

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: P226828

Luminaire Tested: **IST-AF-450-LED-E1-SL2-7050-ULG**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P226828
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P35945)-DOWNLIGHT AND
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: MCGRAW-EDISON
Catalog Number: IST-AF-450-LED-E1-SL2-7050-ULG
Description: IMPACT ELITE LED TRAPEZOID LUMINAIRE WITH UPLIGHT
LIGHT SQUARE WITH ACCULED OPTICS-TYPE II W/SPILL CONTROL, WITH UPLIGHT
GLOW
Light Source: (16) 5000K CCT, 70 CRI LEDs and (1) UPLIGHT LED
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4767.5 lumens
Efficiency: N/A
Efficacy: 113.5 lumens/watt
Luminous Opening: Rectangular w/ Sides (W: 0.5' x L: 0.5' x H: 0.54')
IES Classification: Type II - 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

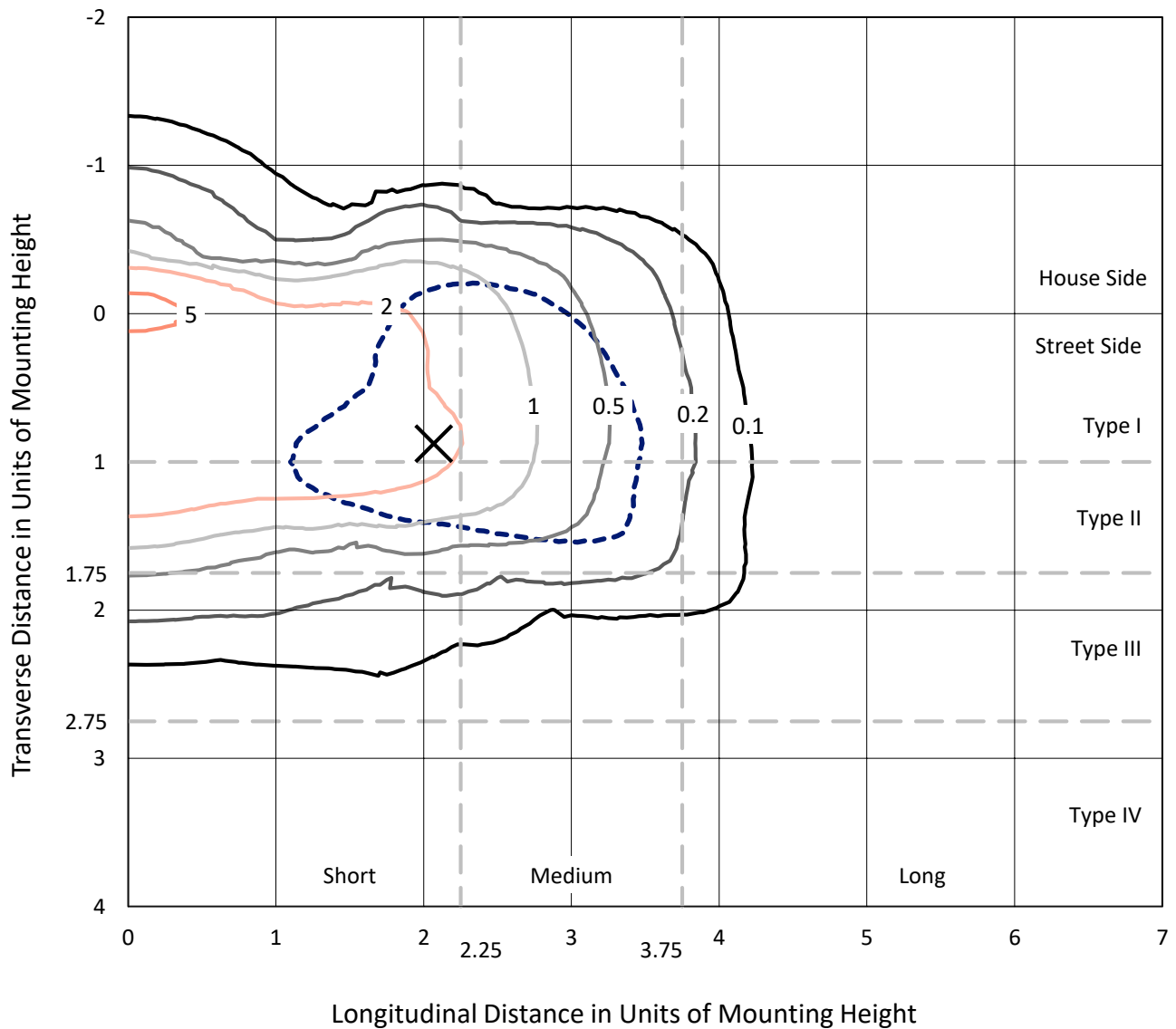


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

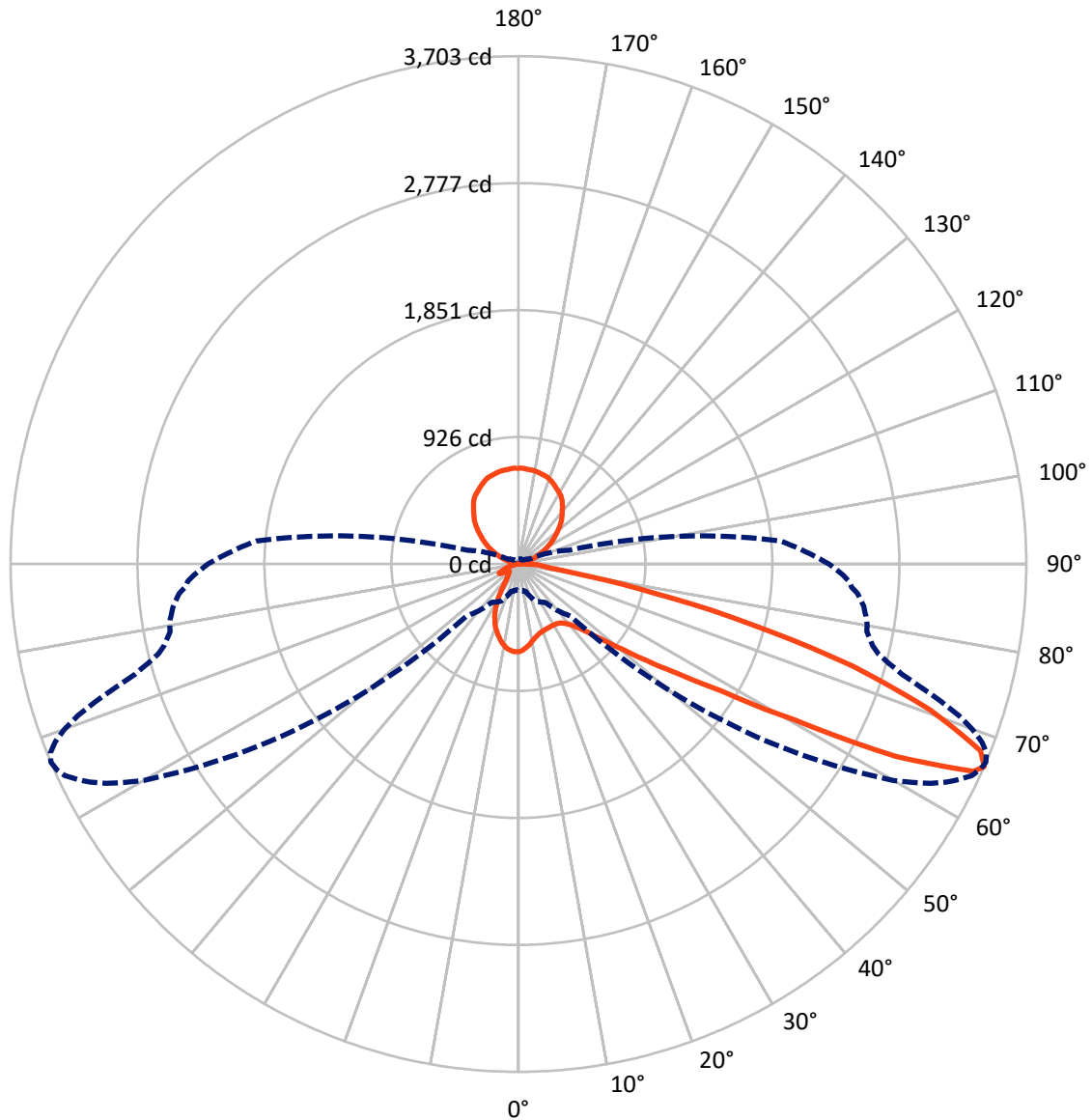


Based on 10 foot mounting height. Maximum calculated value = 6.4 fc
 Type II - Short - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 67-Deg Lateral - - - Horizontal Cone Through 66-Deg Vertical

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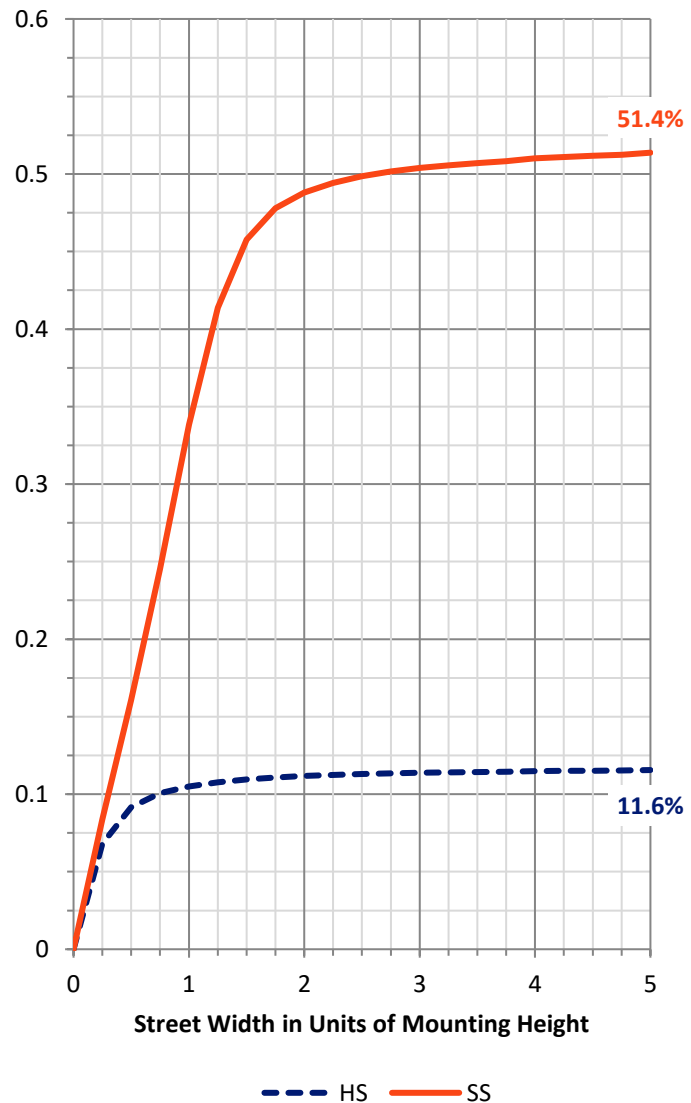
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	560.2	867.8	1428.0
	% Fixture	11.8	18.2	30.0
Street Side	Lumens	2471.0	868.4	3339.5
	% Fixture	51.8	18.2	70.0
Total	Lumens	3031.2	1736.2	4767.5
	% Fixture	63.6	36.4	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	55.3	1.2
10°-20°	131.7	2.8
20°-30°	180.6	3.8
30°-40°	258.0	5.4
40°-50°	418.3	8.8
50°-60°	662.8	13.9
60°-70°	839.9	17.6
70°-80°	417.5	8.8
80°-90°	67.2	1.4
90°-100°	10.4	0.2
100°-110°	57.4	1.2
110°-120°	166.1	3.5
120°-130°	273.2	5.7
130°-140°	336.8	7.1
140°-150°	344.6	7.2
150°-160°	290.3	6.1
160°-170°	191.2	4.0
170°-180°	66.3	1.4
0°-90°	3031.2	63.6
0°-180°	4767.5	100.0



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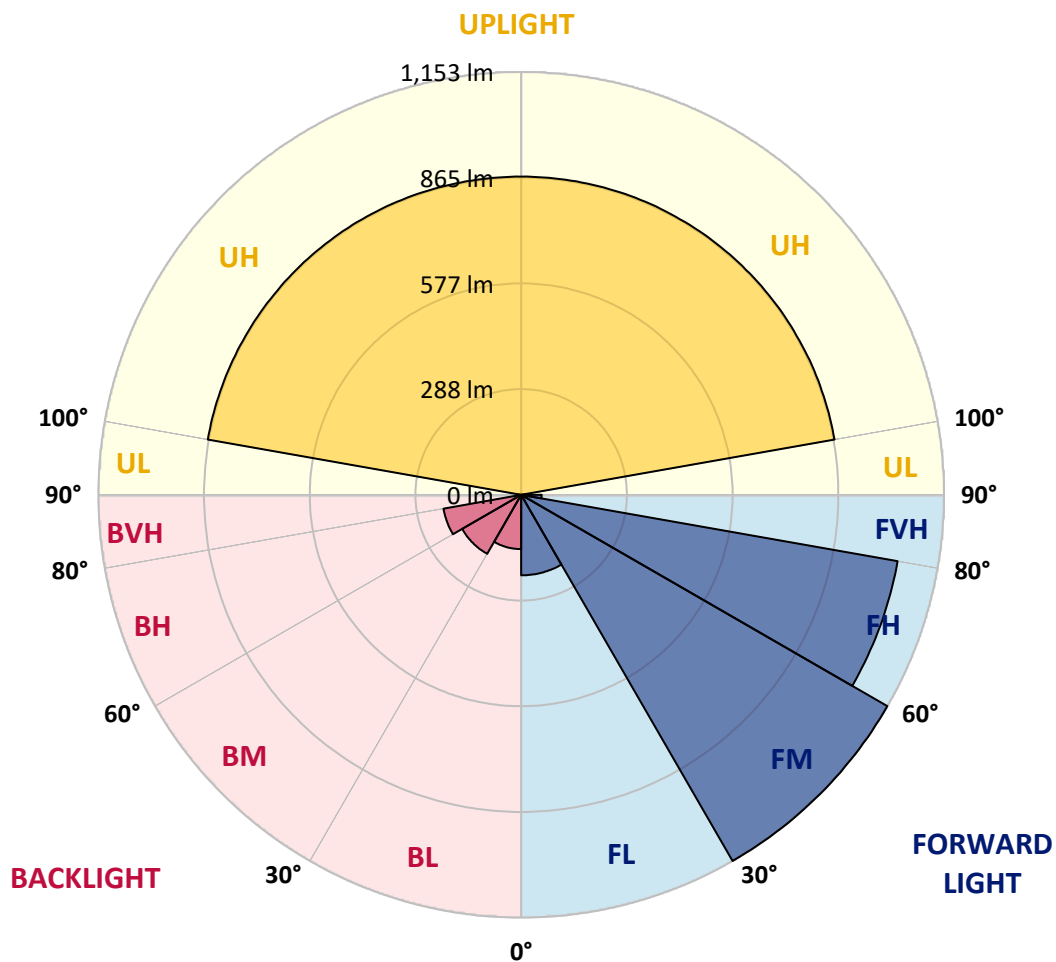
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	219.6	4.6			
FM (30°-60°)	1153.1	24.2			
FH (60°-80°)	1042.3	21.9			G1/1800
FVH (80°-90°)	56.0	1.2			G1/100
BL (0°-30°)	148.0	3.1	B1/500		
BM (30°-60°)	185.9	3.9	B0/220		
BH (60°-80°)	215.1	4.5	B1/500		G1/500
BVH (80°-90°)	11.2	0.2			G1/100
UL (90°-100°)	10.4	0.2		U2/50	
UH (100°-180°)	867.8	18.2		U4/1000	

BUG Rating: B1-U5-G1

Type II Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	60°	61°	62°	63°
0°	638.1	638.1	638.1	638.1	638.1	638.1	638.1	638.1	638.1	638.1	638.1
2.5°	593.0	594.3	602.1	606.2	612.1	613.9	620.7	623.5	625.8	625.3	625.3
5°	539.7	543.8	547.4	555.6	564.3	574.7	588.0	598.0	599.8	602.1	603.4
7.5°	499.1	501.9	508.3	514.2	525.1	539.7	558.4	571.1	573.8	574.7	577.9
10°	470.5	472.3	477.7	485.5	498.2	512.4	531.9	545.1	549.2	551.1	553.8
12.5°	448.1	450.9	455.9	464.1	477.7	492.3	512.8	526.0	528.7	531.0	535.1
15°	434.0	435.8	440.4	449.5	461.8	476.4	496.4	512.4	514.2	516.5	520.1
17.5°	431.3	432.7	435.4	442.2	451.8	465.9	486.4	499.6	502.8	506.0	509.6
20°	442.2	443.1	444.0	445.0	450.4	459.5	479.6	493.7	496.4	499.1	503.7
22.5°	465.9	467.3	465.0	461.8	457.7	459.5	476.4	490.9	492.8	495.5	499.1
25°	506.9	505.5	498.7	493.7	479.1	467.3	477.3	489.6	491.9	494.6	498.7
27.5°	555.2	553.3	549.2	535.6	511.4	487.3	482.8	491.9	493.2	495.5	499.1
30°	607.1	607.5	603.9	588.9	557.9	517.4	495.0	497.3	498.2	500.1	502.3
32.5°	654.0	660.8	660.4	659.5	615.3	557.9	518.7	509.6	508.3	509.6	510.5
35°	708.2	709.6	722.3	728.7	692.7	617.1	553.3	533.3	527.8	528.3	527.4
37.5°	766.5	768.3	790.2	801.1	773.3	684.5	599.3	568.4	563.4	558.4	554.7
40°	851.2	858.5	869.9	882.2	868.5	775.1	659.9	618.0	605.3	604.3	597.1
42.5°	977.8	975.5	970.1	980.1	963.7	876.7	733.2	688.1	678.6	665.8	655.8
45°	1102.1	1107.1	1083.5	1088.0	1088.9	994.2	839.3	776.0	771.0	756.0	745.1
47.5°	1185.9	1180.5	1148.6	1171.8	1228.7	1131.3	962.3	895.8	885.3	877.6	870.8
50°	1190.5	1185.9	1165.4	1206.4	1328.0	1374.9	1133.6	1056.1	1041.1	1027.4	1023.3
52.5°	1079.4	1073.0	1079.8	1163.2	1364.0	1579.0	1375.4	1255.2	1242.9	1231.5	1215.5
55°	881.2	888.5	920.9	1040.6	1308.9	1723.8	1851.3	1562.6	1509.7	1509.3	1470.1
57.5°	658.1	650.8	674.9	787.4	1169.5	1775.2	2288.5	2217.0	2099.1	2019.4	1923.3
60°	444.0	445.9	468.2	526.0	813.8	1719.2	2581.4	2830.5	2789.0	2772.2	2746.2
62.5°	307.9	310.6	331.1	385.3	475.9	1383.1	2667.0	3174.3	3248.5	3310.0	3295.0
65°	215.4	215.9	236.4	320.2	356.6	710.5	2478.0	3219.9	3330.5	3436.2	3530.9
66°	189.9	190.4	207.2	297.8	342.0	536.0	2314.0	3156.6	3282.7	3405.7	3503.6
67.5°	162.6	165.3	178.5	253.2	327.9	413.5	1911.4	2967.6	3099.6	3234.9	3364.2
70°	111.6	112.5	124.3	205.4	307.0	363.0	1089.4	2316.7	2499.4	2737.1	2874.6
72.5°	79.7	78.8	80.2	127.1	315.2	360.7	572.5	1524.8	1780.3	1988.8	2137.8
75°	71.0	68.8	62.8	78.8	230.0	393.9	383.5	897.6	1092.1	1282.0	1434.6
77.5°	63.3	59.7	56.5	60.6	113.9	371.2	344.3	514.2	613.5	755.1	872.6
80°	48.3	46.0	47.8	52.4	68.3	341.6	342.0	342.0	368.9	415.3	461.8
82.5°	31.9	29.1	33.2	43.3	51.5	257.3	353.4	301.9	296.9	295.1	298.3
85°	20.0	17.3	23.2	32.3	39.6	134.4	362.5	318.8	295.6	273.3	250.9
87.5°	7.3	8.2	11.8	18.7	26.0	58.3	317.9	281.0	265.1	237.3	211.3
90°	6.8	6.4	9.3	13.5	13.9	17.9	55.7	85.9	54.7	31.6	27.3
92.5°	4.0	4.0	5.0	6.0	6.0	6.0	7.0	7.0	7.0	7.0	7.0
95°	5.0	5.0	6.0	7.0	7.0	7.0	7.0	7.5	7.6	7.7	7.8
97.5°	7.0	7.0	8.0	8.0	9.0	9.0	12.0	11.0	10.8	10.6	10.4
100°	8.0	8.0	9.0	10.0	12.0	21.0	29.0	27.5	27.2	26.9	26.6
102.5°	11.0	11.0	13.0	18.0	27.0	40.0	50.0	48.5	48.2	47.9	47.6
105°	21.0	22.0	27.0	36.0	48.0	63.0	72.0	71.0	70.8	70.6	70.4
107.5°	41.0	42.0	49.0	58.0	73.0	88.0	95.0	94.5	94.4	94.3	94.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	15°	25°	35°	45°	55°	60°	61°	62°	63°
110°	66.0	68.0	74.0	87.0	102.0	114.0	120.0	120.5	120.6	120.7	120.8
112.5°	99.0	99.0	106.0	121.0	134.0	143.0	148.0	149.0	149.2	149.4	149.6
115°	140.0	139.0	147.0	159.0	168.0	174.0	179.0	180.5	180.8	181.1	181.4
117.5°	184.0	184.0	189.0	197.0	202.0	205.0	211.0	213.0	213.4	213.8	214.2
120°	225.0	223.0	226.0	233.0	237.0	243.0	246.0	248.0	248.4	248.8	249.2
122.5°	263.0	260.0	261.0	267.0	271.0	277.0	279.0	281.0	281.4	281.8	282.2
125°	298.0	294.0	296.0	299.0	305.0	310.0	313.0	314.0	314.2	314.4	314.6
127.5°	330.0	329.0	329.0	333.0	339.0	340.0	345.0	345.5	345.6	345.7	345.8
130°	363.0	361.0	362.0	366.0	370.0	372.0	377.0	379.0	379.4	379.8	380.2
132.5°	396.0	394.0	393.0	401.0	404.0	405.0	411.0	413.5	414.0	414.5	415.0
135°	429.0	426.0	426.0	432.0	435.0	437.0	443.0	445.5	446.0	446.5	447.0
137.5°	460.0	457.0	459.0	460.0	464.0	468.0	473.0	474.0	474.2	474.4	474.6
140°	488.0	485.0	487.0	489.0	491.0	497.0	500.0	501.0	501.2	501.4	501.6
142.5°	518.0	515.0	517.0	518.0	521.0	525.0	527.0	530.0	530.6	531.2	531.8
145°	550.0	546.0	544.0	547.0	550.0	551.0	556.0	559.0	559.6	560.2	560.8
147.5°	575.0	572.0	571.0	574.0	574.0	575.0	580.0	582.5	583.0	583.5	584.0
150°	595.0	592.0	593.0	593.0	593.0	593.0	597.0	598.5	598.8	599.1	599.4
152.5°	611.0	608.0	608.0	609.0	610.0	610.0	611.0	612.5	612.8	613.1	613.4
155°	629.0	625.0	625.0	627.0	630.0	628.0	626.0	628.5	629.0	629.5	630.0
157.5°	646.0	643.0	643.0	644.0	646.0	645.0	644.0	646.0	646.4	646.8	647.2
160°	663.0	660.0	659.0	656.0	655.0	655.0	658.0	661.0	661.6	662.2	662.8
162.5°	673.0	669.0	669.0	665.0	661.0	663.0	667.0	669.0	669.4	669.8	670.2
165°	681.0	678.0	676.0	676.0	673.0	673.0	672.0	674.5	675.0	675.5	676.0
167.5°	690.0	687.0	684.0	686.0	688.0	685.0	678.0	681.0	681.6	682.2	682.8
170°	698.0	695.0	692.0	692.0	693.0	691.0	686.0	687.5	687.8	688.1	688.4
172.5°	699.0	697.0	695.0	693.0	690.0	690.0	689.0	690.5	690.8	691.1	691.4
175°	700.0	698.0	697.0	695.0	691.0	690.0	690.0	692.5	693.0	693.5	694.0
177.5°	707.0	705.0	700.0	699.0	697.0	695.0	694.0	696.5	697.0	697.5	698.0
180°	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0



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CANDELA DISTRIBUTION (continued):

	64°	65°	66°	67°	68°	69°	70°	71°	72°	73°	74°
0°	638.1	638.1	638.1	638.1	638.1	638.1	638.1	638.1	638.1	638.1	638.1
2.5°	625.8	628.0	628.9	628.0	628.5	631.2	630.3	631.7	631.7	632.6	632.6
5°	605.3	607.1	610.7	610.3	613.9	615.3	616.6	618.5	620.7	622.1	624.8
7.5°	581.1	584.8	588.0	589.8	592.1	596.6	598.0	602.1	605.7	609.4	612.1
10°	557.9	562.9	566.5	567.9	572.9	575.2	580.2	583.4	588.0	592.5	596.6
12.5°	538.3	542.9	544.7	549.2	553.8	558.4	560.6	566.5	571.1	577.0	582.5
15°	523.7	528.3	531.9	535.1	539.7	544.2	547.9	553.8	559.3	565.2	570.2
17.5°	514.6	517.4	521.9	524.7	530.1	535.6	539.7	546.5	552.4	557.4	564.3
20°	507.8	511.0	515.1	519.2	524.2	531.0	534.7	542.0	548.3	554.3	560.6
22.5°	504.2	507.3	511.4	515.5	521.0	526.5	532.4	538.8	545.6	552.0	558.4
25°	502.8	505.5	509.2	513.3	519.2	525.1	530.1	537.4	543.3	550.2	557.9
27.5°	503.2	505.1	509.2	512.8	518.7	524.2	529.2	536.5	543.3	549.7	557.4
30°	505.1	506.4	510.5	513.7	518.7	524.2	528.7	536.5	542.4	549.2	557.4
32.5°	511.4	513.3	515.1	517.4	521.9	526.0	531.5	538.3	543.8	550.6	557.4
35°	526.5	525.1	526.5	527.4	530.6	534.7	538.8	544.7	549.7	555.6	562.9
37.5°	550.2	547.4	548.3	547.9	547.9	550.6	554.7	558.8	562.9	568.8	576.1
40°	593.9	587.0	585.2	580.2	578.8	581.1	583.9	584.3	589.3	597.1	600.3
42.5°	650.3	641.2	642.6	634.4	632.1	629.4	633.0	630.8	634.0	639.0	645.8
45°	739.6	731.0	721.8	708.6	711.4	701.4	698.6	699.5	699.1	700.9	709.1
47.5°	846.2	834.8	828.9	823.9	814.3	808.4	800.6	789.3	792.0	795.6	802.9
50°	1001.9	998.3	986.9	970.5	968.2	959.6	957.3	947.3	943.6	943.2	942.7
52.5°	1210.1	1186.4	1181.8	1166.3	1154.5	1146.3	1143.6	1129.5	1115.3	1123.5	1122.6
55°	1463.7	1444.2	1419.1	1405.4	1395.9	1376.3	1371.3	1353.5	1345.3	1340.8	1329.4
57.5°	1890.0	1821.2	1769.8	1744.3	1708.3	1671.9	1659.1	1622.7	1594.4	1574.4	1575.8
60°	2633.3	2510.8	2366.4	2301.7	2151.9	2130.0	2027.1	2002.1	1940.1	1899.1	1875.4
62.5°	3284.5	3251.3	3182.1	3087.8	2937.5	2764.4	2686.6	2531.7	2410.6	2357.7	2284.4
65°	3595.6	3642.5	3661.6	3643.9	3583.7	3478.1	3385.2	3234.0	3030.9	2916.1	2773.5
66°	3579.6	3649.3	3684.4	3702.6	3680.7	3618.4	3520.9	3396.6	3239.4	3064.6	2904.7
67.5°	3463.1	3530.9	3579.6	3635.2	3635.2	3615.6	3576.0	3493.1	3382.0	3229.4	3086.0
70°	2986.7	3078.7	3164.8	3181.6	3229.0	3214.4	3245.8	3193.0	3166.6	3102.8	3025.8
72.5°	2326.8	2403.7	2477.5	2551.3	2539.0	2523.1	2519.9	2530.8	2477.1	2496.2	2476.1
75°	1547.5	1680.1	1755.7	1748.4	1753.4	1757.5	1723.8	1648.6	1706.9	1633.2	1657.7
77.5°	940.5	1001.9	1022.4	999.7	970.1	931.8	870.3	834.3	782.9	787.0	752.8
80°	493.2	501.0	484.6	438.6	413.5	390.8	320.6	289.2	260.0	249.1	224.5
82.5°	282.8	264.1	244.1	228.6	199.0	179.0	151.7	134.4	115.7	99.3	93.4
85°	229.1	204.0	185.4	168.1	148.0	130.3	107.5	89.7	76.1	66.0	63.8
87.5°	189.0	171.7	152.6	136.2	116.6	98.4	76.1	59.2	46.9	37.8	35.1
90°	25.7	31.8	25.4	18.1	22.7	16.3	13.1	13.6	12.6	12.6	13.1
92.5°	7.0	7.0	6.9	6.8	6.7	6.6	6.5	6.4	6.3	6.2	6.1
95°	7.9	8.0	7.9	7.8	7.7	7.6	7.5	7.4	7.3	7.2	7.1
97.5°	10.2	10.0	9.9	9.8	9.7	9.6	9.5	9.4	9.3	9.2	9.1
100°	26.3	26.0	25.7	25.4	25.1	24.8	24.5	24.2	23.9	23.6	23.3
102.5°	47.3	47.0	46.5	46.0	45.5	45.0	44.5	44.0	43.5	43.0	42.5
105°	70.2	70.0	69.5	69.0	68.5	68.0	67.5	67.0	66.5	66.0	65.5
107.5°	94.1	94.0	93.6	93.2	92.8	92.4	92.0	91.6	91.2	90.8	90.4



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CATALOG NUMBER: IST-AF-450-LED-E1-SL2-7050-ULG

CANDELA DISTRIBUTION (continued):

	64°	65°	66°	67°	68°	69°	70°	71°	72°	73°	74°
110°	120.9	121.0	120.8	120.6	120.4	120.2	120.0	119.8	119.6	119.4	119.2
112.5°	149.8	150.0	149.9	149.8	149.7	149.6	149.5	149.4	149.3	149.2	149.1
115°	181.7	182.0	181.7	181.4	181.1	180.8	180.5	180.2	179.9	179.6	179.3
117.5°	214.6	215.0	214.5	214.0	213.5	213.0	212.5	212.0	211.5	211.0	210.5
120°	249.6	250.0	249.5	249.0	248.5	248.0	247.5	247.0	246.5	246.0	245.5
122.5°	282.6	283.0	282.5	282.0	281.5	281.0	280.5	280.0	279.5	279.0	278.5
125°	314.8	315.0	314.5	314.0	313.5	313.0	312.5	312.0	311.5	311.0	310.5
127.5°	345.9	346.0	346.0	346.0	346.0	346.0	346.0	346.0	346.0	346.0	346.0
130°	380.6	381.0	381.0	381.0	381.0	381.0	381.0	381.0	381.0	381.0	381.0
132.5°	415.5	416.0	415.8	415.6	415.4	415.2	415.0	414.8	414.6	414.4	414.2
135°	447.5	448.0	447.9	447.8	447.7	447.6	447.5	447.4	447.3	447.2	447.1
137.5°	474.8	475.0	475.1	475.2	475.3	475.4	475.5	475.6	475.7	475.8	475.9
140°	501.8	502.0	502.2	502.4	502.6	502.8	503.0	503.2	503.4	503.6	503.8
142.5°	532.4	533.0	533.0	533.0	533.0	533.0	533.0	533.0	533.0	533.0	533.0
145°	561.4	562.0	561.9	561.8	561.7	561.6	561.5	561.4	561.3	561.2	561.1
147.5°	584.5	585.0	585.1	585.2	585.3	585.4	585.5	585.6	585.7	585.8	585.9
150°	599.7	600.0	600.3	600.6	600.9	601.2	601.5	601.8	602.1	602.4	602.7
152.5°	613.7	614.0	614.4	614.8	615.2	615.6	616.0	616.4	616.8	617.2	617.6
155°	630.5	631.0	631.5	632.0	632.5	633.0	633.5	634.0	634.5	635.0	635.5
157.5°	647.6	648.0	648.2	648.4	648.6	648.8	649.0	649.2	649.4	649.6	649.8
160°	663.4	664.0	663.7	663.4	663.1	662.8	662.5	662.2	661.9	661.6	661.3
162.5°	670.6	671.0	670.9	670.8	670.7	670.6	670.5	670.4	670.3	670.2	670.1
165°	676.5	677.0	677.3	677.6	677.9	678.2	678.5	678.8	679.1	679.4	679.7
167.5°	683.4	684.0	684.4	684.8	685.2	685.6	686.0	686.4	686.8	687.2	687.6
170°	688.7	689.0	689.5	690.0	690.5	691.0	691.5	692.0	692.5	693.0	693.5
172.5°	691.7	692.0	692.2	692.4	692.6	692.8	693.0	693.2	693.4	693.6	693.8
175°	694.5	695.0	695.1	695.2	695.3	695.4	695.5	695.6	695.7	695.8	695.9
177.5°	698.5	699.0	699.2	699.4	699.6	699.8	700.0	700.2	700.4	700.6	700.8
180°	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0



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CANDELA DISTRIBUTION (continued):

	75°	76°	77°	78°	79°	80°	81°	82°	83°	84°	85°
0°	638.1	638.1	638.1	638.1	638.1	638.1	638.1	638.1	638.1	638.1	638.1
2.5°	634.0	634.0	634.9	635.8	636.2	636.2	636.2	637.1	637.6	636.2	637.6
5°	626.2	628.5	630.3	631.7	632.1	633.5	634.9	635.8	637.1	637.1	638.1
7.5°	615.7	619.8	622.1	624.4	626.7	628.9	631.7	633.5	634.4	636.2	637.6
10°	602.5	607.5	612.1	615.7	618.9	623.5	627.1	629.9	634.0	634.4	637.6
12.5°	588.4	595.7	599.3	606.2	610.7	617.6	621.2	625.3	629.9	632.1	635.8
15°	578.4	584.8	591.6	598.0	605.3	613.5	618.0	623.5	629.9	634.9	639.4
17.5°	570.6	579.3	587.0	595.2	604.3	613.0	619.8	625.8	634.0	636.7	641.2
20°	568.4	577.9	585.7	594.3	603.9	615.3	623.5	629.9	638.1	642.6	646.7
22.5°	567.5	576.6	585.7	596.2	606.6	618.5	627.1	635.3	643.5	647.6	650.8
25°	566.5	576.1	586.1	598.0	609.4	621.7	631.7	639.4	647.2	651.3	654.0
27.5°	566.5	576.6	587.5	599.3	611.6	625.3	634.9	642.1	649.0	652.6	653.5
30°	566.1	576.6	587.0	600.3	613.5	627.6	638.1	644.9	650.8	653.1	652.2
32.5°	567.0	577.9	589.3	602.5	616.2	629.9	640.8	648.5	651.7	651.3	650.8
35°	571.6	581.6	594.8	608.0	622.1	634.9	645.3	650.8	653.5	652.6	650.3
37.5°	583.9	593.9	607.1	621.7	632.6	647.2	656.7	660.8	661.3	658.5	653.1
40°	609.4	619.4	631.2	647.2	660.4	670.4	679.5	684.0	681.3	676.3	670.4
42.5°	649.9	662.6	676.8	689.5	705.0	718.7	720.9	723.7	719.1	709.6	702.3
45°	715.0	722.8	741.0	750.5	770.6	777.4	782.4	783.8	773.8	766.0	753.3
47.5°	808.8	823.9	836.6	845.7	860.3	869.4	879.4	874.9	867.1	853.9	837.1
50°	956.4	966.0	982.4	998.7	1014.2	1020.6	1020.6	1016.1	1011.0	985.5	965.0
52.5°	1137.7	1138.6	1162.2	1181.8	1195.0	1185.5	1196.9	1185.5	1182.3	1164.5	1147.7
55°	1347.6	1339.0	1367.6	1384.9	1396.8	1408.2	1405.9	1404.5	1392.7	1372.7	1352.2
57.5°	1547.1	1572.1	1585.8	1611.3	1617.2	1625.0	1621.8	1617.2	1610.4	1599.0	1589.9
60°	1834.9	1851.8	1864.1	1869.1	1885.9	1888.2	1899.6	1880.9	1885.5	1872.3	1843.6
62.5°	2226.6	2208.4	2217.9	2217.9	2212.9	2195.2	2204.7	2212.0	2199.7	2188.8	2184.2
65°	2665.1	2606.4	2549.9	2540.4	2514.4	2508.5	2501.2	2483.0	2475.2	2456.1	2440.6
66°	2796.3	2705.2	2651.9	2619.2	2587.7	2580.9	2570.9	2551.7	2536.3	2509.4	2483.4
67.5°	2943.4	2825.9	2745.8	2699.3	2660.6	2635.1	2615.1	2587.7	2563.1	2523.1	2481.6
70°	2933.9	2836.8	2740.3	2669.7	2611.4	2559.0	2528.1	2469.3	2419.2	2361.8	2314.5
72.5°	2465.2	2447.9	2391.9	2352.3	2280.8	2253.0	2171.0	2133.7	2064.4	1990.2	1967.4
75°	1713.8	1645.9	1617.2	1601.3	1569.9	1483.3	1426.8	1439.1	1358.1	1285.7	1244.2
77.5°	749.2	762.8	683.6	648.1	620.7	573.8	530.1	500.1	482.8	471.4	419.9
80°	207.2	180.8	178.5	165.8	163.0	145.3	147.6	134.8	126.2	124.3	120.2
82.5°	90.6	88.8	86.1	84.7	83.3	81.5	79.2	78.8	76.1	73.8	74.2
85°	60.1	59.7	58.3	56.9	54.7	51.5	49.2	47.4	47.8	45.5	45.1
87.5°	35.1	34.2	33.7	31.9	31.4	28.7	29.1	26.9	26.4	26.0	24.6
90°	14.0	14.3	15.4	14.8	12.8	16.7	15.1	14.0	14.2	12.7	12.5
92.5°	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
95°	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
97.5°	9.0	8.9	8.8	8.7	8.6	8.5	8.4	8.3	8.2	8.1	8.0
100°	23.0	22.6	22.2	21.8	21.4	21.0	20.6	20.2	19.8	19.4	19.0
102.5°	42.0	41.7	41.4	41.1	40.8	40.5	40.2	39.9	39.6	39.3	39.0
105°	65.0	64.6	64.2	63.8	63.4	63.0	62.6	62.2	61.8	61.4	61.0
107.5°	90.0	89.7	89.4	89.1	88.8	88.5	88.2	87.9	87.6	87.3	87.0



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REPORT N
 CATALOG

CANDELA DISTRIBUTION (continued):

CANDELA

	75°	76°	77°	78°	79°	80°	81°	82°	83°	84°	85°	
110°	119.0	118.7	118.4	118.1	117.8	117.5	117.2	116.9	116.6	116.3	116.0	0°
112.5°	149.0	148.8	148.6	148.4	148.2	148.0	147.8	147.6	147.4	147.2	147.0	2.5°
115°	179.0	178.8	178.6	178.4	178.2	178.0	177.8	177.6	177.4	177.2	177.0	5°
117.5°	210.0	209.8	209.6	209.4	209.2	209.0	208.8	208.6	208.4	208.2	208.0	7.5°
120°	245.0	244.8	244.6	244.4	244.2	244.0	243.8	243.6	243.4	243.2	243.0	10°
122.5°	278.0	277.8	277.6	277.4	277.2	277.0	276.8	276.6	276.4	276.2	276.0	12.5°
125°	310.0	310.0	310.0	310.0	310.0	310.0	310.0	310.0	310.0	310.0	310.0	15°
127.5°	346.0	345.9	345.8	345.7	345.6	345.5	345.4	345.3	345.2	345.1	345.0	17.5°
130°	381.0	380.8	380.6	380.4	380.2	380.0	379.8	379.6	379.4	379.2	379.0	20°
132.5°	414.0	414.0	414.0	414.0	414.0	414.0	414.0	414.0	414.0	414.0	414.0	22.5°
135°	447.0	447.3	447.6	447.9	448.2	448.5	448.8	449.1	449.4	449.7	450.0	25°
137.5°	476.0	476.5	477.0	477.5	478.0	478.5	479.0	479.5	480.0	480.5	481.0	27.5°
140°	504.0	504.5	505.0	505.5	506.0	506.5	507.0	507.5	508.0	508.5	509.0	30°
142.5°	533.0	533.1	533.2	533.3	533.4	533.5	533.6	533.7	533.8	533.9	534.0	32.5°
145°	561.0	560.7	560.4	560.1	559.8	559.5	559.2	558.9	558.6	558.3	558.0	35°
147.5°	586.0	585.7	585.4	585.1	584.8	584.5	584.2	583.9	583.6	583.3	583.0	37.5°
150°	603.0	603.3	603.6	603.9	604.2	604.5	604.8	605.1	605.4	605.7	606.0	40°
152.5°	618.0	618.5	619.0	619.5	620.0	620.5	621.0	621.5	622.0	622.5	623.0	42.5°
155°	636.0	636.2	636.4	636.6	636.8	637.0	637.2	637.4	637.6	637.8	638.0	45°
157.5°	650.0	650.0	650.0	650.0	650.0	650.0	650.0	650.0	650.0	650.0	650.0	47.5°
160°	661.0	660.9	660.8	660.7	660.6	660.5	660.4	660.3	660.2	660.1	660.0	50°
162.5°	670.0	669.8	669.6	669.4	669.2	669.0	668.8	668.6	668.4	668.2	668.0	52.5°
165°	680.0	679.8	679.6	679.4	679.2	679.0	678.8	678.6	678.4	678.2	678.0	55°
167.5°	688.0	688.0	688.0	688.0	688.0	688.0	688.0	688.0	688.0	688.0	688.0	57.5°
170°	694.0	694.2	694.4	694.6	694.8	695.0	695.2	695.4	695.6	695.8	696.0	60°
172.5°	694.0	694.2	694.4	694.6	694.8	695.0	695.2	695.4	695.6	695.8	696.0	62.5°
175°	696.0	695.8	695.6	695.4	695.2	695.0	694.8	694.6	694.4	694.2	694.0	65°
177.5°	701.0	700.7	700.4	700.1	699.8	699.5	699.2	698.9	698.6	698.3	698.0	66°
180°	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	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°

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REPORT NUMBER: P
 CATALOG NUMBER:

DISTRIBUTION (continued):

CANDELA DISTRIBUTION

86°	87°	88°	89°	90°	95°	105°	115°	125°	135°	145°	86°	
638.1	638.1	638.1	638.1	638.1	638.1	638.1	638.1	638.1	638.1	638.1	110°	116.2
639.0	639.9	640.3	639.9	640.8	640.3	640.8	640.3	638.1	637.6	637.1	112.5°	147.0
639.9	641.7	642.1	642.6	641.7	642.6	640.8	633.5	625.3	616.2	608.9	115°	177.2
640.8	643.1	644.4	644.4	644.9	644.0	637.1	621.2	602.1	582.9	568.4	117.5°	208.2
640.3	643.5	644.9	645.3	645.3	643.5	627.1	601.6	572.5	543.3	513.7	120°	243.0
639.0	641.7	644.0	644.0	644.4	638.1	612.5	576.1	534.7	490.9	451.3	122.5°	276.2
641.7	644.4	644.4	644.4	644.0	633.0	597.1	544.2	488.7	429.5	370.7	125°	310.0
645.8	647.2	646.2	646.2	644.4	628.0	579.8	512.8	439.9	361.6	279.6	127.5°	345.4
649.4	650.3	649.9	647.6	645.3	622.6	562.0	479.6	381.6	279.6	198.1	130°	379.2
653.1	654.0	651.7	648.1	644.9	615.3	540.6	437.2	315.6	191.3	131.2	132.5°	414.2
653.5	654.4	650.3	645.3	640.8	604.3	514.6	392.1	243.2	123.9	102.5	135°	450.2
653.1	652.2	645.3	639.0	634.0	591.1	485.9	336.1	162.1	93.4	89.3	137.5°	481.2
649.9	645.8	640.3	633.0	625.8	576.6	457.2	273.7	102.5	81.1	81.1	140°	509.4
645.3	641.2	634.4	624.8	616.6	562.5	424.5	210.0	82.0	74.7	75.6	142.5°	534.4
643.5	639.0	628.9	618.9	608.4	549.7	389.8	141.2	73.8	70.6	71.0	145°	558.4
647.2	639.4	629.4	618.0	605.7	538.8	353.9	98.4	69.7	66.0	66.9	147.5°	583.4
659.5	652.2	640.3	625.8	612.5	532.4	315.6	81.5	65.6	62.4	62.4	150°	606.8
689.1	679.5	663.6	646.2	630.3	536.5	281.5	74.2	62.4	59.2	59.2	152.5°	624.0
736.9	725.5	706.8	687.2	666.3	556.5	242.7	71.5	60.1	55.6	54.7	155°	638.6
818.9	803.8	779.2	756.0	731.0	591.1	203.6	69.7	57.4	53.3	51.5	157.5°	651.0
947.7	925.4	896.3	865.8	835.3	654.4	172.6	67.9	55.6	51.5	49.6	160°	661.2
1113.5	1098.5	1062.1	1022.0	985.5	780.6	154.8	66.5	54.2	49.2	47.8	162.5°	669.2
1324.8	1300.2	1271.5	1235.6	1192.3	944.1	153.0	66.0	52.8	47.4	46.5	165°	678.8
1548.0	1538.4	1489.7	1467.4	1420.5	1161.8	186.3	66.9	51.9	46.0	44.6	167.5°	689.2
1802.6	1806.2	1760.7	1736.1	1697.4	1437.8	296.5	69.7	51.9	44.6	43.3	170°	697.0
2135.5	2141.4	2087.7	2058.5	2025.7	1747.0	465.9	74.2	53.3	43.3	41.9	172.5°	697.0
2408.3	2376.4	2341.8	2290.8	2249.3	1919.6	448.6	82.4	55.1	41.9	40.5	175°	695.0
2436.5	2413.8	2370.0	2314.9	2264.4	1920.5	391.7	85.2	55.6	41.4	40.1	177.5°	698.8
2432.9	2392.3	2342.7	2296.3	2246.6	1871.3	302.9	88.8	56.9	40.5	39.2	180°	700.0
2264.4	2207.4	2159.2	2095.0	2043.0	1674.6	186.3	88.4	55.1	37.8	36.9		
1867.2	1838.1	1780.7	1729.3	1675.1	1355.3	127.5	78.8	48.7	34.2	34.6		
1207.8	1174.5	1116.2	1087.1	1056.6	867.1	99.3	64.2	41.4	30.5	31.9		
403.1	389.8	368.4	380.3	362.5	337.9	72.9	48.7	33.2	26.4	28.2		
120.7	118.0	122.1	114.8	121.6	102.9	47.8	34.2	25.5	22.8	25.0		
71.5	70.6	70.6	70.6	68.8	64.2	31.4	23.7	19.6	19.1	20.9		
43.7	42.8	43.3	42.8	43.7	39.2	21.4	16.4	14.6	14.1	16.9		
25.0	25.0	25.5	24.6	25.0	24.1	15.0	10.5	9.6	9.1	12.3		
12.9	12.9	11.6	11.1	11.6	13.4	13.1	12.2	9.7	9.3	12.1		
6.0	6.0	6.0	6.0	6.0	6.0	6.0	7.0	7.0	6.0	6.0		
7.0	7.0	7.0	7.0	7.0	7.0	7.0	8.0	7.0	7.0	7.0		
8.0	8.0	8.0	8.0	8.0	8.0	9.0	10.0	12.0	9.0	9.0		
19.0	19.0	19.0	19.0	19.0	19.0	23.0	26.0	29.0	21.0	12.0		
38.8	38.6	38.4	38.2	38.0	39.0	42.0	47.0	50.0	40.0	27.0		
61.0	61.0	61.0	61.0	61.0	61.0	65.0	70.0	72.0	63.0	48.0		
86.8	86.6	86.4	86.2	86.0	87.0	90.0	94.0	95.0	88.0	73.0		

'226828
 IST-AF-450-LED-E1-SL2-7050-ULG

REPORT NUMBER: P226828
 CATALOG NUMBER: IST-AF-450

TION (continued):

CANDELA DISTRIBUTION (con

87°	88°	89°	90°	95°	105°	115°	125°	135°	145°		155°	165°
116.4	116.6	116.8	117.0	116.0	119.0	121.0	120.0	114.0	102.0	0°	638.1	638.1
147.0	147.0	147.0	147.0	147.0	149.0	150.0	148.0	143.0	134.0	2.5°	633.5	630.3
177.4	177.6	177.8	178.0	177.0	179.0	182.0	179.0	174.0	168.0	5°	597.5	588.9
208.4	208.6	208.8	209.0	208.0	210.0	215.0	211.0	205.0	202.0	7.5°	545.6	535.6
243.0	243.0	243.0	243.0	243.0	245.0	250.0	246.0	243.0	237.0	10°	486.4	471.4
276.4	276.6	276.8	277.0	276.0	278.0	283.0	279.0	277.0	271.0	12.5°	410.8	381.2
310.0	310.0	310.0	310.0	310.0	310.0	315.0	313.0	310.0	305.0	15°	323.4	283.7
345.8	346.2	346.6	347.0	345.0	346.0	346.0	345.0	340.0	339.0	17.5°	222.7	190.8
379.4	379.6	379.8	380.0	379.0	381.0	381.0	377.0	372.0	370.0	20°	156.2	144.4
414.4	414.6	414.8	415.0	414.0	414.0	416.0	411.0	405.0	404.0	22.5°	120.7	121.1
450.4	450.6	450.8	451.0	450.0	447.0	448.0	443.0	437.0	435.0	25°	100.2	104.7
481.4	481.6	481.8	482.0	481.0	476.0	475.0	473.0	468.0	464.0	27.5°	88.4	92.9
509.8	510.2	510.6	511.0	509.0	504.0	502.0	500.0	497.0	491.0	30°	81.1	85.2
534.8	535.2	535.6	536.0	534.0	533.0	533.0	527.0	525.0	521.0	32.5°	76.1	77.9
558.8	559.2	559.6	560.0	558.0	561.0	562.0	556.0	551.0	550.0	35°	70.1	71.0
583.8	584.2	584.6	585.0	583.0	586.0	585.0	580.0	575.0	574.0	37.5°	65.1	65.1
607.6	608.4	609.2	610.0	606.0	603.0	600.0	597.0	593.0	593.0	40°	60.6	60.1
625.0	626.0	627.0	628.0	623.0	618.0	614.0	611.0	610.0	610.0	42.5°	56.5	56.0
639.2	639.8	640.4	641.0	638.0	636.0	631.0	626.0	628.0	630.0	45°	52.4	52.8
652.0	653.0	654.0	655.0	650.0	650.0	648.0	644.0	645.0	646.0	47.5°	50.1	50.6
662.4	663.6	664.8	666.0	660.0	661.0	664.0	658.0	655.0	655.0	50°	47.8	48.3
670.4	671.6	672.8	674.0	668.0	670.0	671.0	667.0	663.0	661.0	52.5°	46.0	46.0
679.6	680.4	681.2	682.0	678.0	680.0	677.0	672.0	673.0	673.0	55°	44.2	43.7
690.4	691.6	692.8	694.0	688.0	688.0	684.0	678.0	685.0	688.0	57.5°	42.8	41.9
698.0	699.0	700.0	701.0	696.0	694.0	689.0	686.0	691.0	693.0	60°	41.4	40.5
698.0	699.0	700.0	701.0	696.0	694.0	692.0	689.0	690.0	690.0	62.5°	40.5	39.2
696.0	697.0	698.0	699.0	694.0	696.0	695.0	690.0	690.0	691.0	65°	39.6	38.7
699.6	700.4	701.2	702.0	698.0	701.0	699.0	694.0	695.0	697.0	66°	39.2	38.3
700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	67.5°	38.7	37.8
										70°	36.9	36.0
										72.5°	34.2	33.7
										75°	31.4	30.5
										77.5°	27.8	27.3
										80°	23.7	23.2
										82.5°	20.0	19.1
										85°	15.9	15.0
										87.5°	10.9	10.0
										90°	10.7	10.2
										92.5°	6.0	5.0
										95°	7.0	6.0
										97.5°	8.0	8.0
										100°	10.0	9.0
										102.5°	18.0	13.0
										105°	36.0	27.0
										107.5°	58.0	49.0



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

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tinued):

175°	180°
638.1	638.1
627.6	631.7
586.1	584.8
527.4	527.8
456.3	457.2
364.3	358.9
261.0	263.2
181.7	181.3
145.7	146.6
124.8	124.8
111.1	111.1
97.9	98.4
88.8	89.7
80.6	81.1
72.4	72.9
65.6	65.6
61.0	61.5
57.8	57.8
54.7	54.7
51.9	52.8
49.2	49.6
46.5	46.9
43.7	43.7
41.4	41.4
39.6	39.2
38.3	37.3
36.9	36.4
36.4	36.0
36.0	35.5
35.1	34.6
33.7	33.2
31.0	30.1
28.2	27.3
26.0	24.6
21.9	20.9
15.9	15.0
9.6	9.6
7.3	7.3
4.0	4.0
5.0	5.0
7.0	7.0
8.0	8.0
11.0	11.0
22.0	21.0
42.0	41.0

CANDELA DISTRIBUTION (continued):

	155°	165°	175°
110°	87.0	74.0	68.0
112.5°	121.0	106.0	99.0
115°	159.0	147.0	139.0
117.5°	197.0	189.0	184.0
120°	233.0	226.0	223.0
122.5°	267.0	261.0	260.0
125°	299.0	296.0	294.0
127.5°	333.0	329.0	329.0
130°	366.0	362.0	361.0
132.5°	401.0	393.0	394.0
135°	432.0	426.0	426.0
137.5°	460.0	459.0	457.0
140°	489.0	487.0	485.0
142.5°	518.0	517.0	515.0
145°	547.0	544.0	546.0
147.5°	574.0	571.0	572.0
150°	593.0	593.0	592.0
152.5°	609.0	608.0	608.0
155°	627.0	625.0	625.0
157.5°	644.0	643.0	643.0
160°	656.0	659.0	660.0
162.5°	665.0	669.0	669.0
165°	676.0	676.0	678.0
167.5°	686.0	684.0	687.0
170°	692.0	692.0	695.0
172.5°	693.0	695.0	697.0
175°	695.0	697.0	698.0
177.5°	699.0	700.0	705.0
180°	700.0	700.0	700.0



İL2-7050-ULG

180°
66.0
99.0
140.0
184.0
225.0
263.0
298.0
330.0
363.0
396.0
429.0
460.0
488.0
518.0
550.0
575.0
595.0
611.0
629.0
646.0
663.0
673.0
681.0
690.0
698.0
699.0
700.0
707.0
700.0

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