0
193.0
219.0
244.0
267.0
290.0
313.0
336.0
359.0
382.0
404.0
425.0
444.0
461.0
479.0
499.0
513.0
525.0
535.0
546.0
555.0
562.0
565.0
567.0
572.0
576.0

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