

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: P228645

Luminaire Tested: **ISC-AF-450-LED-E1-SLR-ULG**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P228645  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P29764)-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-SLR-ULG  
Description: IMPACT ELITE LED CYLINDER LUMINAIRE WITH UPLIGHT  
LIGHT SQUARE WITH ACCUELED OPTICS-90° SPILL LIGHT ELIMINATOR RIGHT, WITH  
UPLIGHT GLOW  
Light Source: (16) 4000K CCT, 70 CRI LEDs and (1) UPLIGHT LED  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

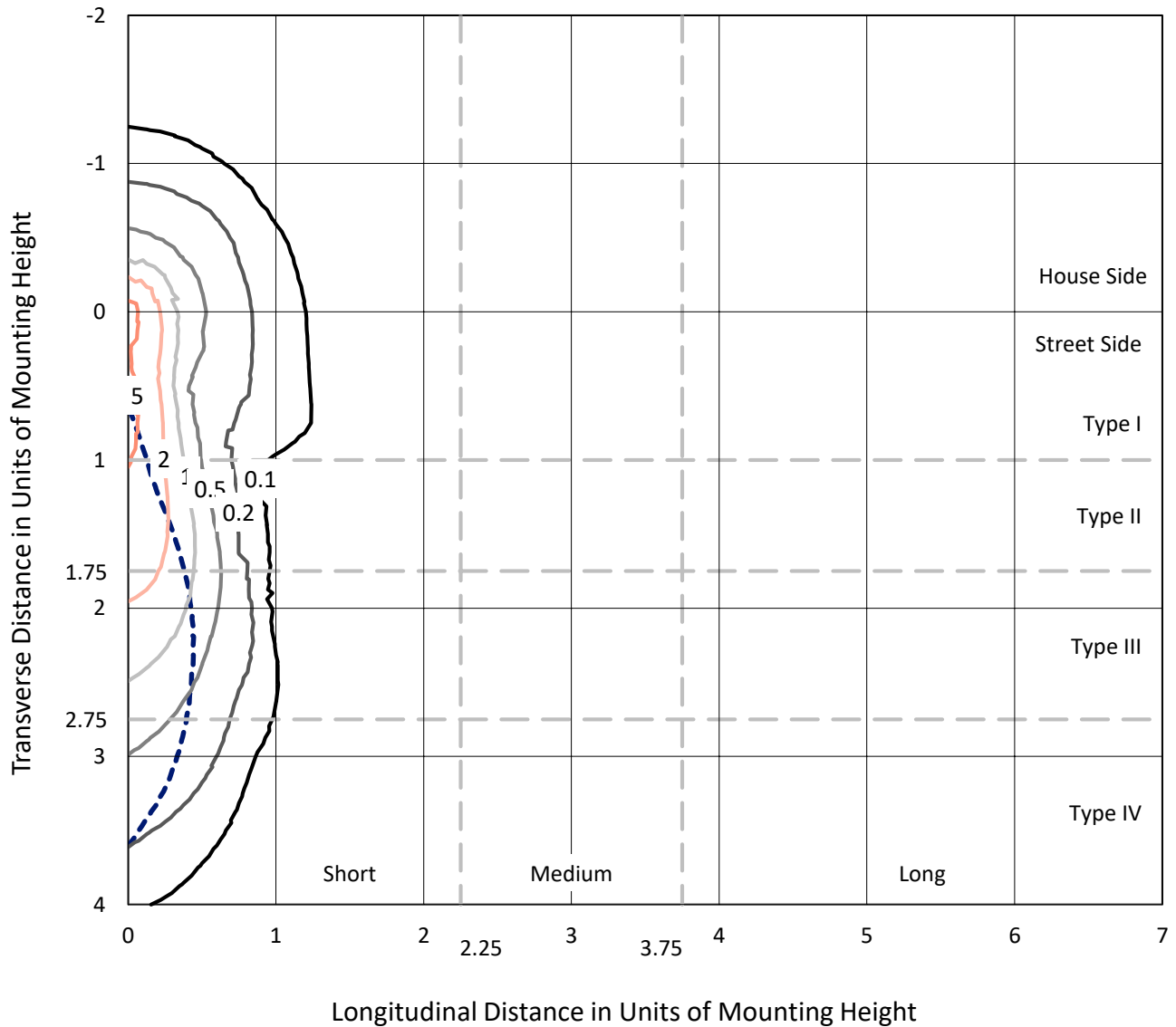
Lumens per Lamp: N/A  
Luminaire Lumens: 4014.2 lumens  
Efficiency: N/A  
Efficacy: 95.6 lumens/watt  
Luminous Opening: Rectangular w/ Sides (W: 0.5' x L: 0.5' x H: 0.54')  
IES Classification: Type IV - Short - Non-Cutoff  
BUG Rating: B1 - U5 - G1  
  
Input Watts (W): 42.01  
Input Voltage (V): 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



REPORT NUMBER: P228645  
 CATALOG NUMBER: ISC-AF-450-LED-E1-SLR-ULG

### Iso-Footcandle Lines of Horizontal Illumination

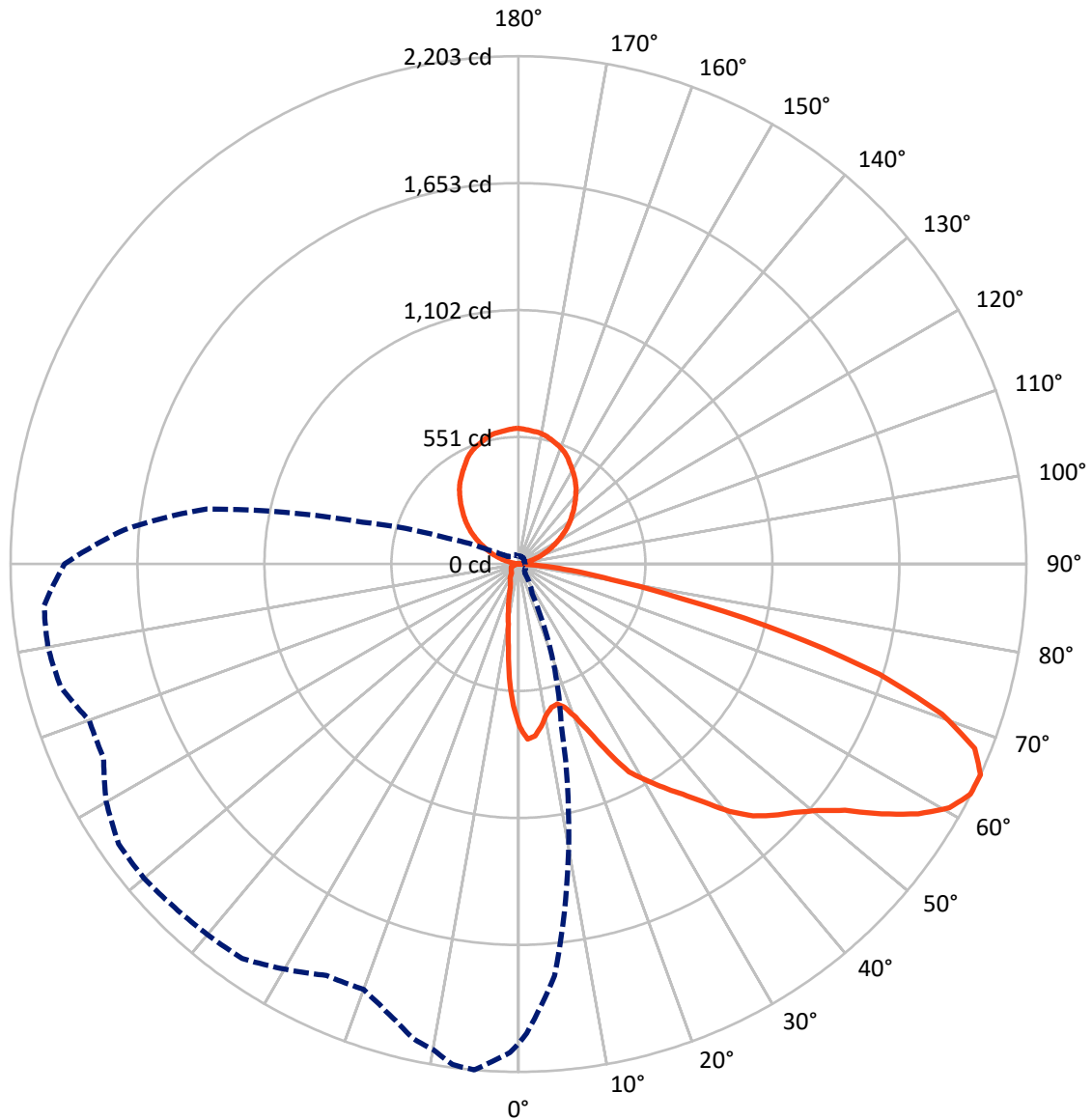
× Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 7.1 fc  
 Type IV - Short - Non-Cutoff

REPORT NUMBER: P228645  
CATALOG NUMBER: ISC-AF-450-LED-E1-SLR-ULG

### Luminous Intensity Polar Plot



— Vertical Plane Through 355-Deg Lateral    - - - Horizontal Cone Through 65-Deg Vertical

REPORT NUMBER: P228645

CATALOG NUMBER: ISC-AF-450-LED-E1-SLR-ULG

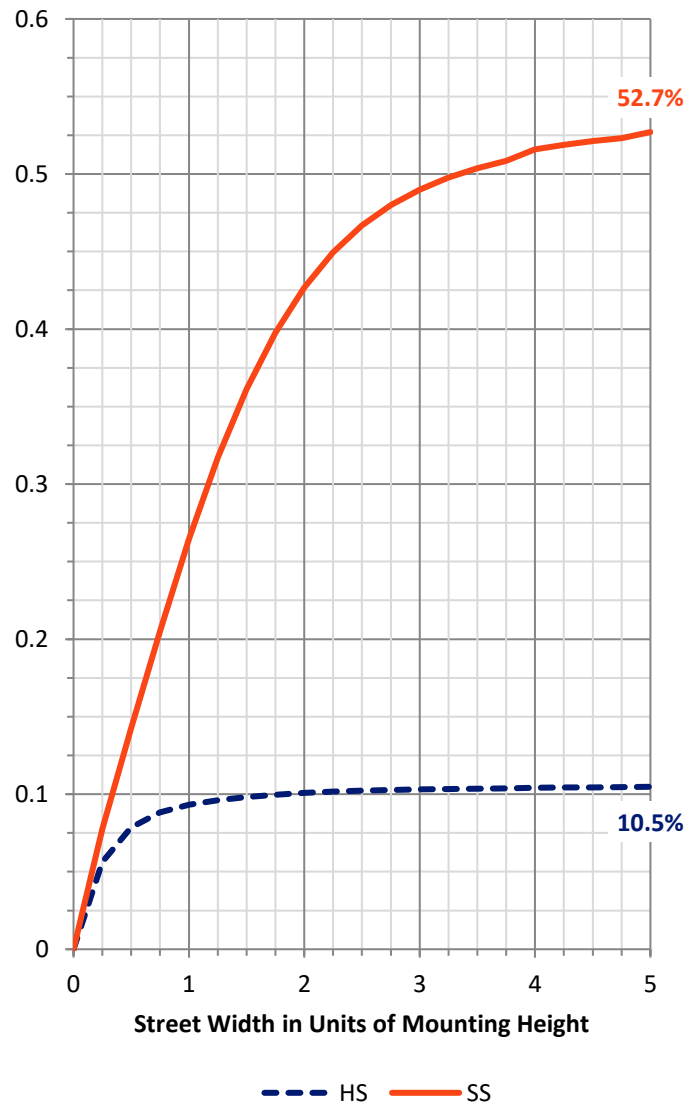
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	424.9	729.4	1154.3
	% Fixture	10.6	18.2	28.8
<b>Street Side</b>	Lumens	2130.4	729.4	2859.9
	% Fixture	53.1	18.2	71.2
<b>Total</b>	Lumens	2555.3	1458.9	4014.2
	% Fixture	63.7	36.3	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	54.3	1.4
10°-20°	111.9	2.8
20°-30°	162.7	4.1
30°-40°	240.6	6.0
40°-50°	350.5	8.7
50°-60°	525.4	13.1
60°-70°	654.7	16.3
70°-80°	383.5	9.6
80°-90°	71.7	1.8
90°-100°	4.8	0.1
100°-110°	70.6	1.8
110°-120°	156.6	3.9
120°-130°	229.0	5.7
130°-140°	271.7	6.8
140°-150°	275.5	6.9
150°-160°	236.4	5.9
160°-170°	158.7	4.0
170°-180°	55.6	1.4
0°-90°	2555.3	63.7
0°-180°	4014.2	100.0



REPORT NUMBER: P228645

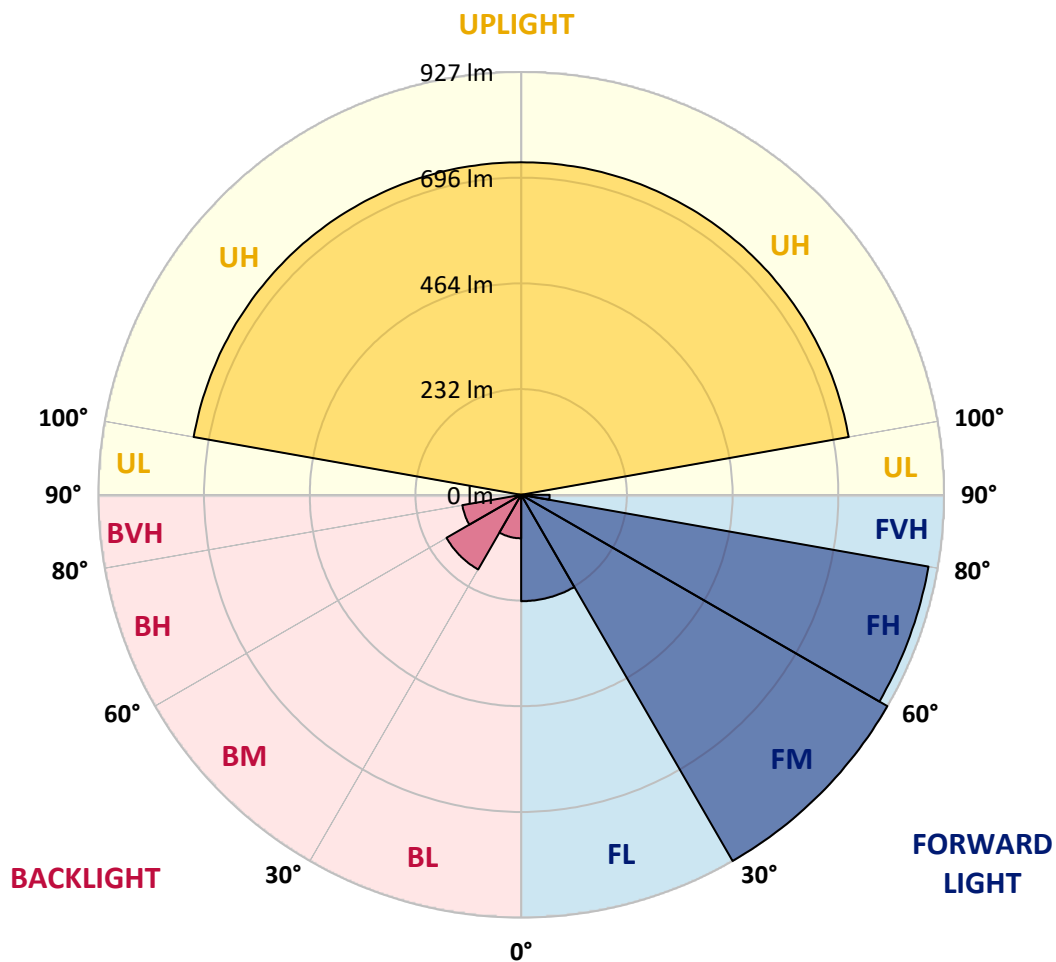
CATALOG NUMBER: ISC-AF-450-LED-E1-SLR-ULG

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

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	233.4	5.8			
FM (30°-60°)	927.4	23.1			
FH (60°-80°)	907.1	22.6			G1/1800
FVH (80°-90°)	62.5	1.6			G1/100
BL (0°-30°)	95.4	2.4	B0/110		
BM (30°-60°)	189.1	4.7	B0/220		
BH (60°-80°)	131.1	3.3	B1/500		G1/500
BVH (80°-90°)	9.2	0.2			G0/10
UL (90°-100°)	4.8	0.1		U1/10	
UH (100°-180°)	729.4	18.2		U4/1000	

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

Type IV Short





REPORT NUMBER: P228645

CATALOG NUMBER: ISC-AF-450-LED-E1-SLR-ULG

**CANDELA DISTRIBUTION (FULL):**

	0°	1°	5°	15°	25°	35°	37.5°	40°	42.5°	45°	47.5°
0°	707.2	707.2	707.2	707.2	707.2	707.2	707.2	707.2	707.2	707.2	707.2
2.5°	750.6	744.6	732.4	708.2	682.9	658.6	654.6	645.5	646.5	641.4	639.3
5°	726.4	718.3	692.9	642.4	598.9	554.4	551.4	533.2	535.2	524.1	518.0
7.5°	672.8	661.6	633.3	563.5	502.8	444.2	438.0	416.9	413.8	402.6	393.5
10°	620.1	609.1	573.7	493.7	423.9	380.4	373.3	363.1	355.1	350.1	340.9
12.5°	586.8	580.7	538.2	446.1	391.5	356.1	347.0	336.9	328.8	319.7	310.6
15°	579.7	567.5	524.1	431.0	367.2	323.8	312.6	301.5	292.4	283.3	270.2
17.5°	598.9	586.8	538.2	423.9	339.9	287.3	273.1	258.0	248.9	237.7	223.6
20°	644.5	625.2	565.5	413.8	310.6	244.8	227.6	209.4	199.3	180.0	169.9
22.5°	717.3	692.9	612.0	413.8	283.3	200.3	181.1	164.9	153.7	136.6	125.4
25°	821.4	800.3	687.9	424.9	259.0	162.9	143.6	127.5	116.3	104.2	97.1
27.5°	918.6	885.3	768.8	441.1	239.8	136.6	117.3	104.2	96.2	90.0	86.0
30°	991.4	964.1	839.7	452.2	211.4	114.4	102.2	94.1	90.0	87.1	85.0
32.5°	1058.2	1026.8	890.3	459.3	194.3	97.1	86.0	79.9	75.9	71.8	70.8
35°	1129.0	1098.6	949.9	458.3	183.1	89.0	77.9	70.8	66.8	65.8	63.7
37.5°	1227.1	1185.7	1018.8	458.3	179.0	86.0	72.8	65.8	62.7	60.7	59.6
40°	1322.3	1275.7	1094.7	461.4	175.0	84.0	72.8	65.8	60.7	58.7	56.7
42.5°	1411.3	1359.7	1163.4	466.4	173.0	77.9	68.8	64.8	62.7	58.7	55.6
45°	1479.1	1438.6	1217.0	476.5	173.0	73.9	64.8	61.7	60.7	60.7	59.6
47.5°	1544.9	1499.3	1278.8	495.7	176.0	70.8	61.7	57.7	57.7	57.7	58.7
50°	1629.8	1576.2	1363.7	535.2	176.0	69.8	58.7	54.6	53.6	55.6	55.6
52.5°	1745.2	1706.7	1488.2	591.9	174.0	68.8	57.7	51.6	50.5	51.6	53.6
55°	1908.0	1864.5	1638.9	661.6	172.0	66.8	55.6	50.5	48.6	47.6	48.6
57.5°	2048.7	2011.2	1777.5	717.3	166.9	61.7	53.6	49.6	46.5	45.5	44.5
60°	2110.3	2078.9	1866.6	754.7	157.8	56.7	50.5	47.6	44.5	43.5	42.5
62.5°	2120.5	2081.0	1867.6	762.8	147.7	51.6	47.6	44.5	42.5	41.4	40.5
65°	2081.0	2036.5	1793.7	713.2	139.6	51.6	45.5	42.5	39.5	38.5	37.4
67.5°	1992.0	1923.1	1606.5	605.0	132.6	52.6	44.5	39.5	37.4	36.4	35.4
70°	1777.5	1700.7	1356.6	480.6	129.5	53.6	44.5	37.4	34.4	33.3	33.3
72.5°	1424.5	1336.4	1058.2	362.2	124.4	54.6	43.5	35.4	32.3	30.4	30.4
75°	964.1	887.2	717.3	244.8	103.2	47.6	39.5	32.3	28.3	26.3	25.3
77.5°	537.2	511.9	456.2	129.5	65.8	35.4	30.4	26.3	23.2	22.3	21.3
80°	315.7	302.5	269.1	71.8	40.5	20.3	18.2	17.2	15.1	15.1	15.1
82.5°	193.2	180.0	166.9	32.3	19.2	10.1	10.1	8.1	8.1	7.1	7.1
85°	52.6	48.6	67.8	7.1	2.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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°	2.0	2.0	2.0	2.0	3.1	4.1	5.3	6.6	8.0	9.2	10.2
100°	8.2	8.2	8.2	10.2	14.3	22.5	24.6	26.6	28.6	30.7	31.2
102.5°	28.6	28.6	28.6	32.7	38.9	46.0	47.3	48.6	49.9	51.1	51.4
105°	55.2	55.2	55.2	57.3	62.4	67.5	68.5	69.6	70.6	71.6	71.8
107.5°	79.8	79.6	78.8	81.8	85.9	90.0	90.8	91.6	92.3	93.1	93.6
110°	103.3	103.5	104.3	105.4	108.4	112.5	113.0	113.5	114.1	114.6	115.1



REPORT NUMBER: P228645

CATALOG NUMBER: ISC-AF-450-LED-E1-SLR-ULG

**CANDELA DISTRIBUTION (continued):**

	0°	1°	5°	15°	25°	35°	37.5°	40°	42.5°	45°	47.5°
112.5°	126.8	126.8	126.8	128.9	132.0	135.0	135.5	136.1	136.6	137.1	137.6
115°	149.4	149.6	150.4	152.4	154.5	157.5	158.0	158.6	159.1	159.6	160.1
117.5°	172.9	173.1	173.9	175.9	178.0	181.1	181.6	182.1	182.6	183.1	183.3
120°	197.4	197.8	199.5	200.5	202.5	205.6	205.8	206.1	206.4	206.6	207.1
122.5°	224.0	224.2	225.0	226.1	228.1	231.2	231.4	231.7	232.0	232.2	232.4
125°	249.6	250.0	251.6	252.7	253.7	256.8	257.0	257.3	257.6	257.8	258.0
127.5°	273.1	273.5	275.2	276.2	278.2	280.3	280.8	281.3	281.8	282.3	282.8
130°	296.7	297.1	298.7	299.7	300.7	304.8	305.0	305.4	305.7	305.9	306.4
132.5°	320.2	320.4	321.2	324.3	325.3	328.4	328.6	328.9	329.2	329.4	330.2
135°	343.7	343.9	344.7	346.8	348.8	352.9	352.9	352.9	352.9	352.9	353.7
137.5°	367.2	367.4	368.3	371.3	372.4	375.4	375.4	375.4	375.4	375.4	375.9
140°	390.8	391.0	391.8	393.8	394.9	396.9	397.1	397.4	397.7	397.9	398.1
142.5°	413.3	413.7	415.3	417.4	416.3	419.4	419.4	419.4	419.4	419.4	419.9
145°	434.8	435.0	435.8	437.8	437.8	440.9	441.1	441.4	441.7	441.9	442.4
147.5°	454.2	454.2	454.2	457.3	458.3	462.4	462.6	462.9	463.2	463.4	463.6
150°	471.6	471.8	472.6	474.6	475.7	479.8	480.0	480.3	480.6	480.8	481.0
152.5°	490.0	490.2	491.0	494.1	493.1	496.1	496.3	496.6	496.9	497.2	497.4
155°	510.5	510.7	511.5	513.5	512.5	514.5	514.5	514.5	514.5	514.5	514.7
157.5°	524.8	525.2	526.8	528.9	527.8	530.9	530.9	530.9	530.9	530.9	530.9
160°	537.0	537.5	539.1	541.1	541.1	544.2	544.2	544.2	544.2	544.2	544.2
162.5°	547.3	547.5	548.3	551.4	550.3	553.4	553.4	553.4	553.4	553.4	553.6
165°	558.5	558.7	559.6	561.6	560.6	564.7	564.7	564.7	564.7	564.7	564.9
167.5°	567.7	567.9	568.8	571.8	570.8	573.9	573.7	573.4	573.1	572.9	572.9
170°	574.9	575.1	575.9	579.0	578.0	580.0	579.8	579.5	579.2	579.0	578.8
172.5°	578.0	578.2	579.0	582.1	580.0	582.1	581.9	581.5	581.2	581.0	581.2
175°	580.0	580.4	582.1	583.1	582.1	585.1	585.1	585.1	585.1	585.1	585.3
177.5°	585.1	585.3	586.2	588.2	587.2	591.3	591.1	590.8	590.4	590.2	590.2
180°	589.2	589.2	589.2	589.2	589.2	589.2	589.2	589.2	589.2	589.2	589.2





REPORT NUMBER: P228645

CATALOG NUMBER: ISC-AF-450-LED-E1-SLR-ULG

**CANDELA DISTRIBUTION (continued):**

	50°	52.5°	55°	57.5°	60°	62.5°	65°	67.5°	70°	72.5°	75°
0°	707.2	707.2	707.2	707.2	707.2	707.2	707.2	707.2	707.2	707.2	707.2
2.5°	631.3	629.2	629.2	614.1	614.1	606.0	604.0	604.0	607.0	605.0	592.8
5°	507.9	501.8	497.8	479.6	474.4	465.3	461.4	460.3	463.4	458.3	442.1
7.5°	382.4	377.4	371.3	357.1	351.1	350.1	337.9	334.9	332.9	328.8	318.6
10°	333.9	326.7	321.7	311.6	304.5	299.4	289.3	284.3	280.2	274.2	271.1
12.5°	300.4	293.4	286.3	273.1	264.0	258.0	252.0	241.8	237.7	230.7	226.6
15°	259.0	250.9	242.8	228.6	216.5	210.4	198.2	192.2	188.1	180.0	176.0
17.5°	208.4	197.3	188.1	175.0	169.0	158.9	151.7	141.7	133.5	130.5	127.5
20°	156.8	146.7	138.6	127.5	121.4	113.3	109.3	102.2	98.1	96.2	94.1
22.5°	115.3	107.2	102.2	96.2	93.1	90.0	88.0	86.0	84.0	83.0	83.0
25°	91.0	88.0	86.0	84.0	83.0	81.9	79.9	78.9	77.9	76.9	76.9
27.5°	83.0	80.9	79.9	78.9	77.9	75.9	75.9	73.9	72.8	72.8	71.8
30°	84.0	84.0	84.0	81.9	80.9	78.9	77.9	74.9	72.8	70.8	69.8
32.5°	68.8	68.8	67.8	65.8	64.8	63.7	63.7	61.7	60.7	60.7	62.7
35°	62.7	61.7	60.7	58.7	57.7	55.6	54.6	53.6	52.6	51.6	51.6
37.5°	59.6	58.7	57.7	55.6	54.6	53.6	52.6	50.5	49.6	49.6	48.6
40°	56.7	56.7	56.7	54.6	53.6	51.6	50.5	49.6	48.6	47.6	47.6
42.5°	54.6	54.6	54.6	53.6	52.6	51.6	49.6	48.6	47.6	46.5	45.5
45°	55.6	54.6	54.6	53.6	52.6	50.5	49.6	47.6	46.5	45.5	44.5
47.5°	59.6	58.7	56.7	54.6	52.6	50.5	48.6	46.5	45.5	44.5	43.5
50°	56.7	60.7	61.7	58.7	53.6	50.5	48.6	46.5	44.5	43.5	42.5
52.5°	55.6	56.7	60.7	60.7	55.6	51.6	48.6	46.5	44.5	42.5	41.4
55°	50.5	53.6	54.6	55.6	54.6	50.5	47.6	44.5	43.5	41.4	39.5
57.5°	44.5	46.5	47.6	49.6	50.5	49.6	45.5	42.5	41.4	39.5	37.4
60°	41.4	41.4	41.4	42.5	47.6	51.6	47.6	41.4	38.5	37.4	35.4
62.5°	38.5	38.5	37.4	38.5	39.5	44.5	43.5	39.5	37.4	36.4	34.4
65°	37.4	36.4	35.4	35.4	35.4	35.4	35.4	35.4	34.4	34.4	33.3
67.5°	34.4	33.3	33.3	32.3	32.3	32.3	32.3	32.3	31.4	31.4	30.4
70°	32.3	31.4	30.4	30.4	30.4	29.4	29.4	29.4	28.3	28.3	28.3
72.5°	29.4	28.3	28.3	28.3	27.3	27.3	27.3	26.3	26.3	25.3	25.3
75°	25.3	25.3	24.2	24.2	24.2	23.2	23.2	23.2	23.2	22.3	22.3
77.5°	21.3	20.3	21.3	20.3	20.3	20.3	20.3	20.3	19.2	19.2	18.2
80°	14.1	14.1	15.1	15.1	15.1	15.1	15.1	15.1	15.1	15.1	14.1
82.5°	8.1	7.1	8.1	8.1	8.1	9.1	9.1	10.1	9.1	9.1	8.1
85°	0.0	0.0	0.0	0.0	0.0	1.0	1.0	2.0	2.0	2.0	2.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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°	11.3	12.3	13.3	11.8	10.2	8.7	7.2	6.6	6.1	5.6	5.1
100°	31.7	32.2	32.7	32.2	31.7	31.2	30.7	29.9	29.2	28.4	27.6
102.5°	51.7	52.0	52.2	52.0	51.7	51.4	51.1	50.6	50.1	49.6	49.1
105°	72.1	72.4	72.6	72.6	72.6	72.6	72.6	72.1	71.6	71.1	70.6
107.5°	94.1	94.6	95.1	94.9	94.6	94.3	94.1	93.9	93.6	93.3	93.1
110°	115.6	116.1	116.6	116.6	116.6	116.6	116.6	116.4	116.1	115.8	115.6



REPORT NUMBER: P228645

CATALOG NUMBER: ISC-AF-450-LED-E1-SLR-ULG

**CANDELA DISTRIBUTION (continued):**

	50°	52.5°	55°	57.5°	60°	62.5°	65°	67.5°	70°	72.5°	75°
112.5°	138.1	138.6	139.1	139.1	139.1	139.1	139.1	138.9	138.6	138.3	138.1
115°	160.6	161.1	161.6	161.6	161.6	161.6	161.6	161.6	161.6	161.6	161.6
117.5°	183.6	183.9	184.1	184.3	184.6	184.9	185.2	184.9	184.6	184.3	184.1
120°	207.7	208.2	208.7	208.7	208.7	208.7	208.7	208.7	208.7	208.7	208.7
122.5°	232.7	233.0	233.2	233.2	233.2	233.2	233.2	233.4	233.7	234.1	234.3
125°	258.3	258.6	258.8	259.0	259.3	259.6	259.8	259.8	259.8	259.8	259.8
127.5°	283.4	283.9	284.4	284.2	283.9	283.6	283.4	283.6	283.9	284.2	284.4
130°	306.9	307.4	307.9	307.9	307.9	307.9	307.9	308.1	308.4	308.7	308.9
132.5°	330.9	331.6	332.5	332.5	332.5	332.5	332.5	332.7	333.0	333.3	333.5
135°	354.5	355.2	356.0	356.0	356.0	356.0	356.0	356.2	356.5	356.8	357.0
137.5°	376.4	377.0	377.5	377.5	377.5	377.5	377.5	377.7	378.0	378.3	378.5
140°	398.4	398.7	399.0	399.0	399.0	399.0	399.0	399.5	400.0	400.5	401.0
142.5°	420.4	420.9	421.5	421.5	421.5	421.5	421.5	421.7	422.0	422.3	422.5
145°	442.9	443.4	444.0	443.8	443.4	443.1	442.9	443.1	443.4	443.8	444.0
147.5°	463.9	464.2	464.4	463.9	463.4	462.9	462.4	462.6	462.9	463.2	463.4
150°	481.3	481.6	481.8	481.3	480.8	480.3	479.8	479.8	479.8	479.8	479.8
152.5°	497.7	498.0	498.2	498.0	497.7	497.4	497.2	497.2	497.2	497.2	497.2
155°	515.1	515.4	515.6	515.4	515.1	514.7	514.5	514.7	515.1	515.4	515.6
157.5°	530.9	530.9	530.9	530.4	529.9	529.4	528.9	529.1	529.4	529.7	529.9
160°	544.2	544.2	544.2	543.7	543.2	542.7	542.2	542.2	542.2	542.2	542.2
162.5°	553.9	554.2	554.4	553.9	553.4	552.9	552.4	551.9	551.4	550.9	550.3
165°	565.2	565.5	565.7	564.9	564.2	563.4	562.6	562.1	561.6	561.1	560.6
167.5°	572.9	572.9	572.9	572.3	571.8	571.3	570.8	571.0	571.3	571.6	571.8
170°	578.5	578.2	578.0	577.8	577.5	577.1	576.9	577.5	578.0	578.5	579.0
172.5°	581.5	581.9	582.1	581.5	581.0	580.5	580.0	580.2	580.5	580.8	581.0
175°	585.6	585.9	586.2	585.3	584.6	583.9	583.1	582.6	582.1	581.5	581.0
177.5°	590.2	590.2	590.2	589.4	588.7	588.0	587.2	587.2	587.2	587.2	587.2
180°	589.2	589.2	589.2	589.2	589.2	589.2	589.2	589.2	589.2	589.2	589.2



REPORT NUMBER: P228645

CATALOG NUMBER: ISC-AF-450-LED-E1-SLR-ULG

**CANDELA DISTRIBUTION (continued):**

	77.5°	80°	85°	90°	95°	100°	102.5°	105°	107.5°	110°	112.5°
0°	707.2	707.2	707.2	707.2	707.2	707.2	707.2	707.2	707.2	707.2	707.2
2.5°	598.9	597.9	587.8	589.8	586.8	580.7	581.8	582.8	584.7	580.7	578.7
5°	450.2	451.2	438.0	442.1	439.1	438.0	441.1	446.1	449.2	448.2	445.2
7.5°	319.7	320.7	309.5	308.5	305.6	304.5	308.5	313.6	316.6	315.7	316.6
10°	264.0	261.1	250.9	243.8	236.7	230.7	229.7	229.7	229.7	227.6	225.6
12.5°	218.5	215.5	203.4	197.3	191.2	183.1	182.1	181.1	178.1	175.0	170.9
15°	169.9	166.9	156.8	152.7	147.7	144.6	143.6	143.6	141.7	139.6	137.6
17.5°	123.5	121.4	115.3	111.3	110.3	111.3	112.3	114.4	115.3	116.3	116.3
20°	93.1	92.1	90.0	90.0	91.0	94.1	95.1	98.1	99.1	101.2	103.2
22.5°	81.9	81.9	80.9	80.9	83.0	86.0	88.0	89.0	90.0	91.0	91.0
25°	75.9	75.9	74.9	76.9	79.9	79.9	79.9	79.9	77.9	76.9	76.9
27.5°	71.8	71.8	71.8	72.8	71.8	70.8	70.8	70.8	69.8	69.8	68.8
30°	68.8	68.8	68.8	67.8	67.8	66.8	66.8	65.8	65.8	64.8	64.8
32.5°	63.7	61.7	63.7	61.7	61.7	60.7	61.7	61.7	59.6	59.6	59.6
35°	50.5	49.6	49.6	49.6	48.6	49.6	51.6	51.6	51.6	51.6	51.6
37.5°	47.6	47.6	46.5	45.5	45.5	44.5	45.5	44.5	44.5	44.5	45.5
40°	46.5	45.5	44.5	44.5	43.5	42.5	42.5	42.5	42.5	42.5	42.5
42.5°	44.5	44.5	42.5	41.4	41.4	40.5	40.5	40.5	40.5	40.5	40.5
45°	43.5	42.5	41.4	40.5	39.5	39.5	39.5	39.5	39.5	39.5	38.5
47.5°	42.5	41.4	40.5	39.5	38.5	37.4	37.4	37.4	37.4	37.4	37.4
50°	41.4	40.5	38.5	38.5	37.4	36.4	36.4	36.4	36.4	36.4	36.4
52.5°	39.5	39.5	37.4	36.4	35.4	35.4	35.4	35.4	35.4	35.4	35.4
55°	37.4	37.4	35.4	34.4	33.3	33.3	33.3	33.3	34.4	34.4	34.4
57.5°	36.4	35.4	33.3	33.3	31.4	31.4	31.4	32.3	32.3	33.3	33.3
60°	34.4	33.3	32.3	31.4	31.4	30.4	30.4	30.4	30.4	31.4	31.4
62.5°	33.3	32.3	30.4	29.4	29.4	29.4	29.4	29.4	29.4	29.4	29.4
65°	31.4	31.4	29.4	28.3	28.3	28.3	28.3	28.3	28.3	28.3	28.3
67.5°	29.4	29.4	27.3	26.3	26.3	26.3	27.3	26.3	26.3	26.3	26.3
70°	27.3	26.3	25.3	24.2	24.2	24.2	24.2	24.2	24.2	24.2	24.2
72.5°	24.2	24.2	23.2	22.3	22.3	22.3	22.3	22.3	22.3	22.3	23.2
75°	21.3	20.3	19.2	19.2	19.2	19.2	19.2	19.2	19.2	19.2	19.2
77.5°	18.2	16.2	16.2	16.2	16.2	16.2	16.2	16.2	16.2	16.2	17.2
80°	13.2	12.2	12.2	12.2	12.2	13.2	13.2	13.2	13.2	13.2	13.2
82.5°	8.1	7.1	7.1	7.1	8.1	9.1	9.1	9.1	9.1	10.1	10.1
85°	2.0	2.0	2.0	2.0	4.1	5.0	5.0	5.0	6.0	5.0	5.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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°	4.9	4.6	4.1	4.1	4.1	4.6	4.9	5.1	5.6	6.1	6.6
100°	27.4	27.1	26.6	25.6	26.6	27.1	27.4	27.6	28.4	29.2	29.9
102.5°	49.3	49.6	50.1	49.1	50.1	49.6	49.3	49.1	49.6	50.1	50.6
105°	71.1	71.6	72.6	70.6	72.6	71.6	71.1	70.6	71.1	71.6	72.1
107.5°	93.3	93.6	94.1	93.1	94.1	93.6	93.3	93.1	93.3	93.6	93.9
110°	115.8	116.1	116.6	115.6	116.6	116.1	115.8	115.6	115.8	116.1	116.4



REPORT NUMBER: P228645  
 CATALOG NUMBER: ISC-AF-450-LED-E1-SLR-ULG

REPORT N  
 CATALOG

**CANDELA DISTRIBUTION (continued):**

**CANDELA**

	77.5°	80°	85°	90°	95°	100°	102.5°	105°	107.5°	110°	112.5°	
112.5°	138.6	139.1	140.1	138.1	140.1	139.1	138.6	138.1	138.3	138.6	138.9	0°
115°	162.1	162.6	163.7	162.6	163.7	162.6	162.1	161.6	161.6	161.6	161.6	2.5°
117.5°	184.6	185.2	186.2	184.1	186.2	185.2	184.6	184.1	184.3	184.6	184.9	5°
120°	209.2	209.7	210.7	208.7	210.7	209.7	209.2	208.7	208.7	208.7	208.7	7.5°
122.5°	235.3	236.3	238.3	237.3	238.3	236.3	235.3	234.3	234.1	233.7	233.4	10°
125°	260.6	261.4	262.9	261.9	262.9	261.4	260.6	259.8	259.8	259.8	259.8	12.5°
127.5°	285.2	285.9	287.4	284.4	287.4	285.9	285.2	284.4	284.2	283.9	283.6	15°
130°	309.7	310.5	312.0	310.0	312.0	310.5	309.7	308.9	308.7	308.4	308.1	17.5°
132.5°	334.3	335.0	336.6	334.5	336.6	335.0	334.3	333.5	333.3	333.0	332.7	20°
135°	357.5	358.0	359.1	358.0	359.1	358.0	357.5	357.0	356.8	356.5	356.2	22.5°
137.5°	379.5	380.5	382.6	380.5	382.6	380.5	379.5	378.5	378.3	378.0	377.7	25°
140°	402.0	403.0	405.1	403.0	405.1	403.0	402.0	401.0	400.5	400.0	399.5	27.5°
142.5°	423.3	424.0	425.5	424.5	425.5	424.0	423.3	422.5	422.3	422.0	421.7	30°
145°	444.8	445.5	447.0	445.0	447.0	445.5	444.8	444.0	443.8	443.4	443.1	32.5°
147.5°	464.2	464.9	466.5	463.4	466.5	464.9	464.2	463.4	463.2	462.9	462.6	35°
150°	480.8	481.8	483.9	480.8	483.9	481.8	480.8	479.8	479.8	479.8	479.8	37.5°
152.5°	498.0	498.7	500.2	497.2	500.2	498.7	498.0	497.2	497.2	497.2	497.2	40°
155°	516.4	517.1	518.6	516.6	518.6	517.1	516.4	515.6	515.4	515.1	514.7	42.5°
157.5°	531.1	532.4	535.0	531.9	535.0	532.4	531.1	529.9	529.7	529.4	529.1	45°
160°	543.0	543.7	545.2	543.2	545.2	543.7	543.0	542.2	542.2	542.2	542.2	47.5°
162.5°	550.9	551.4	552.4	549.3	552.4	551.4	550.9	550.3	550.9	551.4	551.9	50°
165°	561.1	561.6	562.6	560.6	562.6	561.6	561.1	560.6	561.1	561.6	562.1	52.5°
167.5°	572.9	573.9	575.9	573.9	575.9	573.9	572.9	571.8	571.6	571.3	571.0	55°
170°	580.2	581.5	584.1	582.1	584.1	581.5	580.2	579.0	578.5	578.0	577.5	57.5°
172.5°	581.9	582.6	584.1	581.0	584.1	582.6	581.9	581.0	580.8	580.5	580.2	60°
175°	581.9	582.6	584.1	581.0	584.1	582.6	581.9	581.0	581.5	582.1	582.6	62.5°
177.5°	588.0	588.7	590.2	587.2	590.2	588.7	588.0	587.2	587.2	587.2	587.2	65°
180°	589.2	589.2	589.2	589.2	589.2	589.2	589.2	589.2	589.2	589.2	589.2	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°

NUMBER: P228645  
 NUMBER: ISC-AF-450-LED-E1-SLR-ULG

REPORT NUMBER: P  
 CATALOG NUMBER:

**DISTRIBUTION (continued):**

**CANDELA DISTRIBUTION**

115°	117.5°	120°	122.5°	125°	127.5°	130°	135°	145°	155°	165°	115°	115°
707.2	707.2	707.2	707.2	707.2	707.2	707.2	707.2	707.2	707.2	707.2	112.5°	139.1
576.6	588.8	588.8	580.7	584.7	580.7	579.7	586.8	590.9	604.0	612.0	115°	161.6
446.1	461.4	462.4	458.3	463.4	460.3	463.4	472.5	479.6	488.7	496.7	117.5°	185.2
318.6	332.9	335.8	332.9	342.0	340.9	343.0	353.1	359.2	364.2	365.2	120°	208.7
224.6	226.6	234.7	232.7	238.8	237.7	240.8	248.9	257.0	260.0	262.0	122.5°	233.2
169.0	166.9	169.9	165.9	169.0	169.0	169.9	175.0	185.2	189.1	199.3	125°	259.8
136.6	134.5	134.5	132.6	132.6	131.6	132.6	136.6	143.6	149.8	157.8	127.5°	283.4
116.3	116.3	116.3	115.3	114.4	114.4	115.3	117.3	121.4	125.4	129.5	130°	307.9
104.2	106.2	107.2	108.2	109.3	110.3	111.3	114.4	113.3	109.3	104.2	132.5°	332.5
91.0	91.0	92.1	92.1	91.0	91.0	91.0	91.0	91.0	94.1	97.1	135°	356.0
75.9	75.9	75.9	76.9	75.9	75.9	76.9	76.9	77.9	79.9	83.0	137.5°	377.5
68.8	68.8	68.8	68.8	68.8	68.8	68.8	69.8	70.8	73.9	75.9	140°	399.0
63.7	63.7	62.7	62.7	62.7	61.7	62.7	62.7	63.7	67.8	70.8	142.5°	421.5
58.7	57.7	57.7	57.7	56.7	56.7	56.7	58.7	59.6	61.7	64.8	145°	442.9
51.6	51.6	51.6	52.6	52.6	52.6	52.6	54.6	54.6	55.6	55.6	147.5°	462.4
46.5	46.5	47.6	48.6	48.6	49.6	49.6	50.5	51.6	50.5	49.6	150°	479.8
42.5	43.5	43.5	45.5	45.5	45.5	46.5	47.6	48.6	46.5	46.5	152.5°	497.2
40.5	40.5	40.5	41.4	41.4	41.4	42.5	43.5	44.5	44.5	44.5	155°	514.5
38.5	38.5	38.5	39.5	38.5	38.5	38.5	39.5	41.4	41.4	42.5	157.5°	528.9
37.4	37.4	37.4	36.4	36.4	36.4	36.4	37.4	38.5	40.5	41.4	160°	542.2
36.4	35.4	35.4	35.4	35.4	35.4	35.4	36.4	37.4	38.5	40.5	162.5°	552.4
34.4	34.4	34.4	34.4	34.4	34.4	34.4	35.4	36.4	37.4	38.5	165°	562.6
34.4	34.4	33.3	33.3	34.4	34.4	34.4	35.4	36.4	37.4	37.4	167.5°	570.8
33.3	32.3	32.3	33.3	33.3	33.3	33.3	34.4	35.4	36.4	36.4	170°	576.9
31.4	31.4	31.4	31.4	32.3	32.3	33.3	34.4	34.4	35.4	35.4	172.5°	580.0
29.4	30.4	30.4	30.4	31.4	31.4	32.3	33.3	34.4	35.4	34.4	175°	583.1
28.3	29.4	29.4	29.4	30.4	30.4	30.4	32.3	33.3	33.3	34.4	177.5°	587.2
27.3	27.3	27.3	28.3	28.3	29.4	29.4	31.4	31.4	32.3	33.3	180°	589.2
25.3	25.3	25.3	26.3	26.3	27.3	28.3	29.4	29.4	30.4	31.4		
23.2	23.2	23.2	24.2	24.2	25.3	26.3	28.3	27.3	28.3	28.3		
20.3	20.3	21.3	21.3	22.3	23.2	24.2	24.2	24.2	24.2	24.2		
17.2	17.2	18.2	18.2	19.2	20.3	20.3	20.3	21.3	20.3	20.3		
14.1	14.1	15.1	15.1	15.1	15.1	16.2	15.1	16.2	15.1	16.2		
10.1	10.1	11.2	10.1	11.2	10.1	10.1	9.1	11.2	10.1	10.1		
4.1	5.0	5.0	5.0	5.0	4.1	4.1	3.1	4.1	4.1	3.1		
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	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		
7.2	8.7	10.2	11.8	13.3	12.3	11.3	9.2	4.1	3.1	2.0		
30.7	31.2	31.7	32.2	32.7	32.2	31.7	30.7	22.5	14.3	10.2		
51.1	51.4	51.7	52.0	52.2	52.0	51.7	51.1	46.0	38.9	32.7		
72.6	72.6	72.6	72.6	72.6	72.4	72.1	71.6	67.5	62.4	57.3		
94.1	94.3	94.6	94.9	95.1	94.6	94.1	93.1	90.0	85.9	81.8		
116.6	116.6	116.6	116.6	116.6	116.1	115.6	114.6	112.5	108.4	105.4		

'228645  
 ISC-AF-450-LED-E1-SLR-ULG

REPORT NUMBER: P228645  
 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°
139.1	139.1	139.1	139.1	138.6	138.1	137.1	135.0	132.0	128.9	0°	707.2	707.2
161.6	161.6	161.6	161.6	161.1	160.6	159.6	157.5	154.5	152.4	2.5°	615.1	614.1
184.9	184.6	184.3	184.1	183.9	183.6	183.1	181.1	178.0	175.9	5°	497.8	495.7
208.7	208.7	208.7	208.7	208.2	207.7	206.6	205.6	202.5	200.5	7.5°	356.1	352.1
233.2	233.2	233.2	233.2	233.0	232.7	232.2	231.2	228.1	226.1	10°	263.0	266.1
259.6	259.3	259.0	258.8	258.6	258.3	257.8	256.8	253.7	252.7	12.5°	210.4	222.6
283.6	283.9	284.2	284.4	283.9	283.4	282.3	280.3	278.2	276.2	15°	169.0	176.0
307.9	307.9	307.9	307.9	307.4	306.9	305.9	304.8	300.7	299.7	17.5°	130.5	133.5
332.5	332.5	332.5	332.5	331.6	330.9	329.4	328.4	325.3	324.3	20°	104.2	104.2
356.0	356.0	356.0	356.0	355.2	354.5	352.9	352.9	348.8	346.8	22.5°	91.0	90.0
377.5	377.5	377.5	377.5	377.0	376.4	375.4	375.4	372.4	371.3	25°	86.0	85.0
399.0	399.0	399.0	399.0	398.7	398.4	397.9	396.9	394.9	393.8	27.5°	77.9	78.9
421.5	421.5	421.5	421.5	420.9	420.4	419.4	419.4	416.3	417.4	30°	72.8	73.9
443.1	443.4	443.8	444.0	443.4	442.9	441.9	440.9	437.8	437.8	32.5°	66.8	67.8
462.9	463.4	463.9	464.4	464.2	463.9	463.4	462.4	458.3	457.3	35°	54.6	54.6
480.3	480.8	481.3	481.8	481.6	481.3	480.8	479.8	475.7	474.6	37.5°	50.5	50.5
497.4	497.7	498.0	498.2	498.0	497.7	497.2	496.1	493.1	494.1	40°	47.6	48.6
514.7	515.1	515.4	515.6	515.4	515.1	514.5	514.5	512.5	513.5	42.5°	45.5	45.5
529.4	529.9	530.4	530.9	530.9	530.9	530.9	530.9	527.8	528.9	45°	43.5	44.5
542.7	543.2	543.7	544.2	544.2	544.2	544.2	544.2	541.1	541.1	47.5°	42.5	42.5
552.9	553.4	553.9	554.4	554.2	553.9	553.4	553.4	550.3	551.4	50°	40.5	41.4
563.4	564.2	564.9	565.7	565.5	565.2	564.7	564.7	560.6	561.6	52.5°	39.5	40.5
571.3	571.8	572.3	572.9	572.9	572.9	572.9	573.9	570.8	571.8	55°	38.5	38.5
577.1	577.5	577.8	578.0	578.2	578.5	579.0	580.0	578.0	579.0	57.5°	36.4	37.4
580.5	581.0	581.5	582.1	581.9	581.5	581.0	582.1	580.0	582.1	60°	36.4	36.4
583.9	584.6	585.3	586.2	585.9	585.6	585.1	585.1	582.1	583.1	62.5°	35.4	35.4
588.0	588.7	589.4	590.2	590.2	590.2	590.2	591.3	587.2	588.2	65°	34.4	34.4
589.2	589.2	589.2	589.2	589.2	589.2	589.2	589.2	589.2	589.2	67.5°	32.3	32.3
										70°	30.4	30.4
										72.5°	28.3	27.3
										75°	24.2	24.2
										77.5°	20.3	20.3
										80°	15.1	14.1
										82.5°	9.1	8.1
										85°	3.1	3.1
										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°	8.2	8.2
										102.5°	28.6	28.6
										105°	55.2	55.2
										107.5°	78.8	79.8
										110°	104.3	103.3



REPORT NUMBER: P228645

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

O-LED-E1-SLR-ULG

**tinued):**

**CANDELA DISTRIBUTION (continued):**

185°	195°	205°	215°	225°	230°	235°	240°	245°		175°	180°	185°
707.2	707.2	707.2	707.2	707.2	707.2	707.2	707.2	707.2	112.5°	126.8	126.8	126.8
629.2	640.4	647.4	674.7	686.9	702.2	709.2	719.3	729.5	115°	150.4	149.4	150.4
513.9	528.0	540.2	579.7	602.9	624.2	641.4	657.6	680.9	117.5°	173.9	172.9	173.9
364.2	376.3	392.5	435.1	475.5	503.8	529.1	556.4	586.8	120°	199.5	197.4	199.5
278.2	296.5	317.6	350.1	382.4	402.6	424.9	455.2	491.6	122.5°	225.0	224.0	225.0
232.7	254.9	280.2	316.6	351.1	367.2	383.4	398.6	417.8	125°	251.6	249.6	251.6
184.1	205.4	235.7	278.2	318.6	336.9	356.1	374.3	391.5	127.5°	275.2	273.1	275.2
137.6	152.7	180.0	230.7	275.2	298.4	320.7	346.0	369.3	130°	298.7	296.7	298.7
105.3	112.3	131.6	170.9	225.6	254.9	283.3	315.7	349.0	132.5°	321.2	320.2	321.2
91.0	94.1	103.2	126.4	176.0	210.4	246.8	287.3	328.8	135°	344.7	343.7	344.7
84.0	86.0	91.0	102.2	137.6	174.0	211.4	260.0	310.6	137.5°	368.3	367.2	368.3
79.9	81.9	86.0	92.1	114.4	141.7	183.1	236.7	297.5	140°	391.8	390.8	391.8
74.9	76.9	84.0	91.0	104.2	121.4	156.8	209.4	277.2	142.5°	415.3	413.3	415.3
68.8	69.8	71.8	79.9	89.0	103.2	133.5	185.2	255.9	145°	435.8	434.8	435.8
55.6	58.7	62.7	70.8	79.9	91.0	119.4	169.0	242.8	147.5°	454.2	454.2	454.2
51.6	54.6	58.7	65.8	73.9	84.0	113.3	162.9	230.7	150°	472.6	471.6	472.6
48.6	51.6	55.6	63.7	68.8	80.9	110.3	153.7	218.5	152.5°	491.0	490.0	491.0
46.5	49.6	54.6	60.7	67.8	78.9	102.2	145.7	211.4	155°	511.5	510.5	511.5
44.5	47.6	53.6	58.7	68.8	74.9	97.1	139.6	205.4	157.5°	526.8	524.8	526.8
43.5	46.5	52.6	59.6	66.8	70.8	92.1	134.5	200.3	160°	539.1	537.0	539.1
42.5	45.5	51.6	65.8	63.7	67.8	88.0	130.5	197.3	162.5°	548.3	547.3	548.3
41.4	44.5	51.6	66.8	61.7	63.7	85.0	126.4	195.3	165°	559.6	558.5	559.6
39.5	43.5	51.6	61.7	57.7	61.7	78.9	120.4	190.2	167.5°	568.8	567.7	568.8
38.5	41.4	50.5	56.7	54.6	58.7	72.8	110.3	183.1	170°	575.9	574.9	575.9
37.4	40.5	50.5	50.5	51.6	55.6	65.8	98.1	170.9	172.5°	579.0	578.0	579.0
36.4	40.5	51.6	45.5	48.6	52.6	60.7	88.0	155.8	175°	582.1	580.0	582.1
35.4	38.5	44.5	43.5	46.5	49.6	58.7	80.9	142.6	177.5°	586.2	585.1	586.2
33.3	36.4	39.5	40.5	44.5	47.6	57.7	79.9	130.5	180°	589.2	589.2	589.2
30.4	33.3	35.4	38.5	41.4	45.5	57.7	78.9	121.4				
28.3	30.4	32.3	34.4	37.4	42.5	56.7	79.9	117.3				
24.2	26.3	28.3	30.4	33.3	39.5	53.6	74.9	105.3				
19.2	22.3	24.2	25.3	28.3	34.4	46.5	63.7	85.0				
14.1	17.2	18.2	20.3	22.3	26.3	36.4	46.5	62.7				
8.1	11.2	12.2	13.2	17.2	19.2	24.2	30.4	42.5				
3.1	5.0	6.0	7.1	10.1	11.2	15.1	19.2	22.3				
0.0	0.0	0.0	0.0	2.0	3.1	5.0	6.0	5.0				
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				
2.0	2.0	3.1	4.1	9.2	11.3	13.3	10.2	7.2				
8.2	10.2	14.3	22.5	30.7	31.7	32.7	31.7	30.7				
28.6	32.7	38.9	46.0	51.1	51.7	52.2	51.7	51.1				
55.2	57.3	62.4	67.5	71.6	72.1	72.6	72.6	72.6				
78.8	81.8	85.9	90.0	93.1	94.1	95.1	94.6	94.1				
104.3	105.4	108.4	112.5	114.6	115.6	116.6	116.6	116.6				



REPORT NUMBER: P228645

CATALOG NUMBER: ISC-AF-450-LED-E1-SLR-ULG

SLR-ULG

**CANDELA DISTRIBUTION (continued):**

195°	205°	215°	225°	230°	235°	240°	245°		250°	255°	260°	265°
128.9	132.0	135.0	137.1	138.1	139.1	139.1	139.1	0°	707.2	707.2	707.2	707.2
152.4	154.5	157.5	159.6	160.6	161.6	161.6	161.6	2.5°	741.5	751.7	764.9	776.9
175.9	178.0	181.1	183.1	183.6	184.1	184.6	185.2	5°	699.1	718.3	746.7	769.9
200.5	202.5	205.6	206.6	207.7	208.7	208.7	208.7	7.5°	613.1	639.3	674.7	707.2
226.1	228.1	231.2	232.2	232.7	233.2	233.2	233.2	10°	523.0	559.5	596.9	638.3
252.7	253.7	256.8	257.8	258.3	258.8	259.3	259.8	12.5°	449.2	490.7	533.2	584.7
276.2	278.2	280.3	282.3	283.4	284.4	283.9	283.4	15°	417.8	454.3	503.8	560.5
299.7	300.7	304.8	305.9	306.9	307.9	307.9	307.9	17.5°	404.7	451.2	507.9	567.5
324.3	325.3	328.4	329.4	330.9	332.5	332.5	332.5	20°	390.5	454.3	530.1	602.9
346.8	348.8	352.9	352.9	354.5	356.0	356.0	356.0	22.5°	382.4	464.3	558.4	660.6
371.3	372.4	375.4	375.4	376.4	377.5	377.5	377.5	25°	380.4	487.6	607.0	742.6
393.8	394.9	396.9	397.9	398.4	399.0	399.0	399.0	27.5°	382.4	513.9	667.7	830.6
417.4	416.3	419.4	419.4	420.4	421.5	421.5	421.5	30°	373.3	541.2	728.4	907.5
437.8	437.8	440.9	441.9	442.9	444.0	443.4	442.9	32.5°	358.1	561.5	782.0	969.1
457.3	458.3	462.4	463.4	463.9	464.4	463.4	462.4	35°	340.9	570.6	820.5	1026.8
474.6	475.7	479.8	480.8	481.3	481.8	480.8	479.8	37.5°	322.7	571.6	856.9	1087.6
494.1	493.1	496.1	497.2	497.7	498.2	497.7	497.2	40°	312.6	567.5	894.4	1162.4
513.5	512.5	514.5	514.5	515.1	515.6	515.1	514.5	42.5°	308.5	560.5	921.7	1219.1
528.9	527.8	530.9	530.9	530.9	530.9	529.9	528.9	45°	308.5	553.4	946.9	1261.6
541.1	541.1	544.2	544.2	544.2	544.2	543.2	542.2	47.5°	309.5	556.4	977.3	1330.3
551.4	550.3	553.4	553.4	553.9	554.4	553.4	552.4	50°	314.7	590.9	1028.9	1406.3
561.6	560.6	564.7	564.7	565.2	565.7	564.2	562.6	52.5°	322.7	645.5	1117.9	1496.3
571.8	570.8	573.9	572.9	572.9	572.9	571.8	570.8	55°	330.8	701.1	1234.3	1647.1
579.0	578.0	580.0	579.0	578.5	578.0	577.5	576.9	57.5°	337.9	742.6	1347.5	1796.7
582.1	580.0	582.1	581.0	581.5	582.1	581.0	580.0	60°	344.9	775.0	1413.3	1863.5
583.1	582.1	585.1	585.1	585.6	586.2	584.6	583.1	62.5°	340.9	762.8	1431.5	1830.2
588.2	587.2	591.3	590.2	590.2	590.2	588.7	587.2	65°	325.8	699.1	1373.8	1714.8
589.2	589.2	589.2	589.2	589.2	589.2	589.2	589.2	67.5°	284.3	587.8	1196.9	1532.7
								70°	235.7	461.4	976.3	1305.1
								72.5°	198.2	344.9	750.6	1010.7
								75°	164.9	243.8	528.0	696.0
								77.5°	122.4	165.9	382.4	486.6
								80°	81.9	102.2	243.8	339.9
								82.5°	49.6	59.6	140.7	237.7
								85°	27.3	37.4	86.0	155.8
								87.5°	7.1	8.1	19.2	7.1
								90°	0.0	0.0	0.0	0.0
								92.5°	0.0	0.0	0.0	0.0
								95°	1.0	1.0	1.0	1.0
								97.5°	6.1	5.1	4.6	4.1
								100°	29.2	27.6	27.1	26.6
								102.5°	50.1	49.1	49.6	50.1
								105°	71.6	70.6	71.6	72.6
								107.5°	93.6	93.1	93.6	94.1
								110°	116.1	115.6	116.1	116.6





REPORT NUMBER: P228645

CATALOG NUMBER: ISC-AF-450-LED-E1-SLR-ULG

**CANDELA DISTRIBUTION (continued):**

270°	275°	280°	285°	290°	295°	300°		250°	255°	260°	265°	270°
707.2	707.2	707.2	707.2	707.2	707.2	707.2	112.5°	138.6	138.1	139.1	140.1	138.1
786.0	794.1	804.2	804.2	816.4	820.5	828.6	115°	161.6	161.6	162.6	163.7	162.6
798.2	825.5	850.8	865.0	889.3	905.4	921.7	117.5°	184.6	184.1	185.2	186.2	184.1
748.6	793.2	834.6	873.1	913.5	948.0	973.2	120°	208.7	208.7	209.7	210.7	208.7
682.9	730.4	781.0	832.6	881.2	929.8	971.2	122.5°	233.7	234.3	236.3	238.3	237.3
636.4	686.9	746.7	791.2	841.7	890.3	930.8	125°	259.8	259.8	261.4	262.9	261.9
615.1	666.7	722.3	767.8	815.4	854.9	883.2	127.5°	283.9	284.4	285.9	287.4	284.4
626.3	689.0	738.6	776.9	812.3	830.6	834.6	130°	308.4	308.9	310.5	312.0	310.0
674.7	740.5	776.9	802.3	808.3	807.3	792.2	132.5°	333.0	333.5	335.0	336.6	334.5
750.6	827.6	852.8	847.8	822.5	790.1	764.9	135°	356.5	357.0	358.0	359.1	358.0
852.8	929.8	943.9	915.5	858.9	796.2	753.7	137.5°	378.0	378.5	380.5	382.6	380.5
960.0	1039.0	1033.9	991.4	910.5	822.5	754.7	140°	400.0	401.0	403.0	405.1	403.0
1035.9	1101.7	1081.5	1017.7	927.7	839.7	767.8	142.5°	422.0	422.5	424.0	425.5	424.5
1114.9	1164.4	1128.0	1059.3	966.2	876.2	802.3	145°	443.4	444.0	445.5	447.0	445.0
1199.8	1226.1	1167.5	1097.6	1012.7	921.7	841.7	147.5°	462.9	463.4	464.9	466.5	463.4
1281.8	1292.9	1207.9	1133.1	1050.2	968.2	895.3	150°	479.8	479.8	481.8	483.9	480.8
1369.8	1354.6	1250.5	1162.4	1080.4	1017.7	958.1	152.5°	497.2	497.2	498.7	500.2	497.2
1445.6	1412.3	1289.8	1191.7	1117.9	1065.3	1023.8	155°	515.1	515.6	517.1	518.6	516.6
1502.3	1458.8	1327.3	1220.1	1154.3	1122.0	1101.7	157.5°	529.4	529.9	532.4	535.0	531.9
1550.9	1503.3	1356.6	1261.6	1204.9	1192.8	1199.8	160°	542.2	542.2	543.7	545.2	543.2
1611.6	1550.9	1396.1	1308.0	1273.7	1285.8	1326.3	162.5°	551.4	550.3	551.4	552.4	549.3
1705.7	1626.8	1461.9	1374.8	1358.7	1402.2	1479.1	165°	561.6	560.6	561.6	562.6	560.6
1857.5	1764.4	1578.2	1491.3	1472.0	1538.7	1649.0	167.5°	571.3	571.8	573.9	575.9	573.9
1988.9	1918.1	1732.0	1626.8	1618.7	1690.5	1810.9	170°	578.0	579.0	581.5	584.1	582.1
2048.7	2041.6	1890.8	1793.7	1781.6	1848.4	1962.6	172.5°	580.5	581.0	582.6	584.1	581.0
2043.5	2102.3	2020.3	1951.5	1910.1	1965.7	2077.0	175°	582.1	581.0	582.6	584.1	581.0
1969.7	2065.8	2072.9	2056.7	1981.9	1986.0	2064.8	177.5°	587.2	587.2	588.7	590.2	587.2
1825.0	1939.4	2058.8	2053.7	1958.6	1874.7	1890.8	180°	589.2	589.2	589.2	589.2	589.2
1619.7	1717.8	1908.0	1946.5	1810.9	1654.1	1580.3						
1298.0	1412.3	1694.5	1748.2	1563.1	1342.5	1228.2						
895.3	1046.1	1479.1	1484.1	1268.7	1056.2	932.7						
615.1	744.6	1195.8	1208.9	1006.6	801.3	695.0						
413.8	498.8	877.1	821.4	664.7	555.4	528.0						
261.1	310.6	551.4	515.0	438.0	400.6	410.7						
121.4	169.9	301.5	294.4	276.2	241.8	210.4						
3.1	9.1	58.7	38.5	38.5	22.3	8.1						
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						
4.1	4.1	4.6	5.1	6.1	7.2	10.2						
25.6	26.6	27.1	27.6	29.2	30.7	31.7						
49.1	50.1	49.6	49.1	50.1	51.1	51.7						
70.6	72.6	71.6	70.6	71.6	72.6	72.6						
93.1	94.1	93.6	93.1	93.6	94.1	94.6						
115.6	116.6	116.1	115.6	116.1	116.6	116.6						



REPORT NUMBER: P228645

CATALOG NUMBER: ISC-AF-450-LED-E1-SLR-ULG

**CANDELA DISTRIBUTION (continued):**

275°	280°	285°	290°	295°	300°		305°	310°	315°	325°	335°	340°
140.1	139.1	138.1	138.6	139.1	139.1	0°	707.2	707.2	707.2	707.2	707.2	707.2
163.7	162.6	161.6	161.6	161.6	161.6	2.5°	821.4	824.5	823.5	816.4	798.2	791.2
186.2	185.2	184.1	184.6	185.2	184.6	5°	920.7	925.7	919.6	902.4	855.9	833.6
210.7	209.7	208.7	208.7	208.7	208.7	7.5°	990.4	994.5	984.4	944.9	861.9	824.5
238.3	236.3	234.3	233.7	233.2	233.2	10°	1003.6	1012.7	1001.6	944.9	848.8	802.3
262.9	261.4	259.8	259.8	259.8	259.3	12.5°	966.2	985.4	977.3	935.8	842.7	793.2
287.4	285.9	284.4	283.9	283.4	283.9	15°	908.5	910.5	915.5	914.5	831.6	783.1
312.0	310.5	308.9	308.4	307.9	307.9	17.5°	844.8	842.7	848.8	868.0	828.6	790.1
336.6	335.0	333.5	333.0	332.5	332.5	20°	787.1	784.1	790.1	809.4	816.4	807.3
359.1	358.0	357.0	356.5	356.0	356.0	22.5°	750.6	740.5	739.5	767.8	822.5	846.8
382.6	380.5	378.5	378.0	377.5	377.5	25°	730.4	719.3	724.4	756.8	847.8	893.3
405.1	403.0	401.0	400.0	399.0	399.0	27.5°	724.4	712.2	719.3	755.8	874.1	949.9
425.5	424.0	422.5	422.0	421.5	421.5	30°	728.4	716.3	719.3	762.8	887.2	963.1
447.0	445.5	444.0	443.4	442.9	443.4	32.5°	751.7	730.4	728.4	784.1	911.6	992.5
466.5	464.9	463.4	462.9	462.4	463.4	35°	783.1	752.7	748.6	818.5	942.9	1029.9
483.9	481.8	479.8	479.8	479.8	480.8	37.5°	835.6	798.2	792.2	876.2	985.4	1061.2
500.2	498.7	497.2	497.2	497.2	497.7	40°	906.4	869.0	869.0	949.9	1043.0	1104.8
518.6	517.1	515.6	515.1	514.5	515.1	42.5°	986.4	962.1	966.2	1039.0	1108.8	1159.4
535.0	532.4	529.9	529.4	528.9	529.9	45°	1092.6	1079.4	1099.7	1151.3	1175.6	1209.9
545.2	543.7	542.2	542.2	542.2	543.2	47.5°	1217.0	1228.2	1256.5	1272.7	1243.4	1261.6
552.4	551.4	550.3	551.4	552.4	553.4	50°	1372.8	1402.2	1429.5	1425.5	1327.3	1321.2
562.6	561.6	560.6	561.6	562.6	564.2	52.5°	1551.9	1590.4	1609.6	1587.3	1421.4	1386.0
575.9	573.9	571.8	571.3	570.8	571.8	55°	1734.0	1780.5	1774.5	1749.1	1523.6	1476.0
584.1	581.5	579.0	578.0	576.9	577.5	57.5°	1898.9	1935.3	1951.5	1896.9	1648.0	1585.3
584.1	582.6	581.0	580.5	580.0	581.0	60°	2029.4	2068.9	2068.9	2015.2	1783.6	1710.8
584.1	582.6	581.0	582.1	583.1	584.6	62.5°	2124.6	2155.9	2144.7	2093.2	1899.9	1844.3
590.2	588.7	587.2	587.2	587.2	588.7	65°	2117.4	2120.5	2108.3	2089.1	1969.7	1963.7
589.2	589.2	589.2	589.2	589.2	589.2	67.5°	1918.1	1919.2	1943.4	1935.3	1917.1	1992.0
						70°	1572.2	1588.3	1629.8	1617.7	1710.8	1864.5
						72.5°	1196.9	1207.0	1256.5	1245.3	1371.9	1540.8
						75°	871.0	870.0	891.3	875.1	1034.9	1223.1
						77.5°	670.7	652.5	648.4	650.5	733.5	889.3
						80°	541.2	541.2	535.2	512.9	449.2	520.0
						82.5°	432.0	414.8	384.4	340.9	288.4	307.5
						85°	215.5	209.4	183.1	151.7	126.4	168.0
						87.5°	1.0	0.0	0.0	0.0	0.0	0.0
						90°	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
						95°	1.0	1.0	1.0	1.0	1.0	1.0
						97.5°	13.3	11.3	9.2	4.1	3.1	2.6
						100°	32.7	31.7	30.7	22.5	14.3	12.3
						102.5°	52.2	51.7	51.1	46.0	38.9	35.8
						105°	72.6	72.1	71.6	67.5	62.4	59.8
						107.5°	95.1	94.1	93.1	90.0	85.9	83.9
						110°	116.6	115.6	114.6	112.5	108.4	106.9



REPORT NUMBER: P228645

CATALOG NUMBER: ISC-AF-450-LED-E1-SLR-ULG

**CANDELA DISTRIBUTION (continued):**

342.5°	345°	347.5°	350°	352.5°		305°	310°	315°	325°	335°	340°	342.5°
707.2	707.2	707.2	707.2	707.2	112.5°	139.1	138.1	137.1	135.0	132.0	130.4	129.7
788.1	780.0	770.9	770.9	762.8	115°	161.6	160.6	159.6	157.5	154.5	153.4	152.9
820.5	804.2	791.2	779.0	766.8	117.5°	184.1	183.6	183.1	181.1	178.0	177.0	176.5
804.2	785.0	768.8	747.7	728.4	120°	208.7	207.7	206.6	205.6	202.5	201.5	201.0
780.0	758.7	735.5	713.2	685.9	122.5°	233.2	232.7	232.2	231.2	228.1	227.1	226.6
766.8	741.5	713.2	690.0	658.6	125°	258.8	258.3	257.8	256.8	253.7	253.2	252.9
756.8	730.4	705.1	682.9	655.6	127.5°	284.4	283.4	282.3	280.3	278.2	277.2	276.7
772.9	747.7	729.5	704.1	682.9	130°	307.9	306.9	305.9	304.8	300.7	300.2	299.9
800.3	785.0	770.9	754.7	737.5	132.5°	332.5	330.9	329.4	328.4	325.3	324.8	324.5
851.8	849.8	848.8	836.7	824.5	135°	356.0	354.5	352.9	352.9	348.8	347.8	347.3
916.6	924.6	935.8	935.8	935.8	137.5°	377.5	376.4	375.4	375.4	372.4	371.8	371.5
983.4	1003.6	1024.8	1033.9	1040.0	140°	399.0	398.4	397.9	396.9	394.9	394.3	394.0
1002.6	1032.0	1065.3	1087.6	1102.7	142.5°	421.5	420.4	419.4	419.4	416.3	416.9	417.2
1033.9	1067.3	1104.8	1130.1	1157.4	145°	444.0	442.9	441.9	440.9	437.8	437.8	437.8
1071.3	1100.7	1139.2	1173.5	1213.0	147.5°	464.4	463.9	463.4	462.4	458.3	457.8	457.5
1102.7	1141.2	1182.6	1227.1	1277.8	150°	481.8	481.3	480.8	479.8	475.7	475.2	474.9
1150.3	1190.7	1236.2	1296.0	1357.7	152.5°	498.2	497.7	497.2	496.1	493.1	493.6	493.9
1202.9	1246.4	1293.9	1353.7	1425.5	155°	515.6	515.1	514.5	514.5	512.5	513.0	513.3
1248.4	1286.9	1338.4	1400.1	1482.2	157.5°	530.9	530.9	530.9	530.9	527.8	528.4	528.7
1291.9	1327.3	1388.0	1450.7	1531.7	160°	544.2	544.2	544.2	544.2	541.1	541.1	541.1
1349.6	1376.9	1437.6	1509.5	1595.4	162.5°	554.4	553.9	553.4	553.4	550.3	550.9	551.2
1409.2	1446.7	1513.5	1595.4	1691.6	165°	565.7	565.2	564.7	564.7	560.6	561.1	561.4
1490.2	1534.7	1616.7	1709.8	1831.1	167.5°	572.9	572.9	572.9	573.9	570.8	571.3	571.6
1601.5	1648.0	1735.0	1839.3	1963.7	170°	578.0	578.5	579.0	580.0	578.0	578.5	578.8
1738.1	1783.6	1858.5	1961.6	2078.0	172.5°	582.1	581.5	581.0	582.1	580.0	581.0	581.5
1865.6	1928.3	1996.1	2072.9	2165.0	175°	586.2	585.6	585.1	585.1	582.1	582.6	582.9
2004.2	2052.7	2109.3	2138.7	2190.2	177.5°	590.2	590.2	590.2	591.3	587.2	587.7	588.0
2044.6	2085.1	2134.6	2134.6	2128.6	180°	589.2	589.2	589.2	589.2	589.2	589.2	589.2
1925.2	1987.0	2030.5	2030.5	1978.8								
1674.4	1777.5	1820.0	1846.3	1780.5								
1360.7	1489.2	1559.0	1581.3	1461.9								
998.5	1080.4	1089.5	1092.6	931.7								
575.6	640.4	663.7	697.0	558.4								
333.9	358.1	397.6	411.7	339.9								
187.2	189.1	189.1	175.0	142.6								
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								
2.3	2.0	2.0	2.0	2.0								
11.3	10.2	9.7	9.2	8.7								
34.3	32.7	31.7	30.7	29.7								
58.5	57.3	56.8	56.3	55.8								
82.9	81.8	81.0	80.3	79.6								
106.2	105.4	105.2	104.9	104.5								

REPORT NUMBER: P228645  
 CATALOG NUMBER: ISC-AF-450-LED-E1-SLR-ULG

**CANDELA DISTRIBUTION (continued):**

345°	347.5°	350°	352.5°		355°	359°	360°
128.9	128.4	127.9	127.4	0°	707.2	707.2	707.2
152.4	151.9	151.4	150.9	2.5°	760.8	748.6	750.6
175.9	175.4	174.9	174.4	5°	749.6	732.4	726.4
200.5	200.3	200.0	199.7	7.5°	711.3	681.9	672.8
226.1	225.9	225.6	225.3	10°	664.7	627.3	620.1
252.7	252.5	252.2	251.9	12.5°	638.3	595.9	586.8
276.2	276.0	275.7	275.4	15°	630.2	589.8	579.7
299.7	299.5	299.2	298.9	17.5°	654.6	611.0	598.9
324.3	323.5	322.7	322.0	20°	710.2	658.6	644.5
346.8	346.3	345.8	345.2	22.5°	793.2	734.5	717.3
371.3	370.5	369.8	369.1	25°	905.4	838.7	821.4
393.8	393.3	392.8	392.3	27.5°	1020.8	940.8	918.6
417.4	416.9	416.3	415.8	30°	1087.6	1013.7	991.4
437.8	437.3	436.8	436.3	32.5°	1155.3	1084.5	1058.2
457.3	456.4	455.7	455.0	35°	1227.1	1155.3	1129.0
474.6	474.1	473.6	473.1	37.5°	1311.1	1250.5	1227.1
494.1	493.3	492.6	491.8	40°	1411.3	1355.6	1322.3
513.5	513.0	512.5	512.0	42.5°	1494.2	1442.7	1411.3
528.9	528.4	527.8	527.3	45°	1555.0	1511.4	1479.1
541.1	540.6	540.1	539.6	47.5°	1610.6	1577.2	1544.9
551.4	550.6	549.8	549.1	50°	1680.4	1652.1	1629.8
561.6	561.1	560.6	560.1	52.5°	1774.5	1764.4	1745.2
571.8	571.0	570.3	569.6	55°	1913.1	1935.3	1908.0
579.0	578.2	577.5	576.7	57.5°	2044.6	2060.7	2048.7
582.1	581.2	580.5	579.8	60°	2147.8	2125.5	2110.3
583.1	582.9	582.6	582.3	62.5°	2200.4	2145.7	2120.5
588.2	587.7	587.2	586.7	65°	2203.4	2119.5	2081.0
589.2	589.2	589.2	589.2	67.5°	2134.6	2036.5	1992.0
				70°	1949.5	1836.2	1777.5
				72.5°	1637.9	1463.9	1424.5
				75°	1200.8	987.4	964.1
				77.5°	727.4	567.5	537.2
				80°	409.7	325.8	315.7
				82.5°	232.7	183.1	193.2
				85°	95.1	47.6	52.6
				87.5°	0.0	0.0	0.0
				90°	0.0	0.0	0.0
				92.5°	0.0	0.0	0.0
				95°	1.0	1.0	1.0
				97.5°	2.0	2.0	2.0
				100°	8.2	8.2	8.2
				102.5°	28.6	28.6	28.6
				105°	55.2	55.2	55.2
				107.5°	78.8	79.6	79.8
				110°	104.3	103.5	103.3

REPORT NUMBER: P228645

CATALOG NUMBER: ISC-AF-450-LED-E1-SLR-ULG

**CANDELA DISTRIBUTION (continued):**

	355°	359°	360°
112.5°	126.8	126.8	126.8
115°	150.4	149.6	149.4
117.5°	173.9	173.1	172.9
120°	199.5	197.8	197.4
122.5°	225.0	224.2	224.0
125°	251.6	250.0	249.6
127.5°	275.2	273.5	273.1
130°	298.7	297.1	296.7
132.5°	321.2	320.4	320.2
135°	344.7	343.9	343.7
137.5°	368.3	367.4	367.2
140°	391.8	391.0	390.8
142.5°	415.3	413.7	413.3
145°	435.8	435.0	434.8
147.5°	454.2	454.2	454.2
150°	472.6	471.8	471.6
152.5°	491.0	490.2	490.0
155°	511.5	510.7	510.5
157.5°	526.8	525.2	524.8
160°	539.1	537.5	537.0
162.5°	548.3	547.5	547.3
165°	559.6	558.7	558.5
167.5°	568.8	567.9	567.7
170°	575.9	575.1	574.9
172.5°	579.0	578.2	578.0
175°	582.1	580.4	580.0
177.5°	586.2	585.3	585.1
180°	589.2	589.2	589.2

(END OF REPORT)