

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: P226829

Luminaire Tested: **IST-AF-450-LED-E1-SL2-7030-ULG**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P226829
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-SL2-7030-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) 3000K CCT, 70 CRI LEDs and (1) UPLIGHT LED
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4419.5 lumens
Efficiency: N/A
Efficacy: 105.2 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

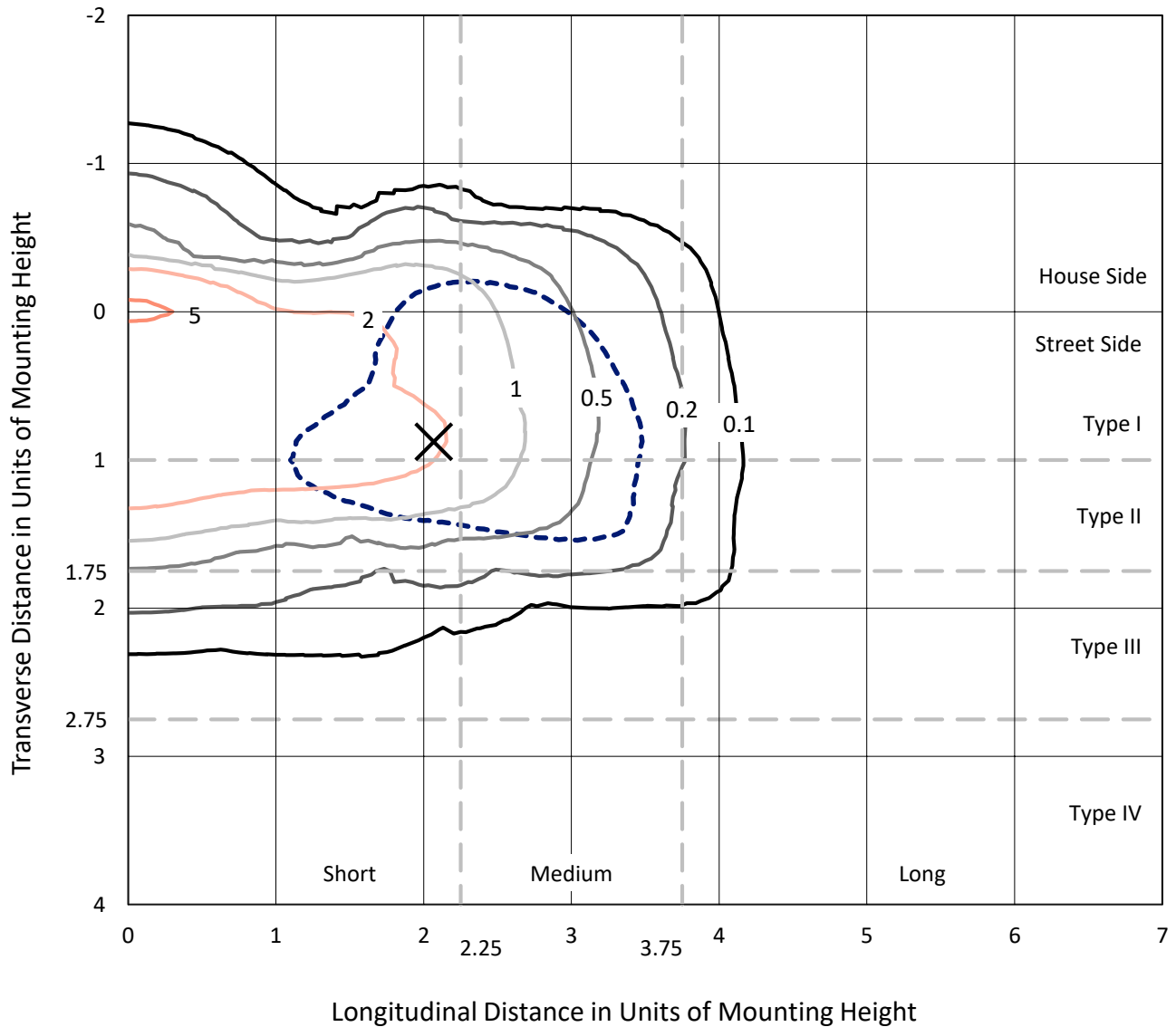


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

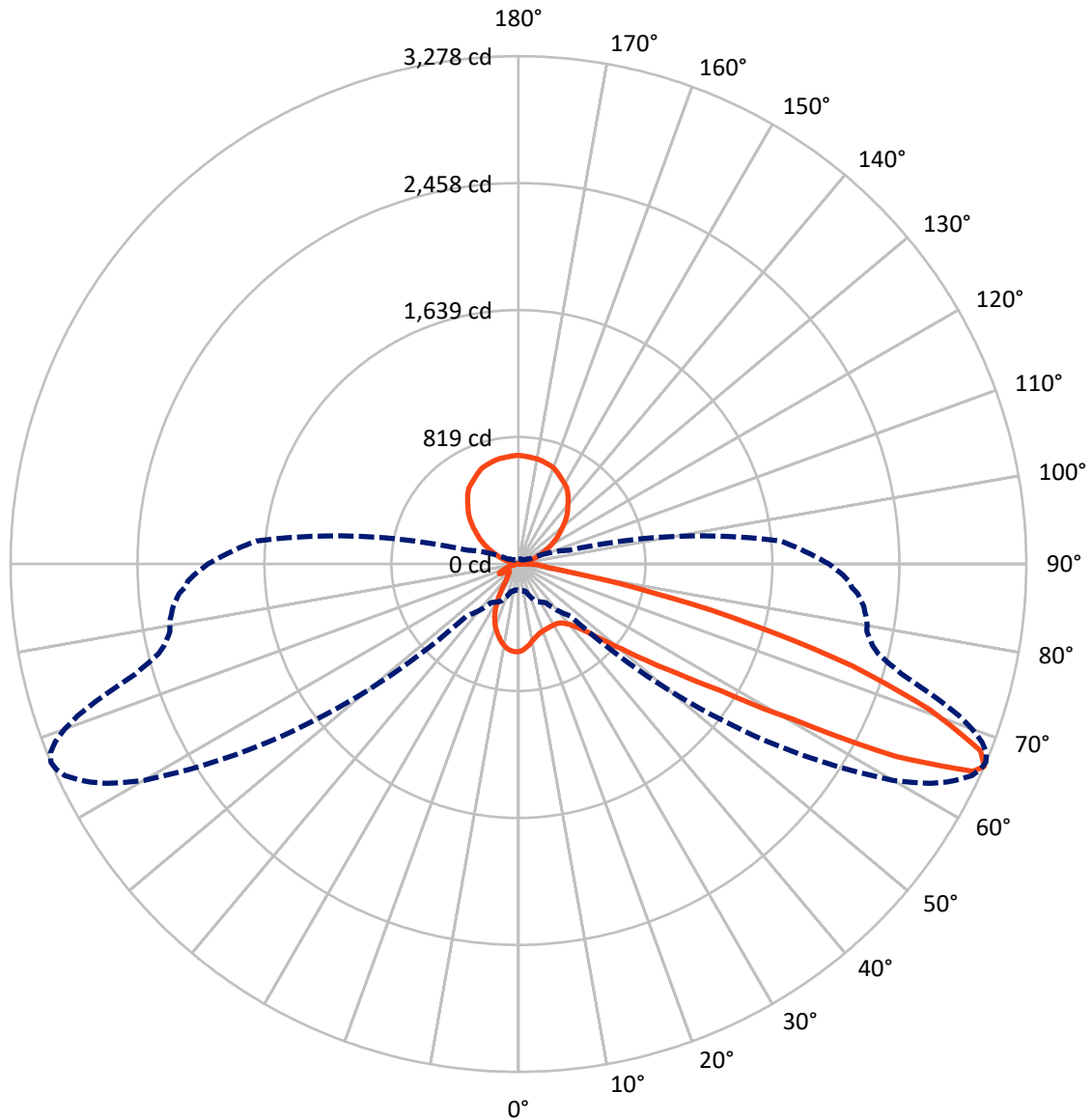


Based on 10 foot mounting height. Maximum calculated value = 5.6 fc
 Type II - Short - Non-Cutoff

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Luminous Intensity Polar Plot



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

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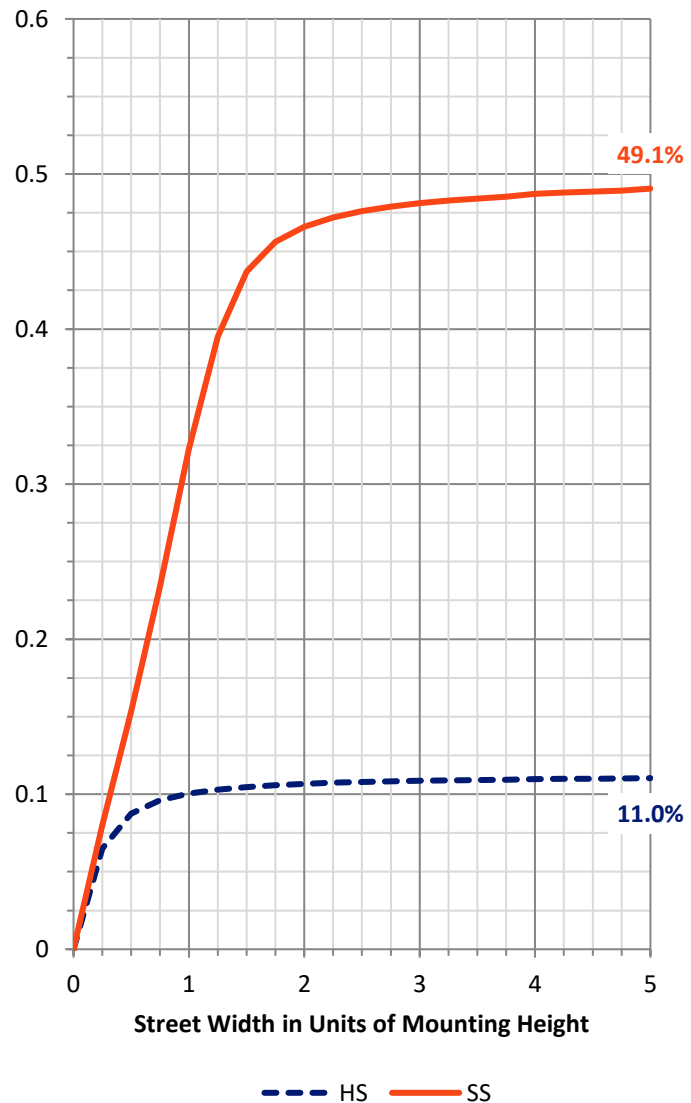
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	496.0	867.8	1363.7
	% Fixture	11.2	19.6	30.9
Street Side	Lumens	2187.4	868.3	3055.7
	% Fixture	49.5	19.6	69.1
Total	Lumens	2683.4	1736.1	4419.5
	% Fixture	60.7	39.3	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	49.0	1.1
10°-20°	116.6	2.6
20°-30°	159.8	3.6
30°-40°	228.4	5.2
40°-50°	370.3	8.4
50°-60°	586.7	13.3
60°-70°	743.5	16.8
70°-80°	369.6	8.4
80°-90°	59.6	1.3
90°-100°	10.2	0.2
100°-110°	57.4	1.3
110°-120°	166.1	3.8
120°-130°	273.2	6.2
130°-140°	336.8	7.6
140°-150°	344.6	7.8
150°-160°	290.3	6.6
160°-170°	191.2	4.3
170°-180°	66.3	1.5
0°-90°	2683.4	60.7
0°-180°	4419.5	100.0



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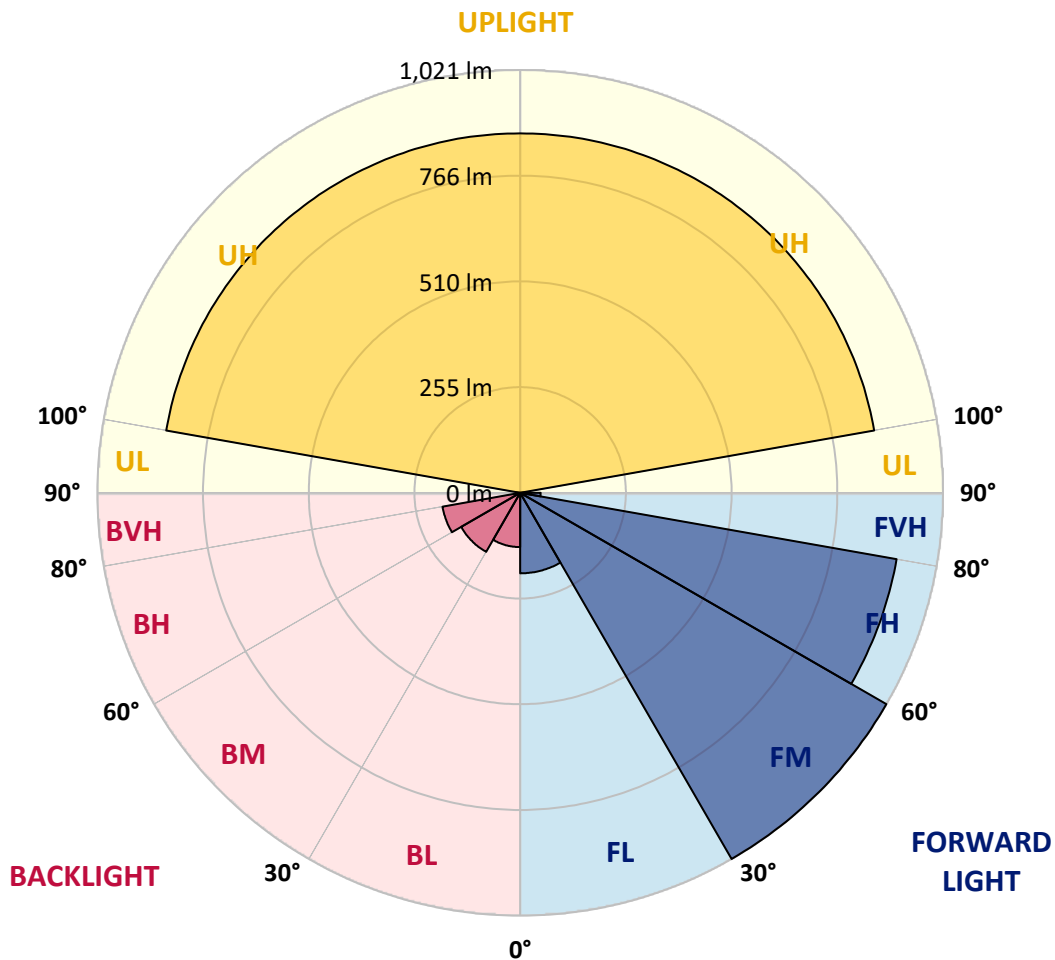
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	194.4	4.4			
FM (30°-60°)	1020.7	23.1			
FH (60°-80°)	922.6	20.9			G1/1800
FVH (80°-90°)	49.6	1.1			G1/100
BL (0°-30°)	131.0	3.0	B1/500		
BM (30°-60°)	164.6	3.7	B0/220		
BH (60°-80°)	190.4	4.3	B1/500		G1/500
BVH (80°-90°)	10.0	0.2			G0/10
UL (90°-100°)	10.2	0.2		U2/50	
UH (100°-180°)	867.8	19.6		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°	564.8	564.8	564.8	564.8	564.8	564.8	564.8	564.8	564.8	564.8	564.8
2.5°	524.9	526.1	533.0	536.6	541.8	543.4	549.5	551.9	553.9	553.5	553.5
5°	477.7	481.4	484.6	491.8	499.5	508.8	520.5	529.3	530.9	533.0	534.2
7.5°	441.8	444.3	449.9	455.1	464.8	477.7	494.3	505.5	508.0	508.8	511.6
10°	416.4	418.1	422.9	429.7	441.0	453.5	470.9	482.6	486.2	487.8	490.2
12.5°	396.7	399.1	403.5	410.8	422.9	435.8	453.9	465.6	468.0	470.1	473.7
15°	384.2	385.8	389.8	397.9	408.8	421.7	439.4	453.5	455.1	457.2	460.4
17.5°	381.8	383.0	385.4	391.5	399.9	412.4	430.6	442.2	445.1	447.9	451.1
20°	391.5	392.3	393.1	393.9	398.7	406.8	424.5	437.0	439.4	441.8	445.9
22.5°	412.4	413.6	411.6	408.8	405.2	406.8	421.7	434.6	436.2	438.6	441.8
25°	448.7	447.5	441.4	437.0	424.1	413.6	422.5	433.4	435.4	437.8	441.4
27.5°	491.4	489.8	486.2	474.1	452.7	431.4	427.3	435.4	436.6	438.6	441.8
30°	537.4	537.8	534.6	521.3	493.8	458.0	438.2	440.2	441.0	442.7	444.7
32.5°	578.9	585.0	584.6	583.8	544.6	493.8	459.2	451.1	449.9	451.1	451.9
35°	626.9	628.1	639.4	645.0	613.2	546.3	489.8	472.1	467.2	467.6	466.8
37.5°	678.5	680.1	699.5	709.1	684.5	605.9	530.5	503.1	498.7	494.3	491.0
40°	753.5	759.9	770.0	780.9	768.8	686.1	584.2	547.1	535.8	535.0	528.5
42.5°	865.5	863.5	858.7	867.6	853.0	776.0	649.1	609.1	600.7	589.4	580.5
45°	975.6	980.0	959.1	963.1	963.9	880.1	743.0	687.0	682.5	669.2	659.5
47.5°	1049.8	1044.9	1016.7	1037.3	1087.7	1001.4	851.8	793.0	783.7	776.9	770.8
50°	1053.8	1049.8	1031.6	1067.9	1175.6	1217.1	1003.4	934.9	921.6	909.5	905.9
52.5°	955.4	949.8	955.9	1029.6	1207.4	1397.7	1217.5	1111.1	1100.2	1090.1	1076.0
55°	780.1	786.5	815.2	921.2	1158.6	1525.9	1638.8	1383.2	1336.4	1336.0	1301.3
57.5°	582.5	576.1	597.5	697.0	1035.3	1571.4	2025.8	1962.5	1858.1	1787.5	1702.5
60°	393.1	394.7	414.4	465.6	720.4	1521.9	2285.0	2505.5	2468.8	2453.9	2430.9
62.5°	272.5	274.9	293.1	341.1	421.3	1224.3	2360.8	2809.9	2875.6	2930.0	2916.7
65°	190.7	191.1	209.2	283.4	315.7	628.9	2193.5	2850.2	2948.2	3041.7	3125.6
66°	168.1	168.5	183.4	263.7	302.8	474.5	2048.4	2794.2	2905.9	3014.7	3101.4
67.5°	143.9	146.3	158.0	224.1	290.3	366.1	1692.0	2626.9	2743.8	2863.5	2978.0
70°	98.8	99.6	110.1	181.8	271.7	321.3	964.3	2050.8	2212.4	2422.9	2544.6
72.5°	70.5	69.7	71.0	112.5	279.0	319.3	506.8	1349.7	1575.9	1760.5	1892.4
75°	62.9	60.9	55.6	69.7	203.6	348.7	339.4	794.6	966.7	1134.8	1269.9
77.5°	56.0	52.8	50.0	53.6	100.8	328.6	304.8	455.1	543.0	668.4	772.4
80°	42.7	40.7	42.3	46.4	60.5	302.4	302.8	302.8	326.5	367.7	408.8
82.5°	28.2	25.8	29.4	38.3	45.6	227.8	312.8	267.3	262.8	261.2	264.1
85°	17.7	15.3	20.6	28.6	35.1	118.9	320.9	282.2	261.6	241.9	222.1
87.5°	6.5	7.3	10.5	16.5	23.0	51.6	281.4	248.7	234.6	210.0	187.1
90°	6.6	6.2	9.0	12.8	13.2	16.7	50.1	76.9	49.3	29.0	25.1
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°	564.8	564.8	564.8	564.8	564.8	564.8	564.8	564.8	564.8	564.8	564.8
2.5°	553.9	555.9	556.7	555.9	556.3	558.8	557.9	559.2	559.2	560.0	560.0
5°	535.8	537.4	540.6	540.2	543.4	544.6	545.9	547.5	549.5	550.7	553.1
7.5°	514.4	517.6	520.5	522.1	524.1	528.1	529.3	533.0	536.2	539.4	541.8
10°	493.8	498.3	501.5	502.7	507.2	509.2	513.6	516.4	520.5	524.5	528.1
12.5°	476.5	480.5	482.2	486.2	490.2	494.3	496.3	501.5	505.5	510.8	515.6
15°	463.6	467.6	470.9	473.7	477.7	481.8	485.0	490.2	495.1	500.3	504.7
17.5°	455.6	458.0	462.0	464.4	469.3	474.1	477.7	483.8	489.0	493.4	499.5
20°	449.5	452.3	456.0	459.6	464.0	470.1	473.3	479.7	485.4	490.6	496.3
22.5°	446.3	449.1	452.7	456.4	461.2	466.0	471.3	476.9	483.0	488.6	494.3
25°	445.1	447.5	450.7	454.3	459.6	464.8	469.3	475.7	480.9	487.0	493.8
27.5°	445.5	447.1	450.7	453.9	459.2	464.0	468.5	474.9	480.9	486.6	493.4
30°	447.1	448.3	451.9	454.7	459.2	464.0	468.0	474.9	480.1	486.2	493.4
32.5°	452.7	454.3	456.0	458.0	462.0	465.6	470.5	476.5	481.4	487.4	493.4
35°	466.0	464.8	466.0	466.8	469.7	473.3	476.9	482.2	486.6	491.8	498.3
37.5°	487.0	484.6	485.4	485.0	485.0	487.4	491.0	494.7	498.3	503.5	510.0
40°	525.7	519.7	518.0	513.6	512.4	514.4	516.8	517.2	521.7	528.5	531.3
42.5°	575.7	567.6	568.8	561.6	559.6	557.1	560.4	558.4	561.2	565.6	571.7
45°	654.7	647.0	639.0	627.3	629.7	620.8	618.4	619.2	618.8	620.4	627.7
47.5°	749.0	739.0	733.7	729.3	720.8	715.6	708.7	698.6	701.1	704.3	710.7
50°	886.9	883.7	873.6	859.1	857.1	849.4	847.4	838.5	835.3	834.9	834.5
52.5°	1071.1	1050.2	1046.2	1032.4	1022.0	1014.7	1012.3	999.8	987.3	994.6	993.7
55°	1295.7	1278.4	1256.2	1244.1	1235.6	1218.3	1213.9	1198.1	1190.9	1186.9	1176.8
57.5°	1673.0	1612.2	1566.6	1544.0	1512.2	1479.9	1468.6	1436.4	1411.4	1393.7	1394.9
60°	2331.0	2222.5	2094.7	2037.5	1904.8	1885.5	1794.4	1772.2	1717.4	1681.1	1660.1
62.5°	2907.5	2878.0	2816.8	2733.3	2600.3	2447.1	2378.1	2241.1	2133.8	2087.1	2022.2
65°	3182.8	3224.3	3241.3	3225.5	3172.3	3078.8	2996.6	2862.7	2682.9	2581.3	2455.1
66°	3168.7	3230.4	3261.4	3277.5	3258.2	3203.0	3116.7	3006.6	2867.6	2712.7	2571.2
67.5°	3065.5	3125.6	3168.7	3217.9	3217.9	3200.5	3165.5	3092.1	2993.7	2858.7	2731.7
70°	2643.8	2725.2	2801.4	2816.4	2858.3	2845.4	2873.2	2826.4	2803.1	2746.6	2678.5
72.5°	2059.7	2127.8	2193.1	2258.4	2247.5	2233.4	2230.6	2240.3	2192.7	2209.6	2191.9
75°	1369.9	1487.2	1554.1	1547.7	1552.1	1555.7	1525.9	1459.4	1511.0	1445.7	1467.4
77.5°	832.5	886.9	905.1	884.9	858.7	824.8	770.4	738.6	693.0	696.6	666.4
80°	436.6	443.5	428.9	388.2	366.1	345.9	283.8	256.0	230.2	220.5	198.7
82.5°	250.4	233.8	216.1	202.4	176.2	158.4	134.2	118.9	102.4	87.9	82.6
85°	202.8	180.6	164.1	148.8	131.0	115.3	95.1	79.4	67.3	58.5	56.4
87.5°	167.3	152.0	135.1	120.5	103.2	87.1	67.3	52.4	41.5	33.5	31.0
90°	23.7	29.2	23.5	17.1	21.1	15.5	12.6	13.0	12.2	12.2	12.6
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



REPORT NUMBER: P226829

CATALOG NUMBER: IST-AF-450-LED-E1-SL2-7030-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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CATALOG NUMBER: IST-AF-450-LED-E1-SL2-7030-ULG

CANDELA DISTRIBUTION (continued):

	75°	76°	77°	78°	79°	80°	81°	82°	83°	84°	85°
0°	564.8	564.8	564.8	564.8	564.8	564.8	564.8	564.8	564.8	564.8	564.8
2.5°	561.2	561.2	562.0	562.8	563.2	563.2	563.2	564.0	564.4	563.2	564.4
5°	554.3	556.3	557.9	559.2	559.6	560.8	562.0	562.8	564.0	564.0	564.8
7.5°	545.0	548.7	550.7	552.7	554.7	556.7	559.2	560.8	561.6	563.2	564.4
10°	533.4	537.8	541.8	545.0	547.9	551.9	555.1	557.5	561.2	561.6	564.4
12.5°	520.9	527.3	530.5	536.6	540.6	546.7	549.9	553.5	557.5	559.6	562.8
15°	512.0	517.6	523.7	529.3	535.8	543.0	547.1	551.9	557.5	562.0	566.0
17.5°	505.1	512.8	519.7	526.9	535.0	542.6	548.7	553.9	561.2	563.6	567.6
20°	503.1	511.6	518.4	526.1	534.6	544.6	551.9	557.5	564.8	568.8	572.5
22.5°	502.3	510.4	518.4	527.7	537.0	547.5	555.1	562.4	569.6	573.3	576.1
25°	501.5	510.0	518.8	529.3	539.4	550.3	559.2	566.0	572.9	576.5	578.9
27.5°	501.5	510.4	520.1	530.5	541.4	553.5	562.0	568.4	574.5	577.7	578.5
30°	501.1	510.4	519.7	531.3	543.0	555.5	564.8	570.8	576.1	578.1	577.3
32.5°	501.9	511.6	521.7	533.4	545.5	557.5	567.2	574.1	576.9	576.5	576.1
35°	505.9	514.8	526.5	538.2	550.7	562.0	571.3	576.1	578.5	577.7	575.7
37.5°	516.8	525.7	537.4	550.3	560.0	572.9	581.3	585.0	585.4	582.9	578.1
40°	539.4	548.3	558.8	572.9	584.6	593.4	601.5	605.5	603.1	598.7	593.4
42.5°	575.3	586.6	599.1	610.4	624.1	636.2	638.2	640.6	636.6	628.1	621.6
45°	632.9	639.8	655.9	664.4	682.1	688.2	692.6	693.8	684.9	678.1	666.8
47.5°	716.0	729.3	740.6	748.6	761.5	769.6	778.5	774.4	767.6	755.9	741.0
50°	846.6	855.1	869.6	884.1	897.8	903.4	903.4	899.4	895.0	872.4	854.3
52.5°	1007.1	1007.9	1028.8	1046.2	1057.8	1049.4	1059.5	1049.4	1046.6	1030.8	1015.9
55°	1192.9	1185.2	1210.6	1226.0	1236.4	1246.5	1244.5	1243.3	1232.8	1215.1	1196.9
57.5°	1369.5	1391.6	1403.7	1426.3	1431.6	1438.4	1435.6	1431.6	1425.5	1415.4	1407.4
60°	1624.3	1639.2	1650.1	1654.5	1669.4	1671.4	1681.5	1665.0	1669.0	1657.3	1631.9
62.5°	1971.0	1954.8	1963.3	1963.3	1958.9	1943.1	1951.6	1958.1	1947.2	1937.5	1933.5
65°	2359.2	2307.2	2257.2	2248.7	2225.8	2220.5	2214.1	2197.9	2191.1	2174.1	2160.4
66°	2475.3	2394.7	2347.5	2318.5	2290.7	2284.6	2275.7	2258.8	2245.1	2221.3	2198.3
67.5°	2605.5	2501.5	2430.5	2389.4	2355.2	2332.6	2314.8	2290.7	2268.9	2233.4	2196.7
70°	2597.0	2511.2	2425.7	2363.2	2311.6	2265.3	2237.8	2185.8	2141.5	2090.7	2048.8
72.5°	2182.2	2166.9	2117.3	2082.2	2018.9	1994.3	1921.8	1888.7	1827.4	1761.7	1741.6
75°	1517.0	1457.0	1431.6	1417.4	1389.6	1313.0	1263.0	1273.9	1202.2	1138.1	1101.4
77.5°	663.2	675.3	605.1	573.7	549.5	508.0	469.3	442.7	427.3	417.3	371.7
80°	183.4	160.0	158.0	146.7	144.3	128.6	130.6	119.3	111.7	110.1	106.4
82.5°	80.2	78.6	76.2	75.0	73.8	72.2	70.1	69.7	67.3	65.3	65.7
85°	53.2	52.8	51.6	50.4	48.4	45.6	43.5	41.9	42.3	40.3	39.9
87.5°	31.0	30.2	29.8	28.2	27.8	25.4	25.8	23.8	23.4	23.0	21.8
90°	13.4	13.6	14.6	14.0	12.2	15.7	14.3	13.2	13.4	12.0	11.8
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°	
564.8	564.8	564.8	564.8	564.8	564.8	564.8	564.8	564.8	564.8	564.8	110°	116.2
565.6	566.4	566.8	566.4	567.2	566.8	567.2	566.8	564.8	564.4	564.0	112.5°	147.0
566.4	568.0	568.4	568.8	568.0	568.8	567.2	560.8	553.5	545.5	539.0	115°	177.2
567.2	569.2	570.4	570.4	570.8	570.0	564.0	549.9	533.0	516.0	503.1	117.5°	208.2
566.8	569.6	570.8	571.3	571.3	569.6	555.1	532.6	506.8	480.9	454.7	120°	243.0
565.6	568.0	570.0	570.0	570.4	564.8	542.2	510.0	473.3	434.6	399.5	122.5°	276.2
568.0	570.4	570.4	570.4	570.0	560.4	528.5	481.8	432.6	380.2	328.2	125°	310.0
571.7	572.9	572.1	572.1	570.4	555.9	513.2	453.9	389.4	320.1	247.5	127.5°	345.4
574.9	575.7	575.3	573.3	571.3	551.1	497.5	424.5	337.8	247.5	175.4	130°	379.2
578.1	578.9	576.9	573.7	570.8	544.6	478.5	387.0	279.4	169.3	116.1	132.5°	414.2
578.5	579.3	575.7	571.3	567.2	535.0	455.6	347.1	215.3	109.7	90.7	135°	450.2
578.1	577.3	571.3	565.6	561.2	523.3	430.2	297.5	143.5	82.6	79.0	137.5°	481.2
575.3	571.7	566.8	560.4	553.9	510.4	404.8	242.3	90.7	71.8	71.8	140°	509.4
571.3	567.6	561.6	553.1	545.9	497.9	375.7	185.8	72.6	66.1	66.9	142.5°	534.4
569.6	565.6	556.7	547.9	538.6	486.6	345.1	125.0	65.3	62.5	62.9	145°	558.4
572.9	566.0	557.1	547.1	536.2	476.9	313.2	87.1	61.7	58.5	59.3	147.5°	583.4
583.8	577.3	566.8	553.9	542.2	471.3	279.4	72.2	58.1	55.2	55.2	150°	606.8
610.0	601.5	587.4	572.1	557.9	474.9	249.1	65.7	55.2	52.4	52.4	152.5°	624.0
652.3	642.2	625.7	608.3	589.8	492.6	214.9	63.3	53.2	49.2	48.4	155°	638.6
724.9	711.5	689.8	669.2	647.0	523.3	180.2	61.7	50.8	47.2	45.6	157.5°	651.0
838.9	819.2	793.4	766.4	739.4	579.3	152.8	60.1	49.2	45.6	43.9	160°	661.2
985.7	972.4	940.1	904.7	872.4	691.0	137.1	58.9	48.0	43.5	42.3	162.5°	669.2
1172.7	1151.0	1125.6	1093.7	1055.4	835.7	135.5	58.5	46.8	41.9	41.1	165°	678.8
1370.3	1361.8	1318.7	1298.9	1257.4	1028.4	164.9	59.3	46.0	40.7	39.5	167.5°	689.2
1595.6	1598.9	1558.5	1536.8	1502.5	1272.7	262.4	61.7	46.0	39.5	38.3	170°	697.0
1890.3	1895.6	1848.0	1822.2	1793.2	1546.5	412.4	65.7	47.2	38.3	37.1	172.5°	697.0
2131.8	2103.6	2073.0	2027.8	1991.1	1699.2	397.1	73.0	48.8	37.1	35.9	175°	695.0
2156.8	2136.7	2098.0	2049.2	2004.4	1700.1	346.7	75.4	49.2	36.7	35.5	177.5°	698.8
2153.6	2117.7	2073.8	2032.6	1988.7	1656.5	268.1	78.6	50.4	35.9	34.7	180°	700.0
2004.4	1954.0	1911.3	1854.5	1808.5	1482.4	164.9	78.2	48.8	33.5	32.7		
1652.9	1627.1	1576.3	1530.7	1482.8	1199.8	112.9	69.7	43.1	30.2	30.6		
1069.1	1039.7	988.1	962.3	935.3	767.6	87.9	56.8	36.7	27.0	28.2		
356.8	345.1	326.1	336.6	320.9	299.1	64.5	43.1	29.4	23.4	25.0		
106.8	104.4	108.0	101.6	107.6	91.1	42.3	30.2	22.6	20.2	22.2		
63.3	62.5	62.5	62.5	60.9	56.8	27.8	21.0	17.3	16.9	18.5		
38.7	37.9	38.3	37.9	38.7	34.7	18.9	14.5	12.9	12.5	14.9		
22.2	22.2	22.6	21.8	22.2	21.4	13.3	9.3	8.5	8.1	10.9		
12.2	12.2	11.0	10.6	11.0	12.6	12.6	11.8	9.4	9.0	11.6		
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		

'226829
 IST-AF-450-LED-E1-SL2-7030-ULG

REPORT NUMBER: P226829
 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°	564.8	564.8
147.0	147.0	147.0	147.0	147.0	149.0	150.0	148.0	143.0	134.0	2.5°	560.8	557.9
177.4	177.6	177.8	178.0	177.0	179.0	182.0	179.0	174.0	168.0	5°	528.9	521.3
208.4	208.6	208.8	209.0	208.0	210.0	215.0	211.0	205.0	202.0	7.5°	483.0	474.1
243.0	243.0	243.0	243.0	243.0	245.0	250.0	246.0	243.0	237.0	10°	430.6	417.3
276.4	276.6	276.8	277.0	276.0	278.0	283.0	279.0	277.0	271.0	12.5°	363.6	337.4
310.0	310.0	310.0	310.0	310.0	310.0	315.0	313.0	310.0	305.0	15°	286.2	251.2
345.8	346.2	346.6	347.0	345.0	346.0	346.0	345.0	340.0	339.0	17.5°	197.1	168.9
379.4	379.6	379.8	380.0	379.0	381.0	381.0	377.0	372.0	370.0	20°	138.3	127.8
414.4	414.6	414.8	415.0	414.0	414.0	416.0	411.0	405.0	404.0	22.5°	106.8	107.2
450.4	450.6	450.8	451.0	450.0	447.0	448.0	443.0	437.0	435.0	25°	88.7	92.7
481.4	481.6	481.8	482.0	481.0	476.0	475.0	473.0	468.0	464.0	27.5°	78.2	82.2
509.8	510.2	510.6	511.0	509.0	504.0	502.0	500.0	497.0	491.0	30°	71.8	75.4
534.8	535.2	535.6	536.0	534.0	533.0	533.0	527.0	525.0	521.0	32.5°	67.3	68.9
558.8	559.2	559.6	560.0	558.0	561.0	562.0	556.0	551.0	550.0	35°	62.1	62.9
583.8	584.2	584.6	585.0	583.0	586.0	585.0	580.0	575.0	574.0	37.5°	57.6	57.6
607.6	608.4	609.2	610.0	606.0	603.0	600.0	597.0	593.0	593.0	40°	53.6	53.2
625.0	626.0	627.0	628.0	623.0	618.0	614.0	611.0	610.0	610.0	42.5°	50.0	49.6
639.2	639.8	640.4	641.0	638.0	636.0	631.0	626.0	628.0	630.0	45°	46.4	46.8
652.0	653.0	654.0	655.0	650.0	650.0	648.0	644.0	645.0	646.0	47.5°	44.3	44.7
662.4	663.6	664.8	666.0	660.0	661.0	664.0	658.0	655.0	655.0	50°	42.3	42.7
670.4	671.6	672.8	674.0	668.0	670.0	671.0	667.0	663.0	661.0	52.5°	40.7	40.7
679.6	680.4	681.2	682.0	678.0	680.0	677.0	672.0	673.0	673.0	55°	39.1	38.7
690.4	691.6	692.8	694.0	688.0	688.0	684.0	678.0	685.0	688.0	57.5°	37.9	37.1
698.0	699.0	700.0	701.0	696.0	694.0	689.0	686.0	691.0	693.0	60°	36.7	35.9
698.0	699.0	700.0	701.0	696.0	694.0	692.0	689.0	690.0	690.0	62.5°	35.9	34.7
696.0	697.0	698.0	699.0	694.0	696.0	695.0	690.0	690.0	691.0	65°	35.1	34.3
699.6	700.4	701.2	702.0	698.0	701.0	699.0	694.0	695.0	697.0	66°	34.7	33.9
700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	67.5°	34.3	33.5
										70°	32.7	31.8
										72.5°	30.2	29.8
										75°	27.8	27.0
										77.5°	24.6	24.2
										80°	21.0	20.6
										82.5°	17.7	16.9
										85°	14.1	13.3
										87.5°	9.7	8.9
										90°	10.4	9.8
										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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tinued):

175°	180°
564.8	564.8
555.5	559.2
518.8	517.6
466.8	467.2
403.9	404.8
322.5	317.7
231.0	233.0
160.9	160.5
129.0	129.8
110.5	110.5
98.4	98.4
86.7	87.1
78.6	79.4
71.4	71.8
64.1	64.5
58.1	58.1
54.0	54.4
51.2	51.2
48.4	48.4
46.0	46.8
43.5	43.9
41.1	41.5
38.7	38.7
36.7	36.7
35.1	34.7
33.9	33.1
32.7	32.3
32.3	31.8
31.8	31.4
31.0	30.6
29.8	29.4
27.4	26.6
25.0	24.2
23.0	21.8
19.4	18.5
14.1	13.3
8.5	8.5
7.0	7.0
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



İL2-7030-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

(END OF REPORT)