

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: P227087

Luminaire Tested: **IST-AF-450-LED-E1-SL4-7060-ULG**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P227087
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P35947)-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-SL4-7060-ULG
Description: IMPACT ELITE LED TRAPEZOID LUMINAIRE WITH UPLIGHT
LIGHT SQUARE WITH ACCULED OPTICS-TYPE IV W/SPILL CONTROL, WITH UPLIGHT
GLOW
Light Source: (16) 5700K CCT, 70 CRI LEDs and (1) UPLIGHT LED
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4542.2 lumens
Efficiency: N/A
Efficacy: 108.1 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: B0 - U5 - G1

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

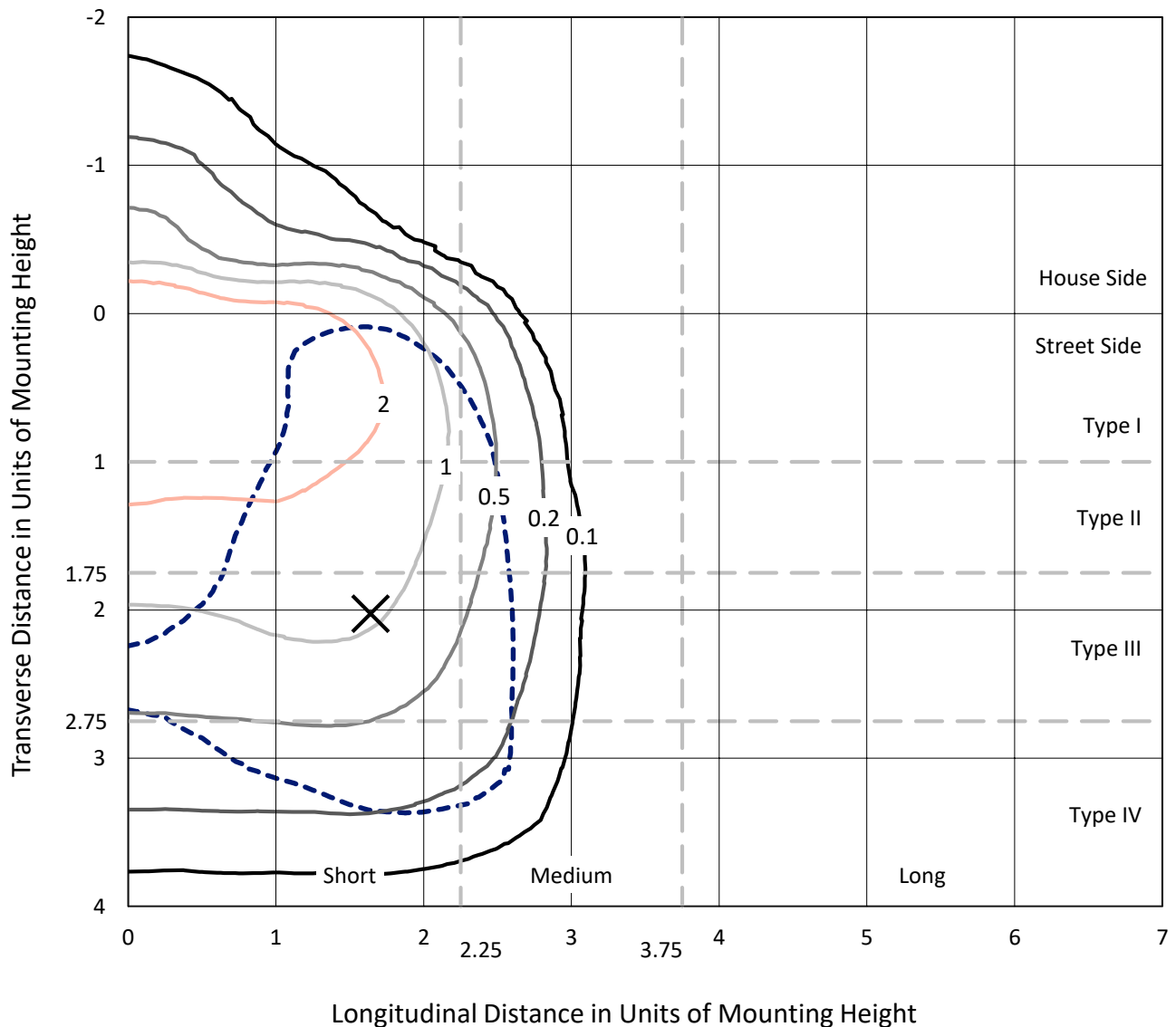


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

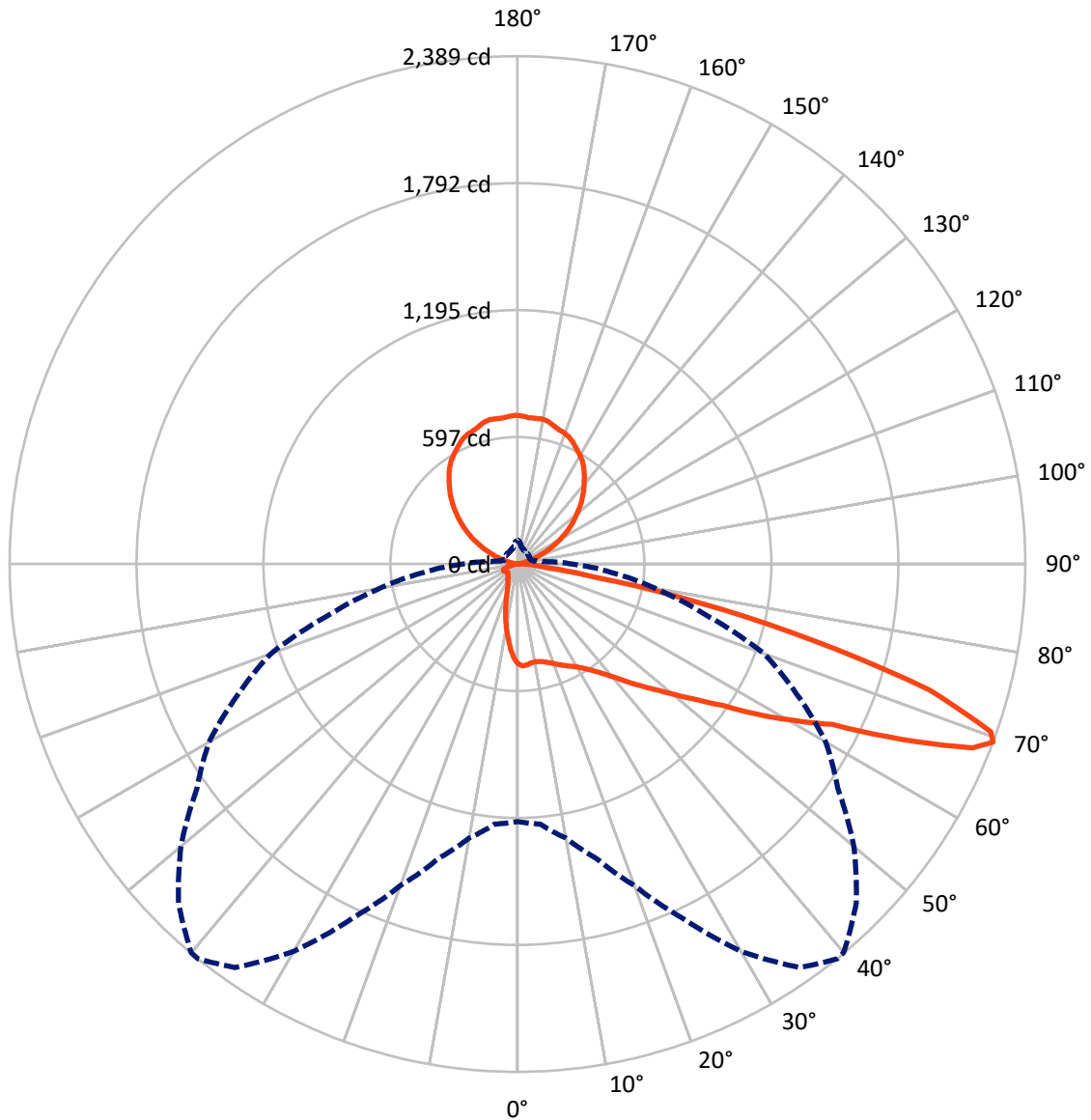


Based on 10 foot mounting height. Maximum calculated value = 4.7 fc
 Type IV - Short - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 39-Deg Lateral - - - Horizontal Cone Through 69-Deg Vertical

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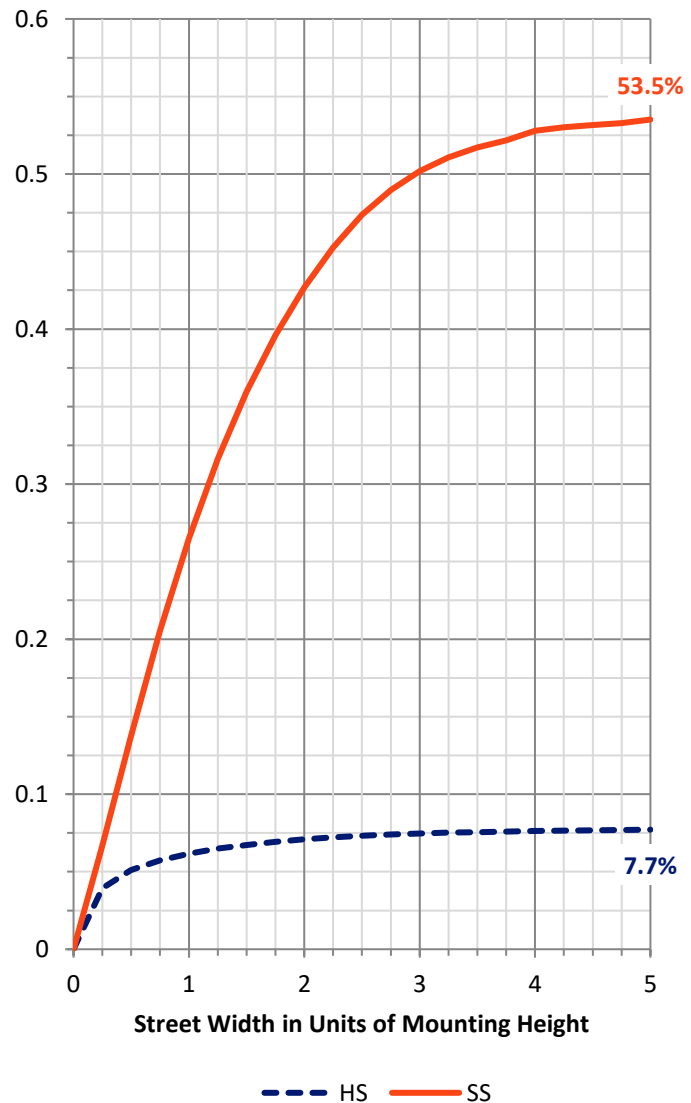
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	355.6	867.7	1223.2
	% Fixture	7.8	19.1	26.9
Street Side	Lumens	2450.8	868.3	3319.0
	% Fixture	54.0	19.1	73.1
Total	Lumens	2806.3	1735.9	4542.2
	% Fixture	61.8	38.2	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	40.6	0.9
10°-20°	102.3	2.3
20°-30°	159.2	3.5
30°-40°	240.6	5.3
40°-50°	385.1	8.5
50°-60°	605.2	13.3
60°-70°	814.9	17.9
70°-80°	404.2	8.9
80°-90°	54.1	1.2
90°-100°	10.0	0.2
100°-110°	57.4	1.3
110°-120°	166.1	3.7
120°-130°	273.2	6.0
130°-140°	336.8	7.4
140°-150°	344.6	7.6
150°-160°	290.3	6.4
160°-170°	191.2	4.2
170°-180°	66.3	1.5
0°-90°	2806.3	61.8
0°-180°	4542.2	100.0



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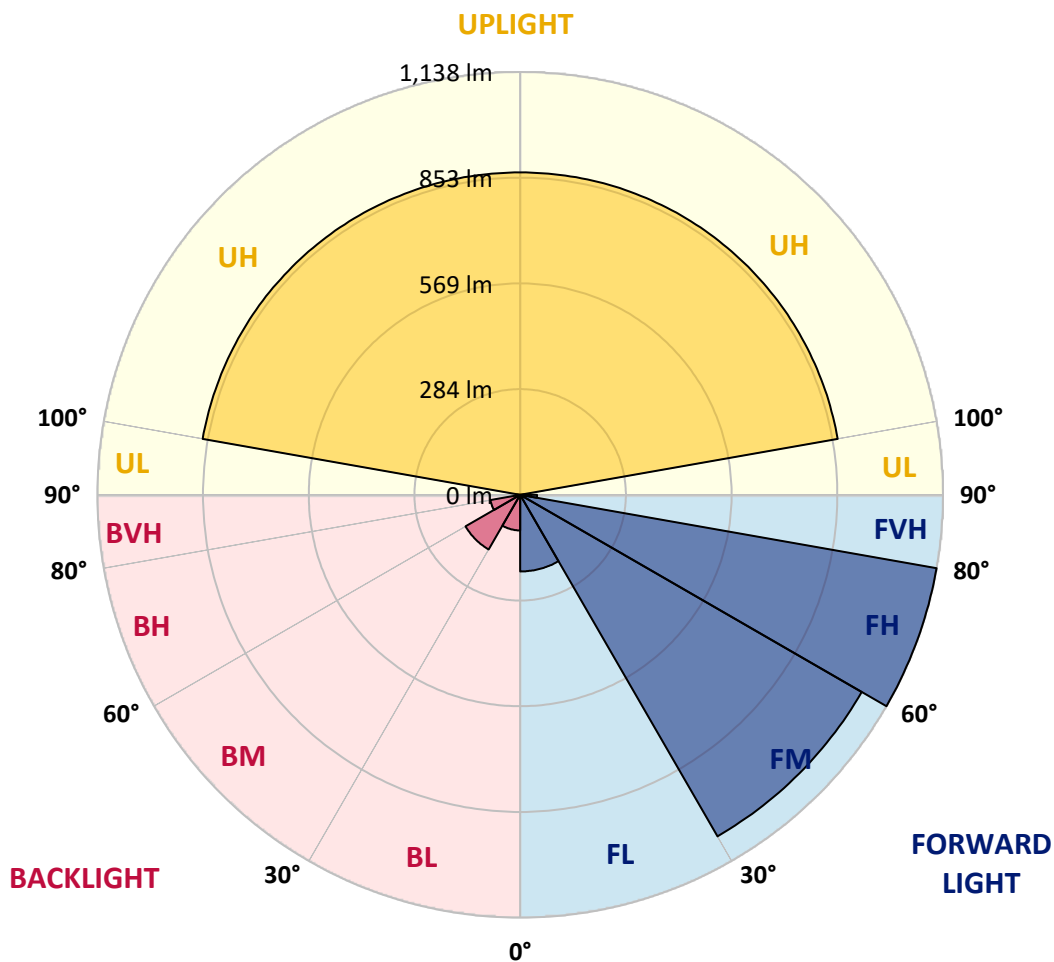
CATALOG NUMBER: IST-AF-450-LED-E1-SL4-7060-ULG

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	206.3	4.5			
FM	(30°-60°)	1061.3	23.4			
FH	(60°-80°)	1137.9	25.1			G1/1800
FVH	(80°-90°)	45.2	1.0			G1/100
BL	(0°-30°)	95.8	2.1	B0/110		
BM	(30°-60°)	169.6	3.7	B0/220		
BH	(60°-80°)	81.3	1.8	B0/110		G0/110
BVH	(80°-90°)	8.9	0.2			G0/10
UL	(90°-100°)	10.0	0.2		U2/50	
UH	(100°-180°)	867.7	19.1		U4/1000	

BUG Rating: B0-U5-G1

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	39°	40°	45°
0°	470.0	470.0	470.0	470.0	470.0	470.0	470.0	470.0	470.0	470.0	470.0
2.5°	481.4	481.8	481.8	482.3	480.5	480.5	480.9	479.1	480.0	479.6	477.3
5°	482.3	482.7	482.3	482.7	480.5	479.6	477.7	475.5	476.4	475.9	472.7
7.5°	480.0	480.5	479.6	480.0	477.3	475.5	472.7	470.9	469.5	469.1	465.0
10°	475.0	476.4	474.5	475.9	473.6	471.8	470.4	468.6	467.7	467.3	462.7
12.5°	467.7	468.6	469.1	470.9	470.9	471.4	471.4	470.0	470.4	470.0	466.3
15°	460.9	464.1	467.3	469.1	472.7	475.0	476.8	476.4	477.7	477.3	475.0
17.5°	460.9	463.6	469.1	475.0	481.8	485.0	487.8	487.8	488.2	487.3	483.7
20°	462.7	467.7	476.8	486.8	495.0	501.4	503.2	502.8	501.0	501.0	494.6
22.5°	477.7	480.9	490.9	501.9	513.3	519.6	520.1	518.7	515.1	514.2	506.4
25°	499.1	502.8	511.9	526.0	534.7	539.7	538.3	533.7	530.1	526.9	518.7
27.5°	532.4	535.1	544.2	553.8	558.8	560.6	555.2	548.8	544.7	543.3	532.4
30°	566.5	570.2	577.5	583.4	587.5	582.0	573.4	566.1	562.4	561.5	551.5
32.5°	608.4	608.9	613.9	615.3	615.7	606.6	594.8	587.9	586.6	584.8	577.0
35°	646.7	649.0	648.1	647.6	643.5	632.1	622.1	618.0	616.6	616.2	609.8
37.5°	680.8	684.5	682.2	678.1	673.1	664.0	653.5	649.0	653.5	650.8	652.2
40°	714.1	714.1	711.4	709.1	703.2	694.5	690.9	691.3	698.6	700.4	702.3
42.5°	742.8	742.3	739.6	737.8	736.9	735.0	733.2	741.9	756.0	758.7	762.8
45°	774.2	773.8	763.3	766.9	773.3	774.7	781.0	801.1	818.4	819.8	828.4
47.5°	804.7	801.1	791.1	794.7	812.9	822.5	833.0	861.2	885.3	890.3	914.5
50°	836.6	833.0	822.0	828.9	854.4	872.1	896.7	935.9	969.1	976.0	1007.4
52.5°	869.8	869.4	860.7	871.2	902.6	938.6	977.3	1021.5	1062.0	1070.7	1117.1
55°	909.9	907.6	904.0	916.8	961.4	1009.7	1070.2	1130.3	1174.5	1190.0	1236.9
57.5°	955.0	954.1	954.6	981.0	1034.7	1108.0	1182.3	1263.3	1336.2	1347.1	1390.8
60°	994.2	996.0	1006.5	1047.9	1115.3	1214.6	1318.9	1428.6	1493.3	1504.7	1547.5
62.5°	1042.0	1052.5	1075.7	1128.1	1207.3	1327.5	1462.8	1578.9	1662.3	1685.5	1766.6
65°	1156.8	1165.0	1208.2	1271.5	1372.6	1526.6	1681.9	1850.8	1988.4	2009.3	2079.0
67.5°	1240.6	1261.5	1329.4	1432.7	1578.9	1775.7	1988.8	2193.3	2309.4	2319.0	2270.3
69°	1211.4	1228.7	1308.9	1433.7	1609.9	1839.0	2104.0	2317.6	2389.1	2387.3	2254.8
70°	1166.8	1182.7	1271.1	1392.2	1583.9	1831.7	2105.9	2318.5	2361.8	2345.4	2193.7
72.5°	977.3	991.4	1074.3	1200.9	1386.7	1632.7	1890.9	2036.2	2027.1	2013.4	1762.9
75°	610.3	609.3	681.8	755.1	899.5	1148.1	1340.3	1456.9	1438.2	1427.7	1131.7
77.5°	228.2	244.1	270.5	349.3	415.8	550.1	705.4	835.2	871.2	825.2	609.3
80°	118.9	127.5	144.8	172.6	198.6	227.3	273.3	351.6	363.9	339.3	245.9
82.5°	93.8	104.3	121.6	145.3	163.5	152.6	143.9	148.9	148.0	141.2	125.2
85°	71.0	83.3	111.6	135.7	161.7	136.6	108.8	95.2	84.7	85.2	90.6
87.5°	35.5	46.0	87.9	118.4	140.7	90.6	71.0	55.1	46.0	44.2	59.2
90°	15.9	15.9	23.8	30.2	39.4	23.9	23.5	19.8	16.3	16.2	20.7
92.5°	4.0	4.0	4.5	5.0	5.5	6.0	6.0	6.0	6.0	6.0	6.0
95°	5.0	5.0	5.5	6.0	6.5	7.0	7.0	7.0	7.0	7.0	7.0
97.5°	7.0	7.0	7.5	8.0	8.0	8.0	8.5	9.0	9.0	9.0	9.0
100°	8.0	8.0	8.5	9.0	9.5	10.0	11.0	12.0	15.6	16.5	21.0
102.5°	11.0	11.0	12.0	13.0	15.5	18.0	22.5	27.0	32.2	33.5	40.0
105°	21.0	22.0	24.5	27.0	31.5	36.0	42.0	48.0	54.0	55.5	63.0
107.5°	41.0	42.0	45.5	49.0	53.5	58.0	65.5	73.0	79.0	80.5	88.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	39°	40°	45°
110°	66.0	68.0	71.0	74.0	80.5	87.0	94.5	102.0	106.8	108.0	114.0
112.5°	99.0	99.0	102.5	106.0	113.5	121.0	127.5	134.0	137.6	138.5	143.0
115°	140.0	139.0	143.0	147.0	153.0	159.0	163.5	168.0	170.4	171.0	174.0
117.5°	184.0	184.0	186.5	189.0	193.0	197.0	199.5	202.0	203.2	203.5	205.0
120°	225.0	223.0	224.5	226.0	229.5	233.0	235.0	237.0	239.4	240.0	243.0
122.5°	263.0	260.0	260.5	261.0	264.0	267.0	269.0	271.0	273.4	274.0	277.0
125°	298.0	294.0	295.0	296.0	297.5	299.0	302.0	305.0	307.0	307.5	310.0
127.5°	330.0	329.0	329.0	329.0	331.0	333.0	336.0	339.0	339.4	339.5	340.0
130°	363.0	361.0	361.5	362.0	364.0	366.0	368.0	370.0	370.8	371.0	372.0
132.5°	396.0	394.0	393.5	393.0	397.0	401.0	402.5	404.0	404.4	404.5	405.0
135°	429.0	426.0	426.0	426.0	429.0	432.0	433.5	435.0	435.8	436.0	437.0
137.5°	460.0	457.0	458.0	459.0	459.5	460.0	462.0	464.0	465.6	466.0	468.0
140°	488.0	485.0	486.0	487.0	488.0	489.0	490.0	491.0	493.4	494.0	497.0
142.5°	518.0	515.0	516.0	517.0	517.5	518.0	519.5	521.0	522.6	523.0	525.0
145°	550.0	546.0	545.0	544.0	545.5	547.0	548.5	550.0	550.4	550.5	551.0
147.5°	575.0	572.0	571.5	571.0	572.5	574.0	574.0	574.0	574.4	574.5	575.0
150°	595.0	592.0	592.5	593.0	593.0	593.0	593.0	593.0	593.0	593.0	593.0
152.5°	611.0	608.0	608.0	608.0	608.5	609.0	609.5	610.0	610.0	610.0	610.0
155°	629.0	625.0	625.0	625.0	626.0	627.0	628.5	630.0	629.2	629.0	628.0
157.5°	646.0	643.0	643.0	643.0	643.5	644.0	645.0	646.0	645.6	645.5	645.0
160°	663.0	660.0	659.5	659.0	657.5	656.0	655.5	655.0	655.0	655.0	655.0
162.5°	673.0	669.0	669.0	669.0	667.0	665.0	663.0	661.0	661.8	662.0	663.0
165°	681.0	678.0	677.0	676.0	676.0	676.0	674.5	673.0	673.0	673.0	673.0
167.5°	690.0	687.0	685.5	684.0	685.0	686.0	687.0	688.0	686.8	686.5	685.0
170°	698.0	695.0	693.5	692.0	692.0	692.0	692.5	693.0	692.2	692.0	691.0
172.5°	699.0	697.0	696.0	695.0	694.0	693.0	691.5	690.0	690.0	690.0	690.0
175°	700.0	698.0	697.5	697.0	696.0	695.0	693.0	691.0	690.6	690.5	690.0
177.5°	707.0	705.0	702.5	700.0	699.5	699.0	698.0	697.0	696.2	696.0	695.0
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):

	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°
0°	470.0	470.0	470.0	470.0	470.0	470.0	470.0	470.0	470.0	470.0	470.0
2.5°	475.5	475.5	474.5	474.1	472.7	470.9	469.5	467.3	465.9	463.6	460.9
5°	469.5	467.7	466.8	465.0	462.2	460.0	457.2	454.1	450.4	445.9	440.8
7.5°	461.8	459.1	455.9	455.0	451.8	449.0	445.9	441.3	436.3	428.1	421.7
10°	458.6	455.9	453.1	451.3	447.2	444.0	440.4	434.5	428.1	417.2	405.3
12.5°	461.8	459.1	456.3	453.1	449.5	445.9	440.8	433.6	424.9	410.8	396.2
15°	469.5	466.8	462.2	459.1	454.1	450.9	444.0	435.8	423.1	405.8	386.6
17.5°	478.2	474.1	470.0	465.0	460.4	456.3	449.0	438.6	422.6	402.1	377.5
20°	486.4	481.8	475.5	471.8	467.3	461.3	453.6	440.8	421.7	394.8	368.0
22.5°	496.0	490.0	483.2	479.1	475.5	470.4	461.3	444.9	421.7	390.7	357.0
25°	508.2	500.5	493.7	489.6	487.3	483.7	472.7	454.5	424.9	388.5	347.9
27.5°	522.8	512.8	506.9	504.1	503.7	501.0	490.0	467.3	432.2	388.5	339.3
30°	540.1	531.5	523.7	523.7	529.2	527.4	515.1	486.8	443.6	389.8	332.9
32.5°	564.3	555.6	551.1	555.6	561.5	563.4	549.2	514.6	462.2	396.2	326.5
35°	599.8	594.3	591.1	598.0	609.8	614.4	597.1	556.1	489.6	408.5	322.9
37.5°	646.7	642.6	638.5	650.3	672.7	681.8	656.7	603.9	528.7	429.0	321.1
40°	700.4	700.9	705.4	729.1	750.5	769.7	741.4	676.3	582.5	458.2	322.9
42.5°	764.2	769.2	784.7	817.5	858.9	873.9	846.6	763.7	649.4	493.2	327.4
45°	843.4	856.6	883.1	931.8	981.9	1005.1	966.4	873.9	733.7	549.2	340.2
47.5°	927.7	956.8	1001.5	1060.7	1119.0	1134.0	1086.2	973.7	816.1	598.9	359.8
50°	1035.6	1071.1	1115.8	1186.8	1248.8	1257.9	1194.6	1066.1	888.1	642.1	378.5
52.5°	1136.3	1184.5	1241.5	1323.9	1386.7	1375.4	1293.4	1148.6	945.0	671.7	388.9
55°	1273.8	1323.9	1388.1	1460.1	1522.5	1495.1	1383.1	1218.7	990.5	693.6	392.1
57.5°	1430.9	1469.2	1532.0	1605.8	1646.8	1599.9	1471.5	1287.0	1033.8	694.1	367.1
60°	1585.3	1629.9	1699.2	1771.6	1794.3	1713.3	1532.9	1297.5	991.0	619.4	293.7
62.5°	1813.9	1859.0	1894.1	1905.9	1864.9	1701.9	1461.4	1186.8	854.4	488.7	208.1
65°	2069.4	2018.4	1950.6	1886.8	1775.2	1527.5	1260.1	975.0	663.1	326.5	143.5
67.5°	2136.4	1981.1	1833.5	1691.4	1483.3	1216.4	950.5	685.9	425.4	185.8	97.5
69°	2066.7	1839.9	1675.5	1450.1	1235.1	910.4	654.9	439.5	254.1	129.3	81.5
70°	1939.2	1703.3	1480.6	1239.2	956.8	695.4	435.4	287.8	165.8	94.3	73.3
72.5°	1463.3	1170.0	901.7	585.7	357.0	198.1	139.4	99.7	78.8	69.2	62.8
75°	846.2	563.4	368.9	196.7	116.6	86.5	75.6	67.4	62.4	60.1	54.7
77.5°	357.0	223.2	151.2	110.7	78.3	66.9	58.3	53.7	53.3	51.9	46.9
80°	162.6	139.4	118.9	83.3	59.7	51.0	44.6	43.7	44.6	43.3	38.3
82.5°	120.7	118.9	99.3	64.2	45.5	34.2	27.8	29.1	32.8	35.5	31.0
85°	100.6	100.6	83.3	47.8	30.1	21.9	21.4	24.1	27.3	29.6	25.0
87.5°	92.4	88.8	47.8	24.6	17.3	14.1	13.2	11.8	11.8	20.5	17.3
90°	16.1	11.1	10.3	10.8	11.3	10.8	10.7	9.3	9.3	9.3	10.3
92.5°	6.5	7.0	7.0	7.0	6.5	6.0	6.0	6.0	6.0	6.0	6.0
95°	7.0	7.0	7.5	8.0	7.5	7.0	7.0	7.0	7.0	7.0	7.0
97.5°	10.5	12.0	11.0	10.0	9.5	9.0	8.5	8.0	8.0	8.0	8.5
100°	25.0	29.0	27.5	26.0	24.5	23.0	21.0	19.0	19.0	19.0	21.0
102.5°	45.0	50.0	48.5	47.0	44.5	42.0	40.5	39.0	38.0	39.0	40.5
105°	67.5	72.0	71.0	70.0	67.5	65.0	63.0	61.0	61.0	61.0	63.0
107.5°	91.5	95.0	94.5	94.0	92.0	90.0	88.5	87.0	86.0	87.0	88.5



REPORT NUMBER: P227087

CATALOG NUMBER: IST-AF-450-LED-E1-SL4-7060-ULG

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°
110°	117.0	120.0	120.5	121.0	120.0	119.0	117.5	116.0	117.0	116.0	117.5
112.5°	145.5	148.0	149.0	150.0	149.5	149.0	148.0	147.0	147.0	147.0	148.0
115°	176.5	179.0	180.5	182.0	180.5	179.0	178.0	177.0	178.0	177.0	178.0
117.5°	208.0	211.0	213.0	215.0	212.5	210.0	209.0	208.0	209.0	208.0	209.0
120°	244.5	246.0	248.0	250.0	247.5	245.0	244.0	243.0	243.0	243.0	244.0
122.5°	278.0	279.0	281.0	283.0	280.5	278.0	277.0	276.0	277.0	276.0	277.0
125°	311.5	313.0	314.0	315.0	312.5	310.0	310.0	310.0	310.0	310.0	310.0
127.5°	342.5	345.0	345.5	346.0	346.0	346.0	345.5	345.0	347.0	345.0	345.5
130°	374.5	377.0	379.0	381.0	381.0	381.0	380.0	379.0	380.0	379.0	380.0
132.5°	408.0	411.0	413.5	416.0	415.0	414.0	414.0	414.0	415.0	414.0	414.0
135°	440.0	443.0	445.5	448.0	447.5	447.0	448.5	450.0	451.0	450.0	448.5
137.5°	470.5	473.0	474.0	475.0	475.5	476.0	478.5	481.0	482.0	481.0	478.5
140°	498.5	500.0	501.0	502.0	503.0	504.0	506.5	509.0	511.0	509.0	506.5
142.5°	526.0	527.0	530.0	533.0	533.0	533.0	533.5	534.0	536.0	534.0	533.5
145°	553.5	556.0	559.0	562.0	561.5	561.0	559.5	558.0	560.0	558.0	559.5
147.5°	577.5	580.0	582.5	585.0	585.5	586.0	584.5	583.0	585.0	583.0	584.5
150°	595.0	597.0	598.5	600.0	601.5	603.0	604.5	606.0	610.0	606.0	604.5
152.5°	610.5	611.0	612.5	614.0	616.0	618.0	620.5	623.0	628.0	623.0	620.5
155°	627.0	626.0	628.5	631.0	633.5	636.0	637.0	638.0	641.0	638.0	637.0
157.5°	644.5	644.0	646.0	648.0	649.0	650.0	650.0	650.0	655.0	650.0	650.0
160°	656.5	658.0	661.0	664.0	662.5	661.0	660.5	660.0	666.0	660.0	660.5
162.5°	665.0	667.0	669.0	671.0	670.5	670.0	669.0	668.0	674.0	668.0	669.0
165°	672.5	672.0	674.5	677.0	678.5	680.0	679.0	678.0	682.0	678.0	679.0
167.5°	681.5	678.0	681.0	684.0	686.0	688.0	688.0	688.0	694.0	688.0	688.0
170°	688.5	686.0	687.5	689.0	691.5	694.0	695.0	696.0	701.0	696.0	695.0
172.5°	689.5	689.0	690.5	692.0	693.0	694.0	695.0	696.0	701.0	696.0	695.0
175°	690.0	690.0	692.5	695.0	695.5	696.0	695.0	694.0	699.0	694.0	695.0
177.5°	694.5	694.0	696.5	699.0	700.0	701.0	699.5	698.0	702.0	698.0	699.5
180°	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0



REPORT NUMBER: P227087

CATALOG NUMBER: IST-AF-450-LED-E1-SL4-7060-ULG

CANDELA DISTRIBUTION (continued):

	105°	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°
0°	470.0	470.0	470.0	470.0	470.0	470.0	470.0	470.0	470.0	470.0	470.0
2.5°	458.6	456.8	452.2	451.3	450.0	448.1	447.7	445.4	440.8	439.9	440.4
5°	437.7	430.4	425.4	421.3	418.1	409.9	406.7	403.0	396.7	394.8	392.1
7.5°	413.1	404.4	394.4	387.1	378.5	369.8	363.0	354.3	347.5	343.4	336.1
10°	393.9	382.1	368.9	354.3	342.9	329.7	321.1	311.1	300.1	290.1	282.8
12.5°	379.4	363.0	343.8	326.5	310.1	296.0	280.5	266.4	252.8	239.1	227.3
15°	367.5	347.0	322.9	301.0	281.0	260.0	242.7	223.2	205.8	194.0	179.0
17.5°	354.8	328.4	299.7	274.2	248.2	226.3	204.5	184.0	167.6	152.1	139.8
20°	339.3	307.4	276.4	246.8	217.2	192.2	169.9	150.3	134.3	122.1	112.9
22.5°	322.0	284.6	248.7	216.3	186.7	162.1	141.2	126.6	114.8	107.9	105.2
25°	305.1	262.3	221.8	186.3	156.7	135.7	121.6	109.3	103.4	100.6	100.6
27.5°	289.6	239.5	194.5	159.9	131.2	114.8	103.8	98.8	96.1	96.1	97.5
30°	275.1	216.8	168.5	133.4	110.7	98.4	92.4	90.6	91.1	92.9	94.7
32.5°	258.2	194.9	146.2	114.8	96.1	87.9	83.3	83.8	86.1	89.3	92.4
35°	240.5	171.7	126.6	100.6	86.1	79.7	77.0	77.4	80.6	84.7	87.9
37.5°	224.5	153.0	111.6	89.7	78.8	74.7	72.4	72.9	75.1	80.2	84.3
40°	208.6	137.1	99.3	83.3	74.7	70.6	69.2	68.8	70.6	75.1	80.2
42.5°	194.9	123.4	92.0	78.8	72.0	68.3	66.5	66.5	67.4	71.0	76.1
45°	186.7	115.2	87.0	75.6	69.7	66.5	64.7	63.8	65.1	67.4	72.0
47.5°	186.7	111.1	83.8	73.3	67.9	65.1	62.8	62.4	62.8	65.1	69.7
50°	193.1	112.0	83.3	72.4	66.9	63.3	61.0	61.0	61.9	65.1	68.8
52.5°	198.6	113.9	84.7	73.3	66.9	62.4	59.7	59.2	60.6	63.8	66.9
55°	197.7	113.9	86.1	74.7	68.3	62.8	59.2	58.7	59.7	62.8	66.0
57.5°	176.7	107.0	84.7	75.6	70.1	65.1	61.5	60.1	61.0	63.8	66.5
60°	143.0	95.2	81.1	75.6	72.9	69.2	65.6	64.7	65.1	67.9	71.0
62.5°	112.0	84.7	76.5	75.1	74.2	72.4	71.0	70.1	70.1	72.4	75.1
65°	91.1	76.5	72.9	73.3	74.2	73.8	73.3	72.9	72.9	74.2	77.0
67.5°	76.1	68.8	67.9	69.2	70.1	70.6	71.0	70.6	71.0	72.4	75.6
69°	69.2	64.7	63.8	64.7	66.5	66.9	67.9	67.4	67.9	69.2	72.4
70°	65.1	61.5	60.6	61.9	63.3	63.8	64.7	64.2	64.7	66.0	69.2
72.5°	56.5	52.4	51.0	51.9	53.3	53.3	54.7	55.1	54.2	54.7	56.9
75°	48.3	43.7	41.4	41.9	41.9	41.9	42.8	42.8	41.9	41.4	41.9
77.5°	40.5	35.5	32.8	32.8	32.8	32.3	31.0	31.4	31.9	31.4	31.9
80°	31.9	27.8	25.0	25.0	25.0	24.1	23.7	23.7	24.6	25.5	25.0
82.5°	24.6	20.5	19.1	18.7	18.7	17.8	17.8	18.7	18.2	18.7	19.6
85°	17.8	14.6	13.2	13.7	13.2	12.3	12.8	14.1	14.1	13.7	14.6
87.5°	10.9	9.1	8.7	9.1	8.2	6.8	6.4	6.8	7.7	7.3	8.2
90°	10.4	9.9	9.9	8.9	8.4	7.9	7.9	8.4	9.4	9.4	8.9
92.5°	6.0	6.5	7.0	7.0	7.0	6.5	6.0	6.0	6.0	6.0	6.0
95°	7.0	7.5	8.0	7.5	7.0	7.0	7.0	7.0	7.0	7.0	7.0
97.5°	9.0	9.5	10.0	11.0	12.0	10.5	9.0	9.0	9.0	8.5	8.0
100°	23.0	24.5	26.0	27.5	29.0	25.0	21.0	16.5	12.0	11.0	10.0
102.5°	42.0	44.5	47.0	48.5	50.0	45.0	40.0	33.5	27.0	22.5	18.0
105°	65.0	67.5	70.0	71.0	72.0	67.5	63.0	55.5	48.0	42.0	36.0
107.5°	90.0	92.0	94.0	94.5	95.0	91.5	88.0	80.5	73.0	65.5	58.0



REPORT NUMBER: P227087
 CATALOG NUMBER: IST-AF-450-LED-E1-SL4-7060-ULG

REPORT N
 CATALOG

CANDELA DISTRIBUTION (continued):

CANDELA

	105°	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	
110°	119.0	120.0	121.0	120.5	120.0	117.0	114.0	108.0	102.0	94.5	87.0	0°
112.5°	149.0	149.5	150.0	149.0	148.0	145.5	143.0	138.5	134.0	127.5	121.0	2.5°
115°	179.0	180.5	182.0	180.5	179.0	176.5	174.0	171.0	168.0	163.5	159.0	5°
117.5°	210.0	212.5	215.0	213.0	211.0	208.0	205.0	203.5	202.0	199.5	197.0	7.5°
120°	245.0	247.5	250.0	248.0	246.0	244.5	243.0	240.0	237.0	235.0	233.0	10°
122.5°	278.0	280.5	283.0	281.0	279.0	278.0	277.0	274.0	271.0	269.0	267.0	12.5°
125°	310.0	312.5	315.0	314.0	313.0	311.5	310.0	307.5	305.0	302.0	299.0	15°
127.5°	346.0	346.0	346.0	345.5	345.0	342.5	340.0	339.5	339.0	336.0	333.0	17.5°
130°	381.0	381.0	381.0	379.0	377.0	374.5	372.0	371.0	370.0	368.0	366.0	20°
132.5°	414.0	415.0	416.0	413.5	411.0	408.0	405.0	404.5	404.0	402.5	401.0	22.5°
135°	447.0	447.5	448.0	445.5	443.0	440.0	437.0	436.0	435.0	433.5	432.0	25°
137.5°	476.0	475.5	475.0	474.0	473.0	470.5	468.0	466.0	464.0	462.0	460.0	27.5°
140°	504.0	503.0	502.0	501.0	500.0	498.5	497.0	494.0	491.0	490.0	489.0	30°
142.5°	533.0	533.0	533.0	530.0	527.0	526.0	525.0	523.0	521.0	519.5	518.0	32.5°
145°	561.0	561.5	562.0	559.0	556.0	553.5	551.0	550.5	550.0	548.5	547.0	35°
147.5°	586.0	585.5	585.0	582.5	580.0	577.5	575.0	574.5	574.0	574.0	574.0	37.5°
150°	603.0	601.5	600.0	598.5	597.0	595.0	593.0	593.0	593.0	593.0	593.0	40°
152.5°	618.0	616.0	614.0	612.5	611.0	610.5	610.0	610.0	610.0	609.5	609.0	42.5°
155°	636.0	633.5	631.0	628.5	626.0	627.0	628.0	629.0	630.0	628.5	627.0	45°
157.5°	650.0	649.0	648.0	646.0	644.0	644.5	645.0	645.5	646.0	645.0	644.0	47.5°
160°	661.0	662.5	664.0	661.0	658.0	656.5	655.0	655.0	655.0	655.5	656.0	50°
162.5°	670.0	670.5	671.0	669.0	667.0	665.0	663.0	662.0	661.0	663.0	665.0	52.5°
165°	680.0	678.5	677.0	674.5	672.0	672.5	673.0	673.0	673.0	674.5	676.0	55°
167.5°	688.0	686.0	684.0	681.0	678.0	681.5	685.0	686.5	688.0	687.0	686.0	57.5°
170°	694.0	691.5	689.0	687.5	686.0	688.5	691.0	692.0	693.0	692.5	692.0	60°
172.5°	694.0	693.0	692.0	690.5	689.0	689.5	690.0	690.0	690.0	691.5	693.0	62.5°
175°	696.0	695.5	695.0	692.5	690.0	690.0	690.0	690.5	691.0	693.0	695.0	65°
177.5°	701.0	700.0	699.0	696.5	694.0	694.5	695.0	696.0	697.0	698.0	699.0	67.5°
180°	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	69°
												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

NUMBER: IST-AF-450-LED-E1-SL4-7060-ULG

CATALOG NUMBER:

DISTRIBUTION (continued):

160°	165°	170°	175°	180°
470.0	470.0	470.0	470.0	470.0
437.2	438.6	432.6	435.4	433.6
389.4	387.1	386.6	385.3	382.6
333.4	331.5	326.1	327.9	323.8
275.5	275.1	265.1	265.5	260.5
222.2	214.0	209.9	204.0	207.2
172.1	165.3	156.7	154.4	157.6
129.8	123.0	118.9	115.2	113.9
107.5	103.4	101.1	99.7	98.8
103.8	102.9	102.5	101.6	101.1
101.6	102.5	102.5	102.5	101.6
99.3	101.1	101.6	101.1	100.2
97.0	98.4	98.4	97.9	96.5
93.8	95.2	95.2	94.7	93.8
90.2	91.1	91.5	91.5	92.0
87.4	88.4	89.3	90.2	91.5
84.3	85.6	86.1	87.9	89.7
80.2	82.0	82.9	84.3	86.1
76.1	78.3	78.8	80.6	82.4
74.2	76.1	76.1	77.4	78.8
72.0	72.9	72.4	73.3	73.8
69.7	70.6	70.1	71.0	71.5
67.9	68.8	69.7	70.6	71.0
68.8	70.1	70.6	72.0	72.4
72.9	74.7	76.5	78.3	79.7
77.0	79.2	83.3	91.5	94.7
79.2	82.4	92.0	106.1	110.2
77.9	82.0	93.4	108.4	113.4
75.1	78.3	90.6	106.1	110.7
71.5	74.7	87.0	103.8	107.9
57.8	59.7	73.3	89.3	92.0
42.4	43.7	54.2	60.6	60.1
32.8	34.6	38.3	38.7	38.3
26.0	26.9	28.7	28.7	29.1
20.0	20.5	21.4	20.5	20.0
15.0	14.6	14.1	13.7	13.2
8.7	8.7	7.3	6.4	5.9
8.4	8.4	7.4	5.9	5.0
5.5	5.0	4.5	4.0	4.0
6.5	6.0	5.5	5.0	5.0
8.0	8.0	7.5	7.0	7.0
9.5	9.0	8.5	8.0	8.0
15.5	13.0	12.0	11.0	11.0
31.5	27.0	24.5	22.0	21.0
53.5	49.0	45.5	42.0	41.0

CANDELA DISTRIBUTION:

	160°
110°	80.5
112.5°	113.5
115°	153.0
117.5°	193.0
120°	229.5
122.5°	264.0
125°	297.5
127.5°	331.0
130°	364.0
132.5°	397.0
135°	429.0
137.5°	459.5
140°	488.0
142.5°	517.5
145°	545.5
147.5°	572.5
150°	593.0
152.5°	608.5
155°	626.0
157.5°	643.5
160°	657.5
162.5°	667.0
165°	676.0
167.5°	685.0
170°	692.0
172.5°	694.0
175°	696.0
177.5°	699.5
180°	700.0

'227087

IST-AF-450-LED-E1-SL4-7060-ULG

TION (continued):

165°	170°	175°	180°
74.0	71.0	68.0	66.0
106.0	102.5	99.0	99.0
147.0	143.0	139.0	140.0
189.0	186.5	184.0	184.0
226.0	224.5	223.0	225.0
261.0	260.5	260.0	263.0
296.0	295.0	294.0	298.0
329.0	329.0	329.0	330.0
362.0	361.5	361.0	363.0
393.0	393.5	394.0	396.0
426.0	426.0	426.0	429.0
459.0	458.0	457.0	460.0
487.0	486.0	485.0	488.0
517.0	516.0	515.0	518.0
544.0	545.0	546.0	550.0
571.0	571.5	572.0	575.0
593.0	592.5	592.0	595.0
608.0	608.0	608.0	611.0
625.0	625.0	625.0	629.0
643.0	643.0	643.0	646.0
659.0	659.5	660.0	663.0
669.0	669.0	669.0	673.0
676.0	677.0	678.0	681.0
684.0	685.5	687.0	690.0
692.0	693.5	695.0	698.0
695.0	696.0	697.0	699.0
697.0	697.5	698.0	700.0
700.0	702.5	705.0	707.0
700.0	700.0	700.0	700.0

(END OF REPORT)