

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: P226825

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P226825
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-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) 4000K CCT, 70 CRI LEDs and (1) UPLIGHT LED
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4876.9 lumens
Efficiency: N/A
Efficacy: 116.1 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

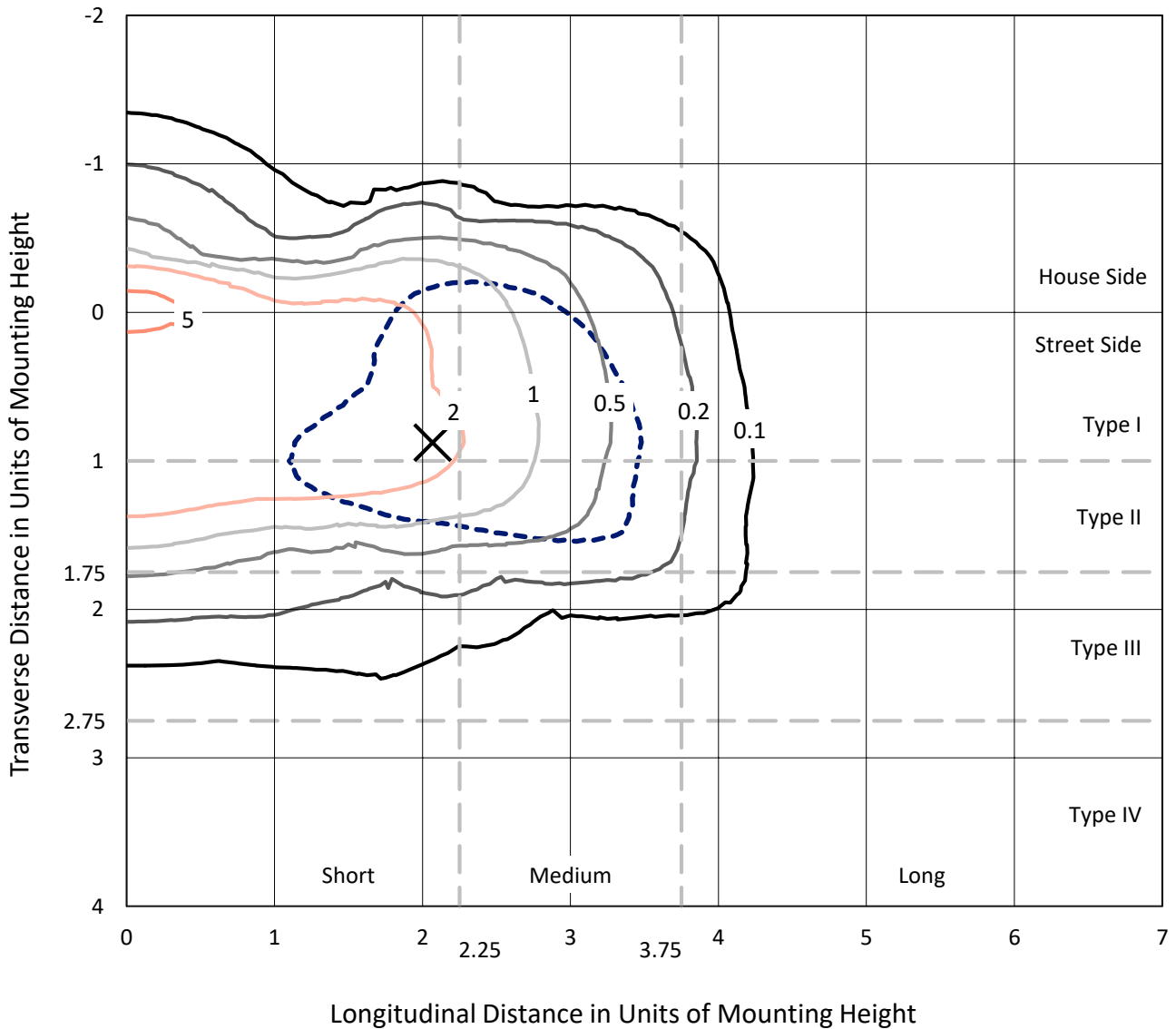
Input Watts (W): 42.01
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

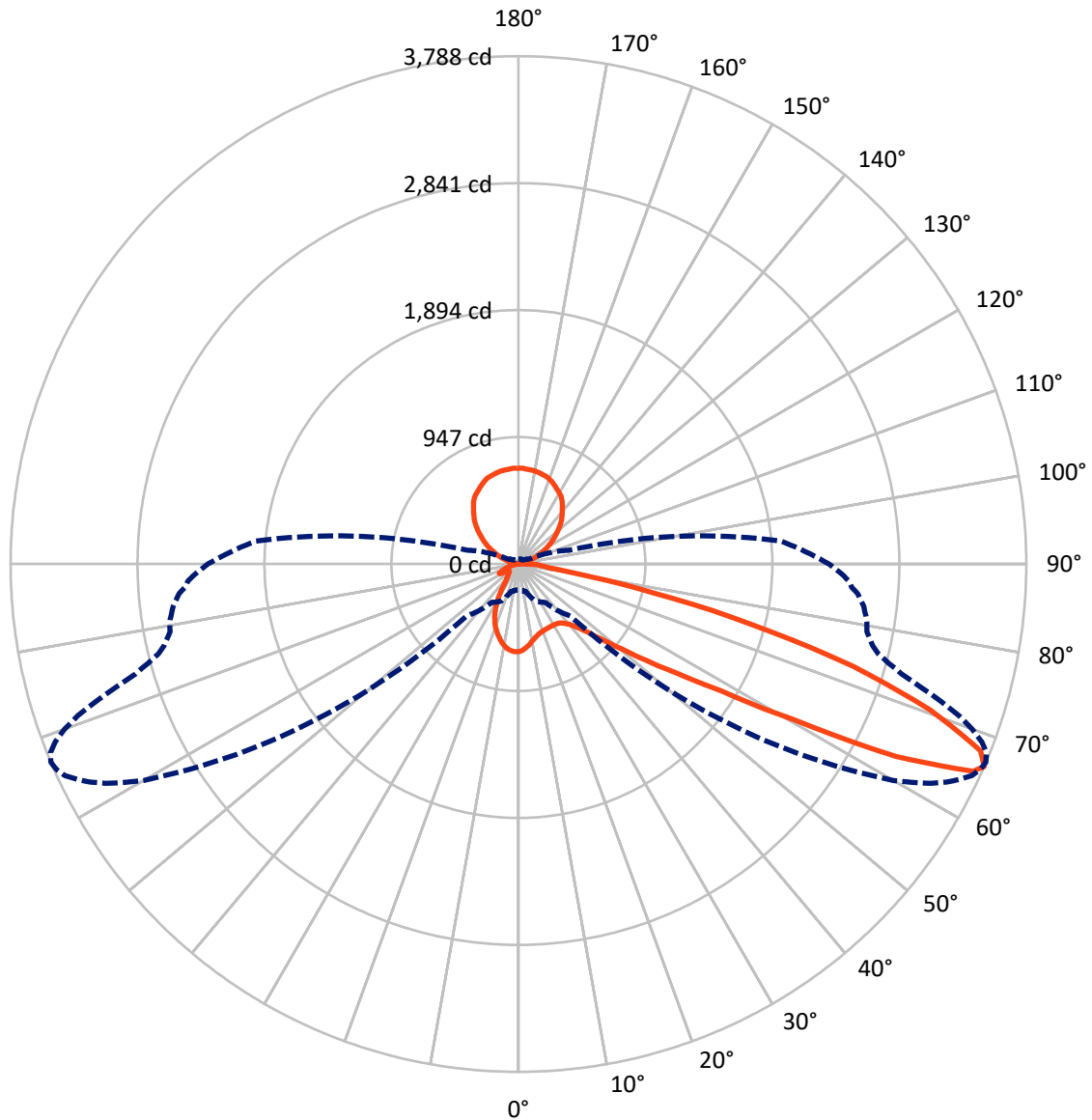
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 6.5 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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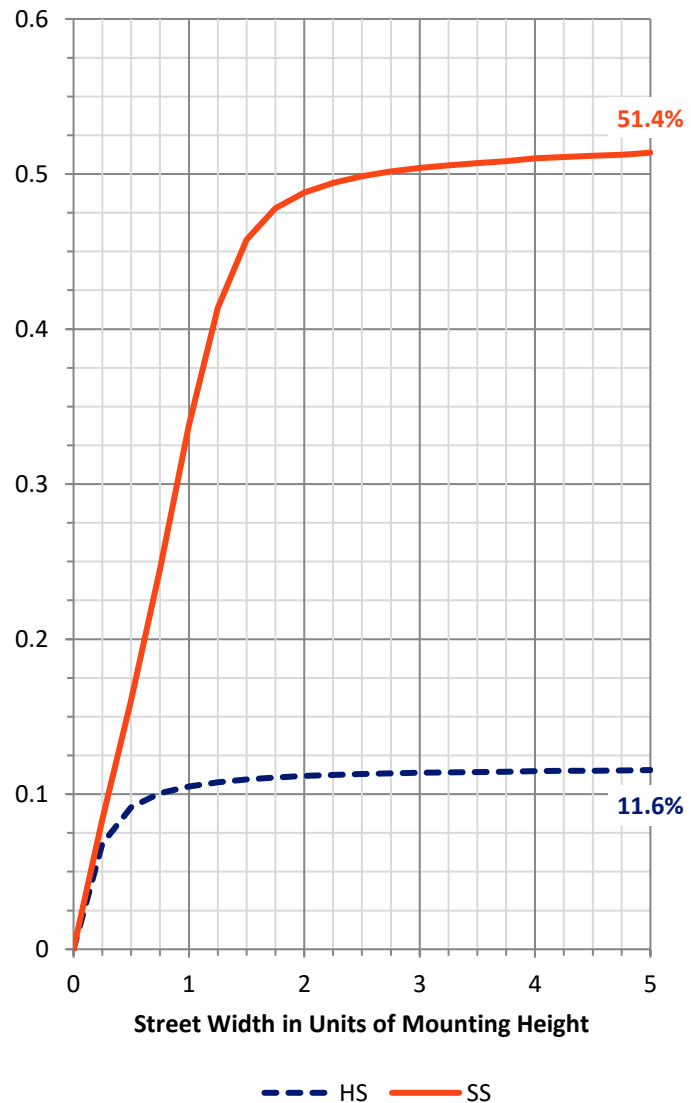
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	573.1	887.7	1460.8
	% Fixture	11.8	18.2	30.0
Street Side	Lumens	2527.7	888.4	3416.1
	% Fixture	51.8	18.2	70.0
Total	Lumens	3100.8	1776.1	4876.9
	% Fixture	63.6	36.4	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	56.6	1.2
10°-20°	134.7	2.8
20°-30°	184.7	3.8
30°-40°	263.9	5.4
40°-50°	427.9	8.8
50°-60°	678.0	13.9
60°-70°	859.2	17.6
70°-80°	427.1	8.8
80°-90°	68.7	1.4
90°-100°	10.6	0.2
100°-110°	58.7	1.2
110°-120°	169.9	3.5
120°-130°	279.4	5.7
130°-140°	344.6	7.1
140°-150°	352.5	7.2
150°-160°	297.0	6.1
160°-170°	195.5	4.0
170°-180°	67.8	1.4
0°-90°	3100.8	63.6
0°-180°	4876.9	100.0



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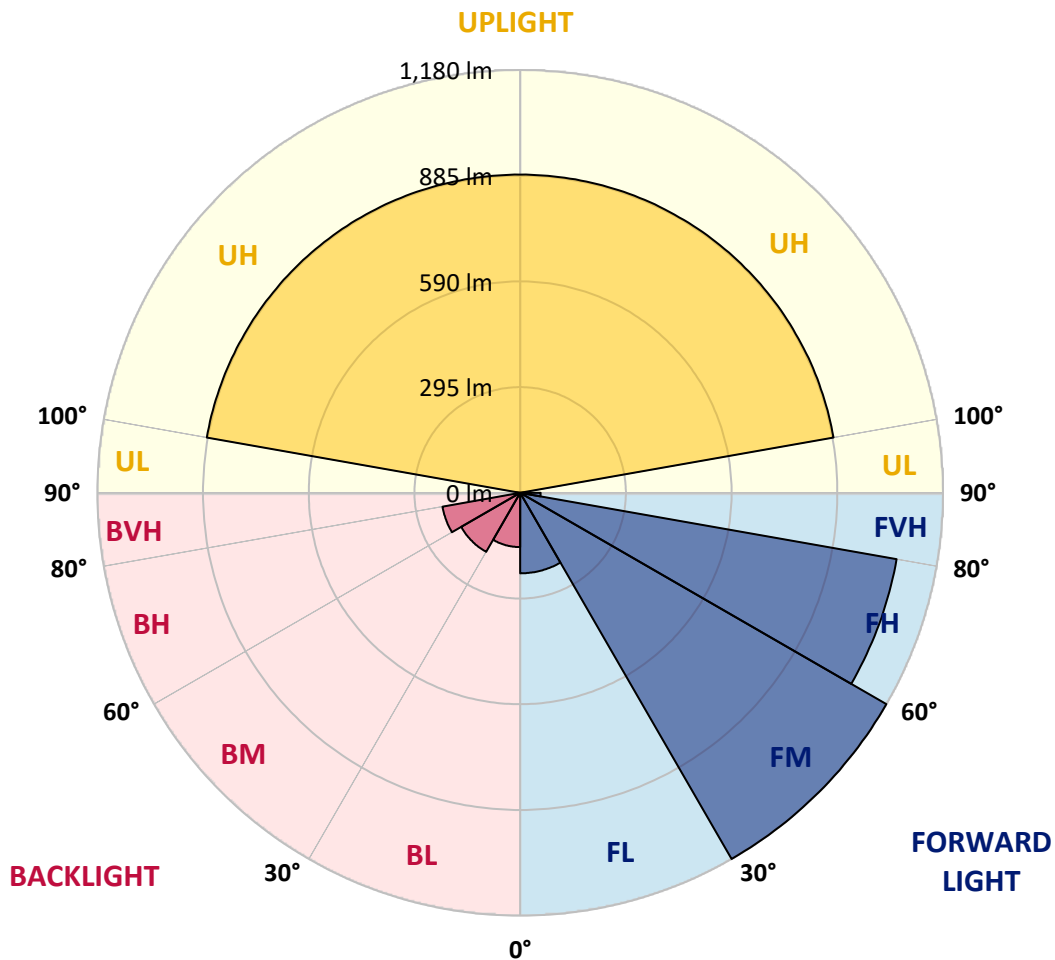
CATALOG NUMBER: IST-AF-450-LED-E1-SL2-ULG

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	224.6	4.6			
FM (30°-60°)	1179.6	24.2			
FH (60°-80°)	1066.2	21.9			G1/1800
FVH (80°-90°)	57.3	1.2			G1/100
BL (0°-30°)	151.4	3.1	B1/500		
BM (30°-60°)	190.2	3.9	B0/220		
BH (60°-80°)	220.0	4.5	B1/500		G1/500
BVH (80°-90°)	11.4	0.2			G1/100
UL (90°-100°)	10.6	0.2		U2/50	
UH (100°-180°)	887.7	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°	652.7	652.7	652.7	652.7	652.7	652.7	652.7	652.7	652.7	652.7	652.7
2.5°	606.6	607.9	615.9	620.1	626.1	628.0	634.9	637.8	640.2	639.7	639.7
5°	552.1	556.3	560.0	568.4	577.3	587.9	601.5	611.7	613.6	615.9	617.2
7.5°	510.6	513.4	520.0	526.0	537.2	552.1	571.2	584.2	587.0	587.9	591.2
10°	481.3	483.1	488.7	496.6	509.6	524.2	544.1	557.6	561.8	563.7	566.5
12.5°	458.4	461.2	466.4	474.8	488.7	503.6	524.6	538.1	540.8	543.2	547.4
15°	444.0	445.8	450.5	459.8	472.4	487.3	507.8	524.2	526.0	528.4	532.0
17.5°	441.2	442.6	445.4	452.3	462.2	476.6	497.6	511.1	514.3	517.6	521.3
20°	452.3	453.3	454.2	455.2	460.7	470.0	490.6	505.0	507.8	510.6	515.3
22.5°	476.6	478.0	475.7	472.4	468.2	470.0	487.3	502.2	504.1	506.9	510.6
25°	518.5	517.1	510.1	505.0	490.1	478.0	488.3	500.8	503.2	506.0	510.1
27.5°	567.9	566.0	561.8	547.9	523.1	498.5	493.9	503.2	504.5	506.9	510.6
30°	621.0	621.4	617.8	602.4	570.7	529.3	506.4	508.7	509.6	511.6	513.8
32.5°	669.0	676.0	675.6	674.6	629.4	570.7	530.6	521.3	520.0	521.3	522.2
35°	724.5	725.9	738.9	745.4	708.6	631.3	566.0	545.5	539.9	540.4	539.5
37.5°	784.1	785.9	808.3	819.5	791.0	700.2	613.1	581.4	576.3	571.2	567.4
40°	870.7	878.2	889.9	902.4	888.4	792.9	675.0	632.2	619.2	618.2	610.8
42.5°	1000.2	997.9	992.4	1002.6	985.8	896.8	750.0	703.9	694.2	681.1	670.9
45°	1127.4	1132.5	1108.4	1113.0	1113.9	1017.0	858.6	793.8	788.7	773.4	762.2
47.5°	1213.1	1207.6	1175.0	1198.7	1256.9	1157.3	984.4	916.4	905.6	897.7	890.8
50°	1217.8	1213.1	1192.1	1234.1	1358.5	1406.5	1159.6	1080.3	1065.0	1051.0	1046.8
52.5°	1104.2	1097.6	1104.6	1189.9	1395.3	1615.2	1407.0	1284.0	1271.4	1259.8	1243.4
55°	901.4	908.9	942.0	1064.5	1338.9	1763.4	1893.8	1598.5	1544.3	1543.9	1503.8
57.5°	673.2	665.7	690.4	805.5	1196.3	1815.9	2341.0	2267.9	2147.3	2065.7	1967.4
60°	454.2	456.1	478.9	538.1	832.5	1758.7	2640.6	2895.5	2853.0	2835.8	2809.2
62.5°	315.0	317.7	338.7	394.1	486.8	1414.8	2728.2	3247.2	3323.1	3386.0	3370.6
65°	220.3	220.9	241.8	327.5	364.8	726.8	2534.9	3293.8	3406.9	3515.1	3611.9
66°	194.3	194.8	212.0	304.6	349.8	548.3	2367.1	3229.0	3358.0	3483.9	3584.0
67.5°	166.3	169.1	182.6	259.0	335.4	423.0	1955.3	3035.7	3170.7	3309.1	3441.4
70°	114.2	115.1	127.2	210.1	314.0	371.3	1114.4	2369.9	2556.8	2799.9	2940.6
72.5°	81.5	80.6	82.0	130.0	322.4	369.0	585.6	1559.8	1821.2	2034.4	2186.9
75°	72.6	70.4	64.2	80.6	235.3	402.9	392.3	918.2	1117.2	1311.4	1467.5
77.5°	64.8	61.1	57.8	62.0	116.5	379.7	352.2	526.0	627.6	772.4	892.6
80°	49.4	47.1	48.9	53.6	69.9	349.4	349.8	349.8	377.4	424.8	472.4
82.5°	32.6	29.8	34.0	44.3	52.7	263.2	361.5	308.8	303.7	301.9	305.1
85°	20.5	17.7	23.7	33.0	40.5	137.5	370.8	326.1	302.4	279.6	256.7
87.5°	7.5	8.4	12.1	19.1	26.6	59.6	325.2	287.4	271.2	242.7	216.1
90°	7.0	6.5	9.5	13.8	14.2	18.3	57.0	87.9	56.0	32.3	27.9
92.5°	4.1	4.1	5.1	6.1	6.1	6.1	7.2	7.2	7.2	7.2	7.2
95°	5.1	5.1	6.1	7.2	7.2	7.2	7.2	7.7	7.8	7.9	8.0
97.5°	7.2	7.2	8.2	8.2	9.2	9.2	12.3	11.3	11.0	10.8	10.6
100°	8.2	8.2	9.2	10.2	12.3	21.5	29.7	28.1	27.8	27.5	27.2
102.5°	11.3	11.3	13.3	18.4	27.6	40.9	51.1	49.6	49.3	49.0	48.7
105°	21.5	22.5	27.6	36.8	49.1	64.4	73.7	72.6	72.4	72.2	72.0
107.5°	41.9	43.0	50.1	59.3	74.7	90.0	97.2	96.7	96.6	96.5	96.4



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

CANDELA DISTRIBUTION (continued):

	0°	5°	15°	25°	35°	45°	55°	60°	61°	62°	63°
110°	67.5	69.6	75.7	89.0	104.3	116.6	122.8	123.3	123.4	123.5	123.6
112.5°	101.3	101.3	108.4	123.8	137.1	146.3	151.4	152.4	152.6	152.8	153.0
115°	143.2	142.2	150.4	162.6	171.9	178.0	183.1	184.6	184.9	185.3	185.6
117.5°	188.2	188.2	193.3	201.5	206.6	209.7	215.8	217.9	218.3	218.7	219.1
120°	230.2	228.1	231.2	238.3	242.4	248.6	251.6	253.7	254.1	254.5	254.9
122.5°	269.0	266.0	267.0	273.1	277.2	283.4	285.4	287.4	287.9	288.3	288.7
125°	304.8	300.7	302.8	305.9	312.0	317.1	320.2	321.2	321.4	321.6	321.8
127.5°	337.6	336.6	336.6	340.6	346.8	347.8	352.9	353.4	353.5	353.6	353.7
130°	371.3	369.3	370.3	374.4	378.5	380.5	385.7	387.7	388.1	388.5	388.9
132.5°	405.1	403.0	402.0	410.2	413.3	414.3	420.4	423.0	423.5	424.0	424.5
135°	438.8	435.8	435.8	441.9	445.0	447.0	453.2	455.7	456.2	456.7	457.3
137.5°	470.6	467.5	469.5	470.6	474.6	478.7	483.9	484.9	485.1	485.3	485.5
140°	499.2	496.1	498.2	500.2	502.3	508.4	511.5	512.5	512.7	512.9	513.1
142.5°	529.9	526.8	528.9	529.9	533.0	537.0	539.1	542.2	542.8	543.4	544.0
145°	562.6	558.5	556.5	559.6	562.6	563.6	568.8	571.8	572.4	573.1	573.7
147.5°	588.2	585.1	584.1	587.2	587.2	588.2	593.3	595.9	596.4	596.9	597.4
150°	608.7	605.6	606.6	606.6	606.6	606.6	610.7	612.2	612.5	612.8	613.2
152.5°	625.0	622.0	622.0	623.0	624.0	624.0	625.0	626.6	626.9	627.2	627.5
155°	643.4	639.3	639.3	641.4	644.5	642.4	640.4	642.9	643.4	643.9	644.5
157.5°	660.8	657.8	657.8	658.8	660.8	659.8	658.8	660.8	661.2	661.6	662.1
160°	678.2	675.1	674.1	671.1	670.0	670.0	673.1	676.2	676.8	677.4	678.0
162.5°	688.4	684.4	684.4	680.3	676.2	678.2	682.3	684.4	684.8	685.2	685.6
165°	696.6	693.6	691.5	691.5	688.4	688.4	687.4	690.0	690.5	691.0	691.5
167.5°	705.8	702.8	699.7	701.7	703.8	700.7	693.6	696.6	697.2	697.9	698.5
170°	714.0	711.0	707.9	707.9	708.9	706.9	701.7	703.3	703.6	703.9	704.2
172.5°	715.0	713.0	711.0	708.9	705.8	705.8	704.8	706.3	706.7	707.0	707.3
175°	716.1	714.0	713.0	711.0	706.9	705.8	705.8	708.4	708.9	709.4	709.9
177.5°	723.2	721.2	716.1	715.0	713.0	711.0	709.9	712.5	713.0	713.5	714.0
180°	716.1	716.1	716.1	716.1	716.1	716.1	716.1	716.1	716.1	716.1	716.1



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CANDELA DISTRIBUTION (continued):

	64°	65°	66°	67°	68°	69°	70°	71°	72°	73°	74°
0°	652.7	652.7	652.7	652.7	652.7	652.7	652.7	652.7	652.7	652.7	652.7
2.5°	640.2	642.4	643.3	642.4	642.9	645.7	644.8	646.2	646.2	647.1	647.1
5°	619.2	621.0	624.7	624.3	628.0	629.4	630.8	632.7	634.9	636.4	639.1
7.5°	594.4	598.2	601.5	603.3	605.7	610.3	611.7	615.9	619.6	623.4	626.1
10°	570.7	575.8	579.5	580.9	586.0	588.4	593.5	596.8	601.5	606.1	610.3
12.5°	550.7	555.4	557.2	561.8	566.5	571.2	573.5	579.5	584.2	590.2	595.9
15°	535.7	540.4	544.1	547.4	552.1	556.7	560.5	566.5	572.1	578.2	583.3
17.5°	526.4	529.3	533.9	536.7	542.3	547.9	552.1	559.0	565.1	570.2	577.3
20°	519.5	522.7	526.9	531.1	536.2	543.2	547.0	554.4	560.9	567.0	573.5
22.5°	515.8	518.9	523.1	527.3	533.0	538.6	544.6	551.2	558.1	564.7	571.2
25°	514.3	517.1	520.9	525.1	531.1	537.2	542.3	549.7	555.8	562.8	570.7
27.5°	514.7	516.7	520.9	524.6	530.6	536.2	541.3	548.8	555.8	562.3	570.2
30°	516.7	518.0	522.2	525.5	530.6	536.2	540.8	548.8	554.8	561.8	570.2
32.5°	523.1	525.1	526.9	529.3	533.9	538.1	543.7	550.7	556.3	563.2	570.2
35°	538.6	537.2	538.6	539.5	542.8	547.0	551.2	557.2	562.3	568.4	575.8
37.5°	562.8	560.0	560.9	560.5	560.5	563.2	567.4	571.6	575.8	581.9	589.3
40°	607.5	600.5	598.6	593.5	592.1	594.4	597.3	597.7	602.8	610.8	614.1
42.5°	665.2	655.9	657.3	649.0	646.6	643.8	647.5	645.3	648.6	653.7	660.6
45°	756.6	747.8	738.4	724.9	727.7	717.5	714.6	715.6	715.1	717.0	725.4
47.5°	865.6	854.0	847.9	842.8	833.0	827.0	819.0	807.4	810.2	813.9	821.3
50°	1024.9	1021.2	1009.6	992.8	990.4	981.6	979.3	969.0	965.3	964.8	964.3
52.5°	1237.9	1213.6	1208.9	1193.1	1181.0	1172.6	1169.8	1155.4	1140.9	1149.3	1148.4
55°	1497.3	1477.3	1451.7	1437.7	1427.9	1407.9	1402.8	1384.6	1376.2	1371.6	1359.9
57.5°	1933.4	1863.0	1810.4	1784.3	1747.5	1710.3	1697.2	1659.9	1631.0	1610.5	1612.0
60°	2693.7	2568.4	2420.7	2354.5	2201.3	2178.9	2073.6	2048.0	1984.6	1942.7	1918.4
62.5°	3359.9	3325.9	3255.1	3158.7	3004.9	2827.8	2748.3	2589.8	2465.9	2411.8	2336.8
65°	3678.1	3726.1	3745.6	3727.5	3665.9	3557.9	3462.9	3308.2	3100.5	2983.0	2837.2
66°	3661.8	3733.1	3769.0	3787.6	3765.2	3701.4	3601.7	3474.6	3313.7	3134.9	2971.4
67.5°	3542.6	3611.9	3661.8	3718.6	3718.6	3698.6	3658.1	3573.3	3459.6	3303.5	3156.8
70°	3055.2	3149.4	3237.4	3254.6	3303.1	3288.2	3320.3	3266.3	3239.3	3174.0	3095.2
72.5°	2380.2	2458.9	2534.4	2609.9	2597.3	2581.0	2577.7	2588.9	2534.0	2553.5	2532.9
75°	1583.0	1718.7	1796.0	1788.5	1793.6	1797.8	1763.4	1686.4	1746.1	1670.7	1695.7
77.5°	962.1	1024.9	1045.9	1022.6	992.4	953.2	890.3	853.4	800.9	805.1	770.1
80°	504.5	512.5	495.7	448.7	423.0	399.8	328.0	295.8	266.0	254.8	229.7
82.5°	289.3	270.2	249.7	233.8	203.6	183.1	155.2	137.5	118.4	101.6	95.5
85°	234.4	208.7	189.7	172.0	151.4	133.3	110.0	91.8	77.8	67.5	65.3
87.5°	193.3	175.6	156.1	139.3	119.3	100.7	77.8	60.6	48.0	38.7	35.9
90°	26.3	32.5	26.0	18.5	23.2	16.7	13.4	13.9	12.9	12.9	13.4
92.5°	7.2	7.2	7.1	7.0	6.9	6.8	6.6	6.5	6.4	6.3	6.2
95°	8.1	8.2	8.1	8.0	7.9	7.8	7.7	7.6	7.5	7.4	7.3
97.5°	10.4	10.2	10.1	10.0	9.9	9.8	9.7	9.6	9.5	9.4	9.3
100°	26.9	26.6	26.3	26.0	25.7	25.4	25.1	24.8	24.4	24.1	23.8
102.5°	48.4	48.1	47.6	47.1	46.5	46.0	45.5	45.0	44.5	44.0	43.5
105°	71.8	71.6	71.1	70.6	70.1	69.6	69.0	68.5	68.0	67.5	67.0
107.5°	96.3	96.2	95.7	95.3	94.9	94.5	94.1	93.7	93.3	92.9	92.5



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CANDELA DISTRIBUTION (continued):

	64°	65°	66°	67°	68°	69°	70°	71°	72°	73°	74°
110°	123.7	123.8	123.6	123.4	123.2	123.0	122.8	122.5	122.3	122.1	121.9
112.5°	153.2	153.4	153.3	153.2	153.1	153.0	152.9	152.8	152.7	152.6	152.5
115°	185.9	186.2	185.9	185.6	185.3	184.9	184.6	184.3	184.0	183.7	183.4
117.5°	219.5	219.9	219.4	218.9	218.4	217.9	217.4	216.9	216.4	215.8	215.3
120°	255.3	255.7	255.2	254.7	254.2	253.7	253.2	252.7	252.2	251.6	251.1
122.5°	289.1	289.5	289.0	288.5	288.0	287.4	286.9	286.4	285.9	285.4	284.9
125°	322.0	322.2	321.7	321.2	320.7	320.2	319.7	319.2	318.6	318.1	317.6
127.5°	353.8	353.9	353.9	353.9	353.9	353.9	353.9	353.9	353.9	353.9	353.9
130°	389.3	389.7	389.7	389.7	389.7	389.7	389.7	389.7	389.7	389.7	389.7
132.5°	425.0	425.5	425.3	425.1	424.9	424.7	424.5	424.3	424.1	423.9	423.7
135°	457.8	458.3	458.2	458.1	458.0	457.9	457.8	457.7	457.6	457.5	457.4
137.5°	485.7	485.9	486.0	486.1	486.2	486.3	486.4	486.5	486.6	486.7	486.8
140°	513.3	513.5	513.7	513.9	514.1	514.3	514.5	514.7	515.0	515.2	515.4
142.5°	544.6	545.2	545.2	545.2	545.2	545.2	545.2	545.2	545.2	545.2	545.2
145°	574.3	574.9	574.8	574.7	574.6	574.5	574.4	574.3	574.2	574.1	574.0
147.5°	597.9	598.4	598.5	598.6	598.7	598.8	598.9	599.0	599.1	599.2	599.3
150°	613.5	613.8	614.1	614.4	614.7	615.0	615.3	615.6	615.9	616.2	616.5
152.5°	627.8	628.1	628.5	628.9	629.3	629.7	630.1	630.5	631.0	631.4	631.8
155°	645.0	645.5	646.0	646.5	647.0	647.5	648.0	648.6	649.1	649.6	650.1
157.5°	662.5	662.9	663.1	663.3	663.5	663.7	663.9	664.1	664.3	664.5	664.7
160°	678.6	679.2	678.9	678.6	678.3	678.0	677.7	677.4	677.1	676.8	676.5
162.5°	686.0	686.4	686.3	686.2	686.1	686.0	685.9	685.8	685.7	685.6	685.5
165°	692.0	692.5	692.8	693.2	693.5	693.8	694.1	694.4	694.7	695.0	695.3
167.5°	699.1	699.7	700.1	700.5	700.9	701.3	701.7	702.2	702.6	703.0	703.4
170°	704.5	704.8	705.3	705.8	706.3	706.9	707.4	707.9	708.4	708.9	709.4
172.5°	707.6	707.9	708.1	708.3	708.5	708.7	708.9	709.1	709.3	709.5	709.7
175°	710.4	711.0	711.1	711.2	711.3	711.4	711.5	711.6	711.7	711.8	711.9
177.5°	714.5	715.0	715.2	715.5	715.7	715.9	716.1	716.3	716.5	716.7	716.9
180°	716.1	716.1	716.1	716.1	716.1	716.1	716.1	716.1	716.1	716.1	716.1



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

CANDELA DISTRIBUTION (continued):

	75°	76°	77°	78°	79°	80°	81°	82°	83°	84°	85°
0°	652.7	652.7	652.7	652.7	652.7	652.7	652.7	652.7	652.7	652.7	652.7
2.5°	648.6	648.6	649.5	650.4	650.8	650.8	650.8	651.7	652.2	650.8	652.2
5°	640.6	642.9	644.8	646.2	646.6	648.0	649.5	650.4	651.7	651.7	652.7
7.5°	629.8	634.0	636.4	638.7	641.1	643.3	646.2	648.0	649.0	650.8	652.2
10°	616.3	621.4	626.1	629.8	633.1	637.8	641.5	644.4	648.6	649.0	652.2
12.5°	601.9	609.4	613.1	620.1	624.7	631.8	635.5	639.7	644.4	646.6	650.4
15°	591.7	598.2	605.2	611.7	619.2	627.6	632.2	637.8	644.4	649.5	654.1
17.5°	583.7	592.6	600.5	608.9	618.2	627.1	634.0	640.2	648.6	651.3	655.9
20°	581.4	591.2	599.1	607.9	617.8	629.4	637.8	644.4	652.7	657.3	661.5
22.5°	580.5	589.8	599.1	609.9	620.5	632.7	641.5	649.9	658.3	662.5	665.7
25°	579.5	589.3	599.6	611.7	623.4	636.0	646.2	654.1	662.1	666.2	669.0
27.5°	579.5	589.8	601.0	613.1	625.6	639.7	649.5	656.8	663.9	667.6	668.5
30°	579.1	589.8	600.5	614.1	627.6	642.0	652.7	659.7	665.7	668.1	667.2
32.5°	580.0	591.2	602.8	616.3	630.3	644.4	655.5	663.4	666.7	666.2	665.7
35°	584.7	594.9	608.5	622.0	636.4	649.5	660.1	665.7	668.5	667.6	665.2
37.5°	597.3	607.5	621.0	636.0	647.1	662.1	671.8	676.0	676.5	673.6	668.1
40°	623.4	633.6	645.7	662.1	675.6	685.8	695.1	699.7	696.9	691.8	685.8
42.5°	664.8	677.8	692.3	705.3	721.2	735.2	737.4	740.3	735.6	725.9	718.4
45°	731.4	739.4	758.0	767.7	788.3	795.2	800.4	801.8	791.6	783.6	770.6
47.5°	827.4	842.8	855.8	865.1	880.0	889.4	899.6	895.0	887.0	873.5	856.3
50°	978.4	988.2	1004.9	1021.6	1037.5	1044.0	1044.0	1039.4	1034.2	1008.1	987.1
52.5°	1163.8	1164.7	1188.9	1208.9	1222.4	1212.7	1224.4	1212.7	1209.4	1191.2	1174.0
55°	1378.5	1369.7	1399.0	1416.7	1428.9	1440.5	1438.2	1436.7	1424.7	1404.2	1383.2
57.5°	1582.6	1608.2	1622.2	1648.3	1654.3	1662.3	1659.0	1654.3	1647.4	1635.7	1626.4
60°	1877.0	1894.3	1906.9	1912.0	1929.2	1931.5	1943.2	1924.1	1928.8	1915.3	1885.9
62.5°	2277.7	2259.1	2268.8	2268.8	2263.7	2245.6	2255.3	2262.8	2250.2	2239.0	2234.3
65°	2726.3	2666.2	2608.4	2598.7	2572.1	2566.1	2558.6	2540.0	2532.0	2512.5	2496.6
66°	2860.5	2767.3	2712.8	2679.3	2647.1	2640.1	2629.9	2610.3	2594.5	2567.0	2540.4
67.5°	3011.0	2890.8	2808.8	2761.3	2721.7	2695.6	2675.1	2647.1	2621.9	2581.0	2538.6
70°	3001.2	2901.9	2803.2	2731.0	2671.3	2617.7	2586.1	2526.0	2474.7	2416.0	2367.6
72.5°	2521.8	2504.1	2446.8	2406.3	2333.1	2304.7	2220.8	2182.7	2111.8	2035.9	2012.6
75°	1753.1	1683.7	1654.3	1638.1	1605.9	1517.3	1459.5	1472.1	1389.3	1315.2	1272.8
77.5°	766.4	780.3	699.3	663.0	634.9	587.0	542.3	511.6	493.9	482.2	429.5
80°	212.0	184.9	182.6	169.6	166.7	148.6	151.0	137.9	129.1	127.2	123.0
82.5°	92.7	90.8	88.1	86.6	85.2	83.4	81.0	80.6	77.8	75.5	75.9
85°	61.5	61.1	59.6	58.2	56.0	52.7	50.3	48.5	48.9	46.5	46.1
87.5°	35.9	35.0	34.5	32.6	32.1	29.4	29.8	27.5	27.0	26.6	25.2
90°	14.3	14.6	15.8	15.1	13.1	17.1	15.4	14.3	14.5	13.0	12.8
92.5°	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1
95°	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2
97.5°	9.2	9.1	9.0	8.9	8.8	8.7	8.6	8.5	8.4	8.3	8.2
100°	23.5	23.1	22.7	22.3	21.9	21.5	21.1	20.7	20.3	19.8	19.4
102.5°	43.0	42.7	42.4	42.0	41.7	41.4	41.1	40.8	40.5	40.2	39.9
105°	66.5	66.1	65.7	65.3	64.9	64.4	64.0	63.6	63.2	62.8	62.4
107.5°	92.1	91.8	91.5	91.1	90.8	90.5	90.2	89.9	89.6	89.3	89.0



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REPORT N
 CATALOG

CANDELA DISTRIBUTION (continued):

CANDELA

	75°	76°	77°	78°	79°	80°	81°	82°	83°	84°	85°	
110°	121.7	121.4	121.1	120.8	120.5	120.2	119.9	119.6	119.3	119.0	118.7	0°
112.5°	152.4	152.2	152.0	151.8	151.6	151.4	151.2	151.0	150.8	150.6	150.4	2.5°
115°	183.1	182.9	182.7	182.5	182.3	182.1	181.9	181.7	181.5	181.3	181.1	5°
117.5°	214.8	214.6	214.4	214.2	214.0	213.8	213.6	213.4	213.2	213.0	212.8	7.5°
120°	250.6	250.4	250.2	250.0	249.8	249.6	249.4	249.2	249.0	248.8	248.6	10°
122.5°	284.4	284.2	284.0	283.8	283.6	283.4	283.2	282.9	282.7	282.5	282.3	12.5°
125°	317.1	317.1	317.1	317.1	317.1	317.1	317.1	317.1	317.1	317.1	317.1	15°
127.5°	353.9	353.8	353.7	353.6	353.5	353.4	353.3	353.2	353.1	353.0	352.9	17.5°
130°	389.7	389.5	389.3	389.1	388.9	388.7	388.5	388.3	388.1	387.9	387.7	20°
132.5°	423.5	423.5	423.5	423.5	423.5	423.5	423.5	423.5	423.5	423.5	423.5	22.5°
135°	457.3	457.6	457.9	458.2	458.5	458.8	459.1	459.4	459.7	460.0	460.3	25°
137.5°	486.9	487.4	487.9	488.5	489.0	489.5	490.0	490.5	491.0	491.5	492.0	27.5°
140°	515.6	516.1	516.6	517.1	517.6	518.1	518.6	519.1	519.7	520.2	520.7	30°
142.5°	545.2	545.3	545.4	545.5	545.6	545.7	545.8	545.9	546.1	546.2	546.3	32.5°
145°	573.9	573.6	573.3	573.0	572.6	572.3	572.0	571.7	571.4	571.1	570.8	35°
147.5°	599.4	599.1	598.8	598.5	598.2	597.9	597.6	597.3	597.0	596.7	596.4	37.5°
150°	616.8	617.1	617.5	617.8	618.1	618.4	618.7	619.0	619.3	619.6	619.9	40°
152.5°	632.2	632.7	633.2	633.7	634.2	634.7	635.3	635.8	636.3	636.8	637.3	42.5°
155°	650.6	650.8	651.0	651.2	651.4	651.6	651.8	652.0	652.2	652.4	652.6	45°
157.5°	664.9	664.9	664.9	664.9	664.9	664.9	664.9	664.9	664.9	664.9	664.9	47.5°
160°	676.2	676.1	676.0	675.9	675.8	675.7	675.6	675.5	675.4	675.2	675.1	50°
162.5°	685.4	685.2	685.0	684.8	684.6	684.4	684.1	683.9	683.7	683.5	683.3	52.5°
165°	695.6	695.4	695.2	695.0	694.8	694.6	694.4	694.2	694.0	693.8	693.6	55°
167.5°	703.8	703.8	703.8	703.8	703.8	703.8	703.8	703.8	703.8	703.8	703.8	57.5°
170°	709.9	710.1	710.3	710.5	710.7	711.0	711.2	711.4	711.6	711.8	712.0	60°
172.5°	709.9	710.1	710.3	710.5	710.7	711.0	711.2	711.4	711.6	711.8	712.0	62.5°
175°	712.0	711.8	711.6	711.4	711.2	711.0	710.7	710.5	710.3	710.1	709.9	65°
177.5°	717.1	716.8	716.5	716.2	715.9	715.6	715.2	714.9	714.6	714.3	714.0	66°
180°	716.1	716.1	716.1	716.1	716.1	716.1	716.1	716.1	716.1	716.1	716.1	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°	
652.7	652.7	652.7	652.7	652.7	652.7	652.7	652.7	652.7	652.7	652.7	110°	118.9
653.7	654.6	655.0	654.6	655.5	655.0	655.5	655.0	652.7	652.2	651.7	112.5°	150.4
654.6	656.4	656.8	657.3	656.4	657.3	655.5	648.0	639.7	630.3	622.9	115°	181.3
655.5	657.9	659.2	659.2	659.7	658.8	651.7	635.5	615.9	596.3	581.4	117.5°	213.0
655.0	658.3	659.7	660.1	660.1	658.3	641.5	615.4	585.6	555.8	525.5	120°	248.6
653.7	656.4	658.8	658.8	659.2	652.7	626.6	589.3	547.0	502.2	461.7	122.5°	282.5
656.4	659.2	659.2	659.2	658.8	647.5	610.8	556.7	499.9	439.4	379.2	125°	317.1
660.6	662.1	661.0	661.0	659.2	642.4	593.1	524.6	450.0	369.9	286.0	127.5°	353.3
664.3	665.2	664.8	662.5	660.1	636.9	574.9	490.6	390.4	286.0	202.6	130°	387.9
668.1	669.0	666.7	663.0	659.7	629.4	553.0	447.2	322.8	195.7	134.2	132.5°	423.7
668.5	669.4	665.2	660.1	655.5	618.2	526.4	401.1	248.8	126.7	104.9	135°	460.5
668.1	667.2	660.1	653.7	648.6	604.7	497.1	343.8	165.8	95.5	91.3	137.5°	492.2
664.8	660.6	655.0	647.5	640.2	589.8	467.7	280.0	104.9	83.0	83.0	140°	521.1
660.1	655.9	649.0	639.1	630.8	575.4	434.2	214.8	83.9	76.4	77.3	142.5°	546.7
658.3	653.7	643.3	633.1	622.4	562.3	398.7	144.4	75.5	72.2	72.6	145°	571.2
662.1	654.1	643.8	632.2	619.6	551.2	362.0	100.7	71.3	67.5	68.4	147.5°	596.8
674.6	667.2	655.0	640.2	626.6	544.6	322.8	83.4	67.1	63.8	63.8	150°	620.7
704.9	695.1	678.8	661.0	644.8	548.8	288.0	75.9	63.8	60.6	60.6	152.5°	638.3
753.8	742.2	723.0	703.0	681.6	569.3	248.3	73.1	61.5	56.9	56.0	155°	653.3
837.7	822.2	797.1	773.4	747.8	604.7	208.3	71.3	58.7	54.5	52.7	157.5°	665.9
969.5	946.6	916.9	885.7	854.5	669.4	176.6	69.5	56.9	52.7	50.7	160°	676.4
1139.1	1123.7	1086.5	1045.5	1008.1	798.5	158.4	68.0	55.4	50.3	48.9	162.5°	684.6
1355.2	1330.0	1300.7	1264.0	1219.7	965.8	156.5	67.5	54.0	48.5	47.6	165°	694.4
1583.5	1573.7	1523.9	1501.1	1453.1	1188.5	190.6	68.4	53.1	47.1	45.6	167.5°	705.0
1844.0	1847.7	1801.1	1775.9	1736.4	1470.8	303.3	71.3	53.1	45.6	44.3	170°	713.0
2184.5	2190.5	2135.6	2105.7	2072.2	1787.1	476.6	75.9	54.5	44.3	42.9	172.5°	713.0
2463.6	2430.9	2395.5	2343.4	2300.9	1963.7	458.9	84.3	56.4	42.9	41.4	175°	711.0
2492.4	2469.2	2424.4	2368.0	2316.4	1964.6	400.7	87.2	56.9	42.4	41.0	177.5°	714.8
2488.7	2447.2	2396.5	2349.0	2298.2	1914.2	309.9	90.8	58.2	41.4	40.1	180°	716.1
2316.4	2258.1	2208.8	2143.1	2089.9	1713.0	190.6	90.4	56.4	38.7	37.7		
1910.1	1880.3	1821.6	1769.0	1713.5	1386.4	130.4	80.6	49.8	35.0	35.4		
1235.5	1201.5	1141.8	1112.0	1080.8	887.0	101.6	65.7	42.4	31.2	32.6		
412.4	398.7	376.9	389.0	370.8	345.7	74.6	49.8	34.0	27.0	28.8		
123.5	120.7	124.9	117.4	124.4	105.3	48.9	35.0	26.1	23.3	25.6		
73.1	72.2	72.2	72.2	70.4	65.7	32.1	24.2	20.0	19.5	21.4		
44.7	43.8	44.3	43.8	44.7	40.1	21.9	16.8	14.9	14.4	17.3		
25.6	25.6	26.1	25.2	25.6	24.7	15.3	10.7	9.8	9.3	12.6		
13.2	13.2	11.9	11.4	11.9	13.7	13.4	12.5	9.9	9.5	12.4		
6.1	6.1	6.1	6.1	6.1	6.1	6.1	7.2	7.2	6.1	6.1		
7.2	7.2	7.2	7.2	7.2	7.2	7.2	8.2	7.2	7.2	7.2		
8.2	8.2	8.2	8.2	8.2	8.2	9.2	10.2	12.3	9.2	9.2		
19.4	19.4	19.4	19.4	19.4	19.4	23.5	26.6	29.7	21.5	12.3		
39.7	39.5	39.3	39.1	38.9	39.9	43.0	48.1	51.1	40.9	27.6		
62.4	62.4	62.4	62.4	62.4	62.4	66.5	71.6	73.7	64.4	49.1		
88.8	88.6	88.4	88.2	88.0	89.0	92.1	96.2	97.2	90.0	74.7		

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 IST-AF-450-LED-E1-SL2-ULG

REPORT NUMBER: P226825
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TION (continued):

CANDELA DISTRIBUTION (con

87°	88°	89°	90°	95°	105°	115°	125°	135°	145°		155°	165°
119.1	119.3	119.5	119.7	118.7	121.7	123.8	122.8	116.6	104.3	0°	652.7	652.7
150.4	150.4	150.4	150.4	150.4	152.4	153.4	151.4	146.3	137.1	2.5°	648.0	644.8
181.5	181.7	181.9	182.1	181.1	183.1	186.2	183.1	178.0	171.9	5°	611.2	602.4
213.2	213.4	213.6	213.8	212.8	214.8	219.9	215.8	209.7	206.6	7.5°	558.1	547.9
248.6	248.6	248.6	248.6	248.6	250.6	255.7	251.6	248.6	242.4	10°	497.6	482.2
282.7	282.9	283.2	283.4	282.3	284.4	289.5	285.4	283.4	277.2	12.5°	420.2	389.9
317.1	317.1	317.1	317.1	317.1	317.1	322.2	320.2	317.1	312.0	15°	330.8	290.2
353.7	354.1	354.6	355.0	352.9	353.9	353.9	352.9	347.8	346.8	17.5°	227.8	195.2
388.1	388.3	388.5	388.7	387.7	389.7	389.7	385.7	380.5	378.5	20°	159.8	147.7
423.9	424.1	424.3	424.5	423.5	423.5	425.5	420.4	414.3	413.3	22.5°	123.5	123.9
460.7	460.9	461.1	461.4	460.3	457.3	458.3	453.2	447.0	445.0	25°	102.5	107.1
492.4	492.7	492.9	493.1	492.0	486.9	485.9	483.9	478.7	474.6	27.5°	90.4	95.0
521.5	521.9	522.3	522.7	520.7	515.6	513.5	511.5	508.4	502.3	30°	83.0	87.2
547.1	547.5	547.9	548.3	546.3	545.2	545.2	539.1	537.0	533.0	32.5°	77.8	79.7
571.6	572.0	572.4	572.9	570.8	573.9	574.9	568.8	563.6	562.6	35°	71.7	72.6
597.2	597.6	598.0	598.4	596.4	599.4	598.4	593.3	588.2	587.2	37.5°	66.6	66.6
621.5	622.4	623.2	624.0	619.9	616.8	613.8	610.7	606.6	606.6	40°	62.0	61.5
639.3	640.4	641.4	642.4	637.3	632.2	628.1	625.0	624.0	624.0	42.5°	57.8	57.3
653.9	654.5	655.1	655.7	652.6	650.6	645.5	640.4	642.4	644.5	45°	53.6	54.0
667.0	668.0	669.0	670.0	664.9	664.9	662.9	658.8	659.8	660.8	47.5°	51.2	51.8
677.6	678.8	680.1	681.3	675.1	676.2	679.2	673.1	670.0	670.0	50°	48.9	49.4
685.8	687.0	688.2	689.5	683.3	685.4	686.4	682.3	678.2	676.2	52.5°	47.1	47.1
695.2	696.0	696.8	697.7	693.6	695.6	692.5	687.4	688.4	688.4	55°	45.2	44.7
706.2	707.5	708.7	709.9	703.8	703.8	699.7	693.6	700.7	703.8	57.5°	43.8	42.9
714.0	715.0	716.1	717.1	712.0	709.9	704.8	701.7	706.9	708.9	60°	42.4	41.4
714.0	715.0	716.1	717.1	712.0	709.9	707.9	704.8	705.8	705.8	62.5°	41.4	40.1
712.0	713.0	714.0	715.0	709.9	712.0	711.0	705.8	705.8	706.9	65°	40.5	39.6
715.7	716.5	717.3	718.1	714.0	717.1	715.0	709.9	711.0	713.0	66°	40.1	39.2
716.1	716.1	716.1	716.1	716.1	716.1	716.1	716.1	716.1	716.1	67.5°	39.6	38.7
										70°	37.7	36.8
										72.5°	35.0	34.5
										75°	32.1	31.2
										77.5°	28.4	27.9
										80°	24.2	23.7
										82.5°	20.5	19.5
										85°	16.3	15.3
										87.5°	11.2	10.2
										90°	10.9	10.4
										92.5°	6.1	5.1
										95°	7.2	6.1
										97.5°	8.2	8.2
										100°	10.2	9.2
										102.5°	18.4	13.3
										105°	36.8	27.6
										107.5°	59.3	50.1



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tinued):

175°	180°
652.7	652.7
642.0	646.2
599.6	598.2
539.5	539.9
466.8	467.7
372.7	367.1
267.0	269.2
185.9	185.5
149.0	150.0
127.7	127.7
113.6	113.6
100.1	100.7
90.8	91.8
82.4	83.0
74.1	74.6
67.1	67.1
62.4	62.9
59.1	59.1
56.0	56.0
53.1	54.0
50.3	50.7
47.6	48.0
44.7	44.7
42.4	42.4
40.5	40.1
39.2	38.2
37.7	37.2
37.2	36.8
36.8	36.3
35.9	35.4
34.5	34.0
31.7	30.8
28.8	27.9
26.6	25.2
22.4	21.4
16.3	15.3
9.8	9.8
7.5	7.5
4.1	4.1
5.1	5.1
7.2	7.2
8.2	8.2
11.3	11.3
22.5	21.5
43.0	41.9

CANDELA DISTRIBUTION (continued):

	155°	165°	175°
110°	89.0	75.7	69.6
112.5°	123.8	108.4	101.3
115°	162.6	150.4	142.2
117.5°	201.5	193.3	188.2
120°	238.3	231.2	228.1
122.5°	273.1	267.0	266.0
125°	305.9	302.8	300.7
127.5°	340.6	336.6	336.6
130°	374.4	370.3	369.3
132.5°	410.2	402.0	403.0
135°	441.9	435.8	435.8
137.5°	470.6	469.5	467.5
140°	500.2	498.2	496.1
142.5°	529.9	528.9	526.8
145°	559.6	556.5	558.5
147.5°	587.2	584.1	585.1
150°	606.6	606.6	605.6
152.5°	623.0	622.0	622.0
155°	641.4	639.3	639.3
157.5°	658.8	657.8	657.8
160°	671.1	674.1	675.1
162.5°	680.3	684.4	684.4
165°	691.5	691.5	693.6
167.5°	701.7	699.7	702.8
170°	707.9	707.9	711.0
172.5°	708.9	711.0	713.0
175°	711.0	713.0	714.0
177.5°	715.0	716.1	721.2
180°	716.1	716.1	716.1



İL2-ULG

180°

67.5
101.3
143.2
188.2
230.2
269.0
304.8
337.6
371.3
405.1
438.8
470.6
499.2
529.9
562.6
588.2
608.7
625.0
643.4
660.8
678.2
688.4
696.6
705.8
714.0
715.0
716.1
723.2
716.1

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