

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: P271704

Luminaire Tested: **IST-AF-450-LED-E1-SL4-7027-ULG**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P271704
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-SL4-7027-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) 2700K CCT, 70 CRI LEDs and (1) UPLIGHT LED
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4141.9 lumens
Efficiency: N/A
Efficacy: 98.6 lumens/watt
Luminous Opening: Rectangular w/ Sides (W: 0.5' x L: 0.5' x H: 0.54')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: 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

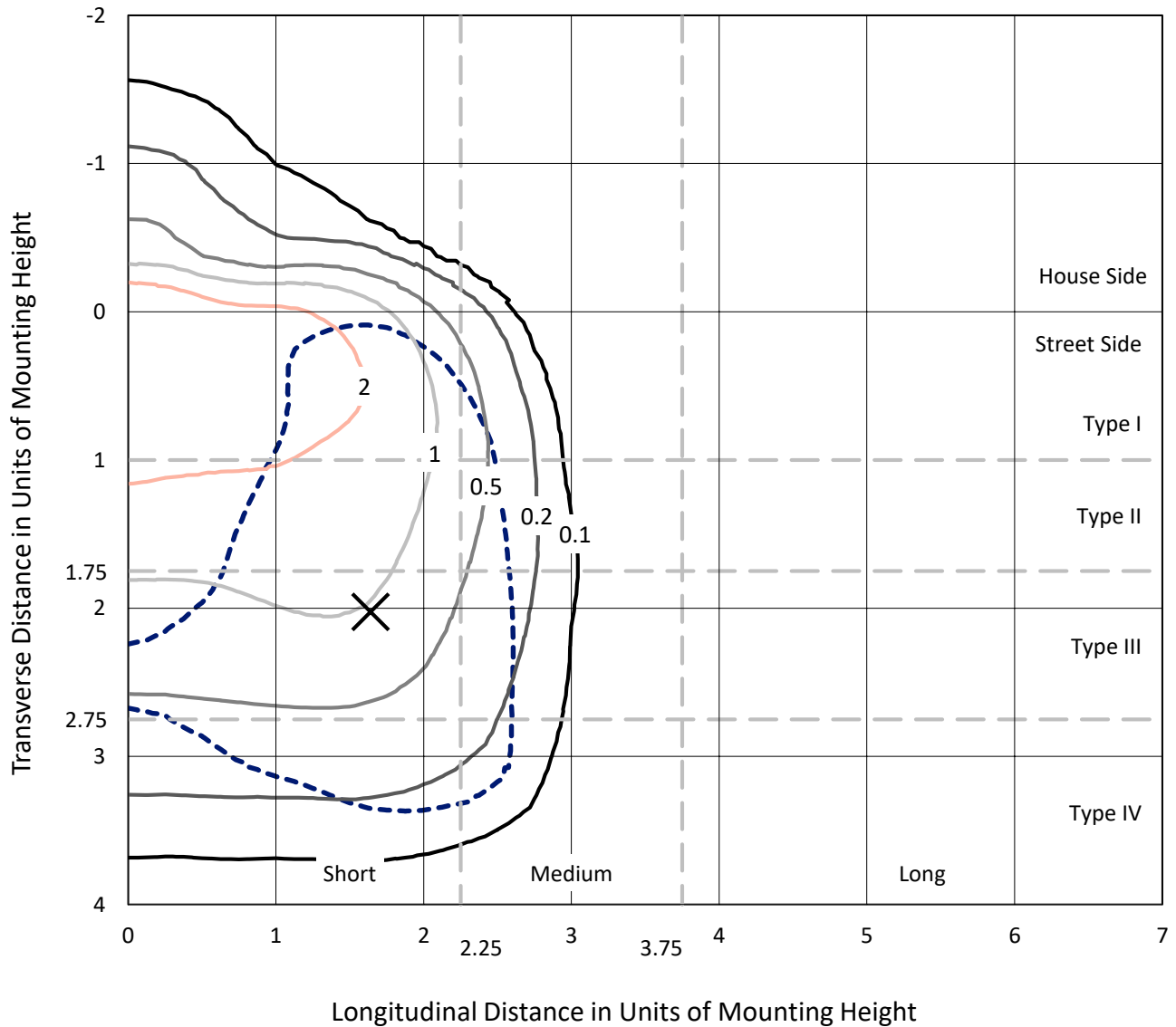


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

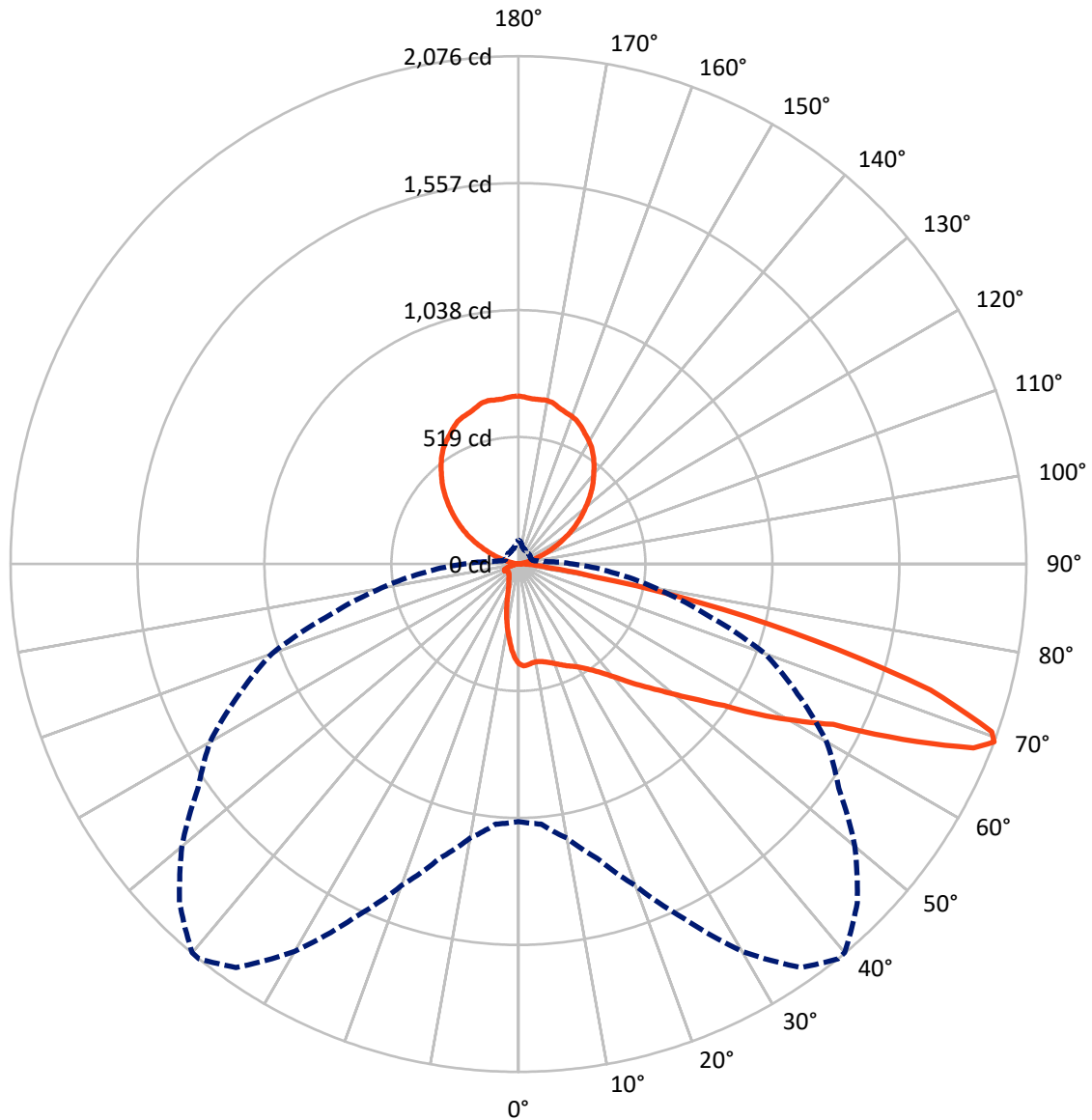


Based on 10 foot mounting height. Maximum calculated value = 4.1 fc
 Type IV - Short - Non-Cutoff

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Luminous Intensity Polar Plot



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

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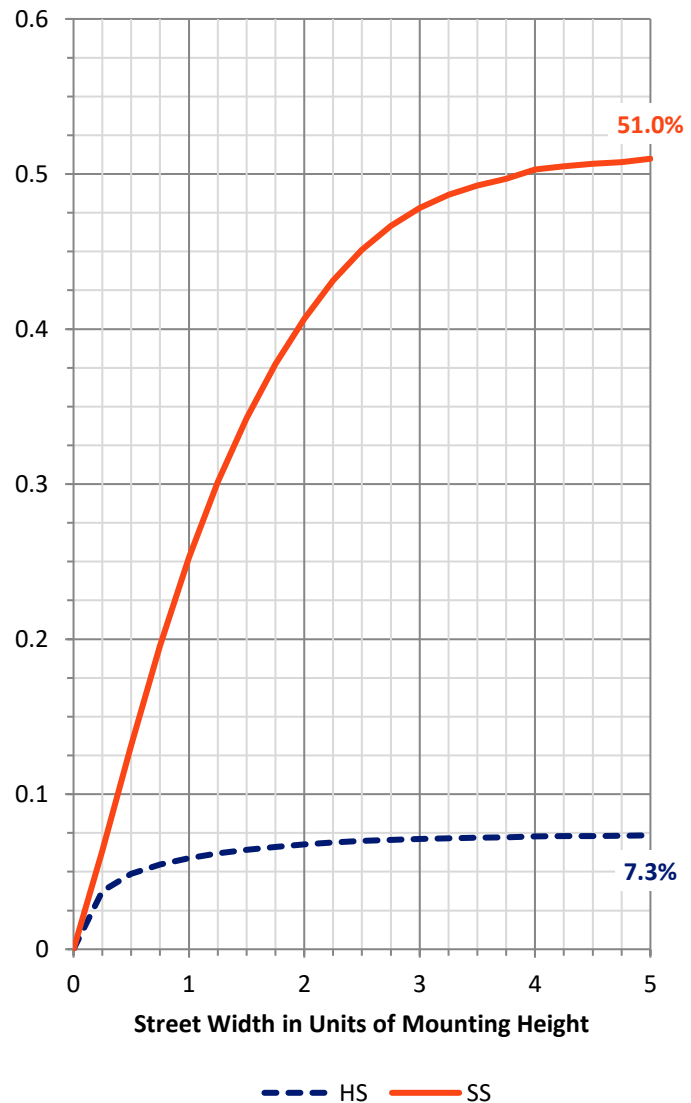
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	309.0	851.6	1160.5
	% Fixture	7.5	20.6	28.0
Street Side	Lumens	2129.3	852.1	2981.4
	% Fixture	51.4	20.6	72.0
Total	Lumens	2438.3	1703.7	4141.9
	% Fixture	58.9	41.1	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	35.3	0.9
10°-20°	88.9	2.1
20°-30°	138.3	3.3
30°-40°	209.1	5.0
40°-50°	334.6	8.1
50°-60°	525.8	12.7
60°-70°	708.0	17.1
70°-80°	351.2	8.5
80°-90°	47.1	1.1
90°-100°	9.7	0.2
100°-110°	56.3	1.4
110°-120°	163.0	3.9
120°-130°	268.1	6.5
130°-140°	330.6	8.0
140°-150°	338.2	8.2
150°-160°	284.9	6.9
160°-170°	187.6	4.5
170°-180°	65.0	1.6
0°-90°	2438.3	58.9
0°-180°	4141.9	100.0



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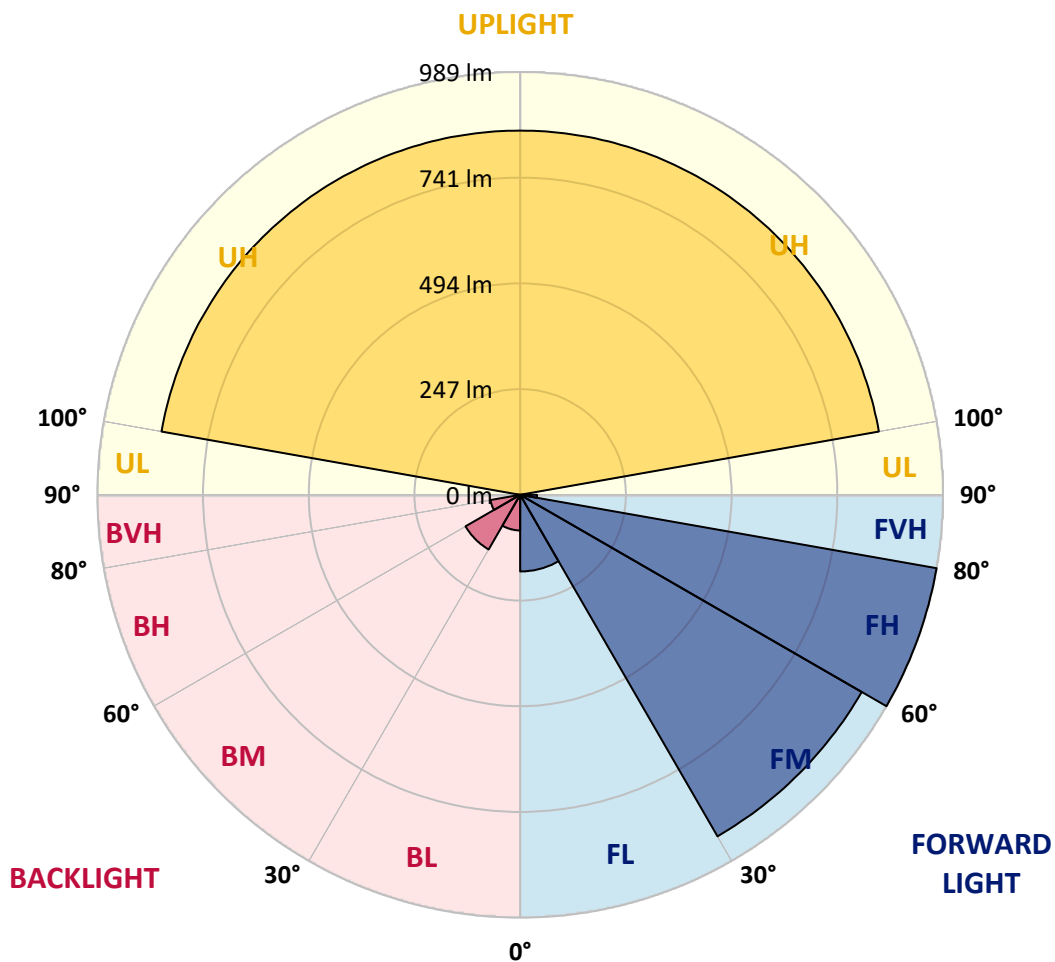
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	179.2	4.3			
FM (30°-60°)	922.1	22.3			
FH (60°-80°)	988.6	23.9			G1/1800
FVH (80°-90°)	39.4	1.0			G1/100
BL (0°-30°)	83.2	2.0	B0/110		
BM (30°-60°)	147.4	3.6	B0/220		
BH (60°-80°)	70.6	1.7	B0/110		G0/110
BVH (80°-90°)	7.8	0.2			G0/10
UL (90°-100°)	9.7	0.2		U1/10	
UH (100°-180°)	851.6	20.6		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°	408.3	408.3	408.3	408.3	408.3	408.3	408.3	408.3	408.3	408.3	408.3
2.5°	418.3	418.6	418.6	419.0	417.4	417.4	417.8	416.3	417.0	416.6	414.7
5°	419.0	419.4	419.0	419.4	417.4	416.6	415.1	413.1	413.8	413.5	410.7
7.5°	417.0	417.4	416.6	417.0	414.7	413.1	410.7	409.1	407.9	407.5	404.0
10°	412.7	413.8	412.3	413.5	411.5	409.9	408.7	407.1	406.3	405.9	402.0
12.5°	406.3	407.1	407.5	409.1	409.1	409.4	409.4	408.3	408.7	408.3	405.1
15°	400.5	403.2	405.9	407.5	410.7	412.7	414.3	413.8	415.1	414.7	412.7
17.5°	400.5	402.8	407.5	412.7	418.6	421.3	423.8	423.8	424.2	423.4	420.1
20°	402.0	406.3	414.3	423.0	430.1	435.7	437.3	436.8	435.2	435.2	429.7
22.5°	415.1	417.8	426.5	436.0	445.9	451.5	451.8	450.7	447.4	446.6	440.0
25°	433.6	436.8	444.8	457.0	464.5	468.8	467.7	463.7	460.7	457.8	450.7
27.5°	462.5	465.0	472.8	481.1	485.4	487.2	482.3	476.8	473.2	472.0	462.5
30°	492.2	495.3	501.7	506.8	510.3	505.7	498.1	491.8	488.7	487.9	479.2
32.5°	528.7	529.0	533.3	534.5	534.9	527.0	516.7	510.8	509.6	508.0	501.3
35°	561.9	563.9	563.1	562.7	559.0	549.2	540.5	537.0	535.7	535.3	529.8
37.5°	591.5	594.7	592.7	589.2	584.8	576.9	567.8	563.9	567.8	565.4	566.7
40°	620.4	620.4	618.0	616.1	610.8	603.4	600.2	600.7	607.0	608.5	610.1
42.5°	645.3	644.9	642.6	641.0	640.2	638.7	637.0	644.5	656.8	659.2	662.8
45°	672.7	672.2	663.2	666.4	671.8	673.0	678.6	696.0	711.0	712.2	719.7
47.5°	699.2	696.0	687.2	690.4	706.2	714.6	723.7	748.2	769.2	773.5	794.6
50°	726.9	723.7	714.2	720.1	742.3	757.7	779.1	813.1	842.0	847.9	875.2
52.5°	755.7	755.4	747.7	756.9	784.2	815.5	849.1	887.4	922.6	930.3	970.6
55°	790.6	788.5	785.4	796.4	835.2	877.3	929.8	982.0	1020.5	1033.9	1074.6
57.5°	829.8	829.0	829.3	852.3	898.9	962.6	1027.1	1097.5	1160.9	1170.4	1208.4
60°	863.7	865.3	874.4	910.4	969.0	1055.3	1145.9	1241.2	1297.4	1307.3	1344.5
62.5°	905.3	914.4	934.6	980.1	1049.0	1153.3	1270.9	1371.8	1444.1	1464.3	1534.8
65°	1005.0	1012.1	1049.7	1104.7	1192.6	1326.3	1461.3	1608.0	1727.5	1745.7	1806.2
67.5°	1077.8	1096.0	1155.0	1244.8	1371.8	1542.7	1727.9	1905.6	2006.5	2014.8	1972.4
69°	1052.5	1067.5	1137.2	1245.6	1398.8	1597.7	1828.1	2013.6	2075.7	2074.1	1958.9
70°	1013.6	1027.5	1104.4	1209.6	1376.1	1591.3	1829.6	2014.4	2052.0	2037.7	1905.9
72.5°	849.1	861.4	933.4	1043.4	1204.8	1418.4	1642.8	1769.0	1761.1	1749.3	1531.6
75°	530.2	529.4	592.3	656.0	781.4	997.5	1164.5	1265.7	1249.5	1240.4	983.3
77.5°	198.3	212.1	235.1	303.4	361.3	478.0	612.9	725.7	756.9	716.9	529.4
80°	103.2	110.9	125.9	149.9	172.6	197.4	237.4	305.4	316.1	294.7	213.7
82.5°	81.5	90.5	105.6	126.2	142.0	132.6	125.0	129.4	128.5	122.7	108.9
85°	61.7	72.4	96.9	117.9	140.5	118.7	94.5	82.7	73.6	74.0	78.7
87.5°	30.8	40.0	76.4	102.9	122.3	78.7	61.7	47.9	40.0	38.4	51.5
90°	14.5	14.5	21.3	27.1	35.0	21.6	21.3	18.1	15.0	14.9	18.8
92.5°	4.0	4.0	4.4	4.9	5.4	5.9	5.9	5.9	5.9	5.9	5.9
95°	4.9	4.9	5.4	5.9	6.4	6.8	6.8	6.8	6.8	6.8	6.8
97.5°	6.8	6.8	7.4	7.8	7.8	7.8	8.4	8.8	8.8	8.8	8.8
100°	7.8	7.8	8.4	8.8	9.3	9.8	10.8	11.8	15.3	16.2	20.6
102.5°	10.8	10.8	11.8	12.8	15.2	17.7	22.1	26.5	31.6	32.9	39.3
105°	20.6	21.6	24.1	26.5	30.9	35.3	41.2	47.1	53.0	54.4	61.8
107.5°	40.2	41.2	44.6	48.1	52.6	57.0	64.3	71.7	77.5	79.1	86.3



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CATALOG NUMBER: IST-AF-450-LED-E1-SL4-7027-ULG

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	39°	40°	45°
110°	64.8	66.7	69.7	72.7	79.1	85.4	92.7	100.1	104.8	106.0	111.9
112.5°	97.2	97.2	100.6	104.0	111.4	118.8	125.1	131.5	135.0	135.9	140.3
115°	137.4	136.5	140.3	144.3	150.2	156.0	160.4	164.9	167.3	167.8	170.8
117.5°	180.6	180.6	183.1	185.5	189.5	193.3	195.8	198.3	199.4	199.7	201.2
120°	220.8	218.8	220.4	221.8	225.3	228.7	230.7	232.6	235.0	235.5	238.5
122.5°	258.2	255.2	255.7	256.2	259.1	262.0	264.0	266.0	268.3	269.0	271.8
125°	292.5	288.5	289.5	290.5	291.9	293.5	296.4	299.3	301.3	301.8	304.3
127.5°	323.9	322.9	322.9	322.9	324.8	326.8	329.8	332.7	333.1	333.2	333.7
130°	356.3	354.3	354.8	355.3	357.3	359.2	361.2	363.2	363.9	364.2	365.1
132.5°	388.7	386.7	386.2	385.7	389.7	393.5	395.1	396.5	396.9	397.1	397.5
135°	421.0	418.1	418.1	418.1	421.0	424.0	425.4	427.0	427.8	428.0	428.9
137.5°	451.5	448.5	449.5	450.5	450.9	451.5	453.5	455.4	457.0	457.3	459.3
140°	479.0	476.0	477.0	478.0	479.0	480.0	481.0	481.9	484.3	484.8	487.8
142.5°	508.4	505.5	506.5	507.5	507.9	508.4	509.9	511.3	512.9	513.3	515.3
145°	539.8	535.9	534.9	534.0	535.4	536.8	538.4	539.8	540.2	540.3	540.8
147.5°	564.3	561.4	560.9	560.5	561.9	563.3	563.3	563.3	563.8	563.9	564.3
150°	584.0	581.0	581.6	582.0	582.0	582.0	582.0	582.0	582.0	582.0	582.0
152.5°	599.7	596.7	596.7	596.7	597.2	597.7	598.2	598.7	598.7	598.7	598.7
155°	617.3	613.5	613.5	613.5	614.4	615.4	616.9	618.3	617.6	617.3	616.3
157.5°	634.0	631.1	631.1	631.1	631.6	632.0	633.0	634.0	633.7	633.6	633.0
160°	650.7	647.8	647.3	646.8	645.3	643.8	643.4	642.8	642.8	642.8	642.8
162.5°	660.5	656.6	656.6	656.6	654.7	652.7	650.7	648.8	649.6	649.7	650.7
165°	668.4	665.5	664.5	663.5	663.5	663.5	662.1	660.5	660.5	660.5	660.5
167.5°	677.2	674.3	672.8	671.3	672.3	673.3	674.3	675.3	674.1	673.8	672.3
170°	685.0	682.2	680.6	679.2	679.2	679.2	679.7	680.2	679.4	679.2	678.2
172.5°	686.0	684.1	683.1	682.2	681.2	680.2	678.7	677.2	677.2	677.2	677.2
175°	687.0	685.0	684.6	684.1	683.1	682.2	680.2	678.2	677.8	677.7	677.2
177.5°	693.9	692.0	689.4	687.0	686.6	686.0	685.0	684.1	683.3	683.1	682.2
180°	687.0	687.0	687.0	687.0	687.0	687.0	687.0	687.0	687.0	687.0	687.0



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CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°
0°	408.3	408.3	408.3	408.3	408.3	408.3	408.3	408.3	408.3	408.3	408.3
2.5°	413.1	413.1	412.3	412.0	410.7	409.1	407.9	405.9	404.8	402.8	400.5
5°	407.9	406.3	405.6	404.0	401.6	399.7	397.2	394.4	391.3	387.3	382.9
7.5°	401.3	398.8	396.1	395.3	392.5	390.1	387.3	383.4	379.1	371.9	366.4
10°	398.5	396.1	393.6	392.1	388.6	385.8	382.6	377.5	371.9	362.5	352.1
12.5°	401.3	398.8	396.4	393.6	390.5	387.3	382.9	376.7	369.1	356.9	344.2
15°	407.9	405.6	401.6	398.8	394.4	391.8	385.8	378.6	367.6	352.6	336.0
17.5°	415.5	412.0	408.3	404.0	400.0	396.4	390.1	381.0	367.1	349.4	328.0
20°	422.6	418.6	413.1	409.9	405.9	400.8	394.1	382.9	366.4	343.1	319.7
22.5°	430.8	425.8	419.8	416.3	413.1	408.7	400.8	386.6	366.4	339.5	310.3
25°	441.6	434.8	428.9	425.3	423.4	420.1	410.7	394.9	369.1	337.5	302.3
27.5°	454.3	445.5	440.3	438.0	437.7	435.2	425.8	405.9	375.5	337.5	294.7
30°	469.3	461.8	455.0	455.0	459.8	458.1	447.4	423.0	385.5	338.8	289.3
32.5°	490.3	482.7	478.8	482.7	487.9	489.5	477.2	447.1	401.6	344.2	283.7
35°	521.1	516.3	513.7	519.5	529.8	533.8	518.7	483.1	425.3	354.9	280.5
37.5°	561.9	558.3	554.7	565.0	584.3	592.3	570.5	524.7	459.3	372.8	278.9
40°	608.5	608.9	612.9	633.5	652.1	668.7	644.2	587.6	506.0	398.1	280.5
42.5°	663.9	668.2	681.7	710.2	746.2	759.2	735.5	663.6	564.2	428.5	284.5
45°	732.7	744.2	767.2	809.6	853.1	873.2	839.6	759.2	637.4	477.2	295.5
47.5°	806.0	831.3	870.1	921.5	972.1	985.2	943.7	845.9	709.0	520.3	312.6
50°	899.7	930.6	969.5	1031.2	1085.0	1092.9	1037.8	926.2	771.6	557.8	328.8
52.5°	987.1	1029.2	1078.5	1150.2	1204.8	1194.9	1123.7	997.8	821.1	583.6	337.9
55°	1106.7	1150.2	1206.1	1268.6	1322.8	1298.9	1201.7	1058.8	860.6	602.7	340.6
57.5°	1243.3	1276.4	1331.0	1395.2	1430.7	1389.9	1278.4	1118.2	898.1	603.0	318.9
60°	1377.3	1416.1	1476.3	1539.2	1559.0	1488.5	1331.8	1127.2	860.9	538.2	255.2
62.5°	1576.0	1615.2	1645.5	1655.8	1620.3	1478.6	1269.8	1031.2	742.3	424.6	180.8
65°	1797.9	1753.6	1694.7	1639.2	1542.3	1327.1	1094.9	847.1	576.2	283.7	124.7
67.5°	1856.1	1721.2	1593.0	1469.4	1288.7	1056.9	825.7	595.8	369.6	161.4	84.7
69°	1795.5	1598.5	1455.6	1259.9	1073.0	791.0	569.0	381.8	220.7	112.4	70.9
70°	1684.8	1479.8	1286.4	1076.6	831.3	604.2	378.3	250.1	144.0	81.8	63.7
72.5°	1271.3	1016.5	783.4	508.8	310.3	172.1	121.1	86.7	68.5	60.2	54.5
75°	735.2	489.5	320.4	170.9	101.3	75.2	65.7	58.6	54.2	52.2	47.5
77.5°	310.3	193.9	131.3	96.2	68.0	58.2	50.7	46.7	46.4	45.2	40.7
80°	141.2	121.1	103.2	72.4	51.8	44.4	38.8	38.0	38.8	37.5	33.2
82.5°	104.8	103.2	86.2	55.8	39.5	29.6	24.2	25.3	28.5	30.8	26.9
85°	87.5	87.5	72.4	41.5	26.1	19.0	18.5	21.0	23.7	25.7	21.8
87.5°	80.3	77.2	41.5	21.4	15.0	12.3	11.5	10.3	10.3	17.8	15.0
90°	14.8	10.4	9.8	10.4	10.8	10.4	10.2	8.8	8.8	8.8	9.8
92.5°	6.4	6.8	6.8	6.8	6.4	5.9	5.9	5.9	5.9	5.9	5.9
95°	6.8	6.8	7.4	7.8	7.4	6.8	6.8	6.8	6.8	6.8	6.8
97.5°	10.3	11.8	10.8	9.8	9.3	8.8	8.4	7.8	7.8	7.8	8.4
100°	24.5	28.5	26.9	25.5	24.1	22.5	20.6	18.7	18.7	18.7	20.6
102.5°	44.2	49.0	47.6	46.2	43.7	41.2	39.7	38.3	37.3	38.3	39.7
105°	66.3	70.7	69.7	68.7	66.3	63.8	61.8	59.8	59.8	59.8	61.8
107.5°	89.8	93.2	92.7	92.3	90.3	88.3	86.9	85.4	84.4	85.4	86.9



REPORT NUMBER: P271704

CATALOG NUMBER: IST-AF-450-LED-E1-SL4-7027-ULG

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°
110°	114.8	117.8	118.3	118.8	117.8	116.8	115.3	113.8	114.8	113.8	115.3
112.5°	142.8	145.3	146.2	147.2	146.7	146.2	145.3	144.3	144.3	144.3	145.3
115°	173.2	175.7	177.1	178.7	177.1	175.7	174.7	173.7	174.7	173.7	174.7
117.5°	204.2	207.1	209.0	211.0	208.6	206.1	205.2	204.2	205.2	204.2	205.2
120°	239.9	241.5	243.4	245.3	242.9	240.5	239.5	238.5	238.5	238.5	239.5
122.5°	272.8	273.8	275.8	277.8	275.3	272.8	271.8	270.9	271.8	270.9	271.8
125°	305.7	307.2	308.2	309.2	306.7	304.3	304.3	304.3	304.3	304.3	304.3
127.5°	336.1	338.6	339.1	339.6	339.6	339.6	339.1	338.6	340.5	338.6	339.1
130°	367.6	370.0	372.0	374.0	374.0	374.0	373.0	372.0	373.0	372.0	373.0
132.5°	400.5	403.4	405.9	408.3	407.3	406.3	406.3	406.3	407.3	406.3	406.3
135°	431.8	434.8	437.3	439.7	439.2	438.7	440.2	441.7	442.7	441.7	440.2
137.5°	461.8	464.2	465.2	466.2	466.7	467.2	469.6	472.1	473.0	472.1	469.6
140°	489.3	490.7	491.7	492.7	493.7	494.7	497.1	499.5	501.5	499.5	497.1
142.5°	516.3	517.2	520.2	523.2	523.2	523.2	523.6	524.1	526.0	524.1	523.6
145°	543.3	545.7	548.7	551.6	551.1	550.6	549.1	547.7	549.7	547.7	549.1
147.5°	566.8	569.3	571.7	574.2	574.6	575.2	573.7	572.2	574.2	572.2	573.7
150°	584.0	586.0	587.4	588.9	590.4	591.8	593.3	594.8	598.7	594.8	593.3
152.5°	599.2	599.7	601.1	602.7	604.6	606.5	609.1	611.5	616.3	611.5	609.1
155°	615.4	614.4	616.9	619.3	621.8	624.2	625.2	626.2	629.2	626.2	625.2
157.5°	632.6	632.0	634.0	636.0	637.0	638.0	638.0	638.0	642.8	638.0	638.0
160°	644.4	645.8	648.8	651.7	650.2	648.8	648.3	647.8	653.7	647.8	648.3
162.5°	652.7	654.7	656.6	658.5	658.1	657.6	656.6	655.7	661.5	655.7	656.6
165°	660.1	659.5	662.1	664.5	665.9	667.4	666.5	665.5	669.3	665.5	666.5
167.5°	668.9	665.5	668.4	671.3	673.3	675.3	675.3	675.3	681.2	675.3	675.3
170°	675.7	673.3	674.8	676.2	678.7	681.2	682.2	683.1	688.0	683.1	682.2
172.5°	676.7	676.2	677.7	679.2	680.2	681.2	682.2	683.1	688.0	683.1	682.2
175°	677.2	677.2	679.7	682.2	682.6	683.1	682.2	681.2	686.0	681.2	682.2
177.5°	681.6	681.2	683.6	686.0	687.0	688.0	686.6	685.0	689.0	685.0	686.6
180°	687.0	687.0	687.0	687.0	687.0	687.0	687.0	687.0	687.0	687.0	687.0



REPORT NUMBER: P271704

CATALOG NUMBER: IST-AF-450-LED-E1-SL4-7027-ULG

CANDELA DISTRIBUTION (continued):

	105°	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°
0°	408.3	408.3	408.3	408.3	408.3	408.3	408.3	408.3	408.3	408.3	408.3
2.5°	398.5	396.8	392.9	392.1	390.9	389.3	389.0	387.0	382.9	382.2	382.6
5°	380.3	374.0	369.6	366.0	363.3	356.1	353.3	350.2	344.6	343.1	340.6
7.5°	358.9	351.3	342.6	336.3	328.8	321.2	315.3	307.8	301.9	298.3	291.9
10°	342.3	331.9	320.4	307.8	298.0	286.5	278.9	270.2	260.8	252.1	245.7
12.5°	329.6	315.3	298.8	283.7	269.4	257.2	243.7	231.4	219.5	207.7	197.4
15°	319.3	301.5	280.5	261.6	244.1	225.9	210.9	193.9	178.9	168.5	155.5
17.5°	308.2	285.3	260.4	238.2	215.6	196.7	177.7	159.9	145.6	132.1	121.5
20°	294.7	267.1	240.2	214.4	188.7	166.9	147.6	130.5	116.7	106.0	98.2
22.5°	279.7	247.3	216.0	187.9	162.2	140.9	122.7	110.0	99.7	93.7	91.4
25°	265.1	227.9	192.7	161.9	136.1	117.9	105.6	95.0	89.8	87.5	87.5
27.5°	251.6	208.0	168.9	138.9	113.9	99.7	90.2	85.9	83.5	83.5	84.7
30°	238.9	188.4	146.4	115.9	96.2	85.5	80.3	78.7	79.1	80.7	82.4
32.5°	224.4	169.3	127.0	99.7	83.5	76.4	72.4	72.9	74.8	77.5	80.3
35°	208.9	149.2	110.0	87.5	74.8	69.2	66.8	67.2	70.1	73.6	76.4
37.5°	195.0	132.9	96.9	78.0	68.5	64.9	62.9	63.3	65.3	69.7	73.2
40°	181.2	119.0	86.2	72.4	64.9	61.4	60.2	59.7	61.4	65.3	69.7
42.5°	169.3	107.2	79.9	68.5	62.5	59.4	57.9	57.9	58.6	61.7	66.0
45°	162.2	100.1	75.5	65.7	60.5	57.9	56.1	55.3	56.5	58.6	62.5
47.5°	162.2	96.6	72.9	63.7	59.0	56.5	54.5	54.2	54.5	56.5	60.5
50°	167.7	97.4	72.4	62.9	58.2	55.0	53.0	53.0	53.8	56.5	59.7
52.5°	172.6	98.9	73.6	63.7	58.2	54.2	51.8	51.5	52.6	55.3	58.2
55°	171.8	98.9	74.8	64.9	59.4	54.5	51.5	51.0	51.8	54.5	57.4
57.5°	153.5	93.0	73.6	65.7	60.9	56.5	53.4	52.2	53.0	55.3	57.9
60°	124.2	82.7	70.4	65.7	63.3	60.2	57.0	56.1	56.5	59.0	61.7
62.5°	97.4	73.6	66.5	65.3	64.5	62.9	61.7	60.9	60.9	62.9	65.3
65°	79.1	66.5	63.3	63.7	64.5	64.0	63.7	63.3	63.3	64.5	66.8
67.5°	66.0	59.7	59.0	60.2	60.9	61.4	61.7	61.4	61.7	62.9	65.7
69°	60.2	56.1	55.3	56.1	57.9	58.2	59.0	58.6	59.0	60.2	62.9
70°	56.5	53.4	52.6	53.8	55.0	55.3	56.1	55.8	56.1	57.4	60.2
72.5°	49.0	45.5	44.4	45.2	46.4	46.4	47.5	47.9	47.1	47.5	49.5
75°	42.0	38.0	36.0	36.4	36.4	36.4	37.2	37.2	36.4	36.0	36.4
77.5°	35.2	30.8	28.5	28.5	28.5	28.0	26.9	27.3	27.7	27.3	27.7
80°	27.7	24.2	21.8	21.8	21.8	21.0	20.6	20.6	21.4	22.2	21.8
82.5°	21.4	17.8	16.6	16.2	16.2	15.5	15.5	16.2	15.8	16.2	17.0
85°	15.5	12.7	11.5	11.9	11.5	10.7	11.0	12.3	12.3	11.9	12.7
87.5°	9.5	7.9	7.5	7.9	7.2	5.9	5.5	5.9	6.7	6.4	7.2
90°	10.0	9.6	9.6	8.6	8.1	7.6	7.6	8.2	9.1	9.1	8.6
92.5°	5.9	6.4	6.8	6.8	6.8	6.4	5.9	5.9	5.9	5.9	5.9
95°	6.8	7.4	7.8	7.4	6.8	6.8	6.8	6.8	6.8	6.8	6.8
97.5°	8.8	9.3	9.8	10.8	11.8	10.3	8.8	8.8	8.8	8.4	7.8
100°	22.5	24.1	25.5	26.9	28.5	24.5	20.6	16.2	11.8	10.8	9.8
102.5°	41.2	43.7	46.2	47.6	49.0	44.2	39.3	32.9	26.5	22.1	17.7
105°	63.8	66.3	68.7	69.7	70.7	66.3	61.8	54.4	47.1	41.2	35.3
107.5°	88.3	90.3	92.3	92.7	93.2	89.8	86.3	79.1	71.7	64.3	57.0



REPORT NUMBER: P271704
 CATALOG NUMBER: IST-AF-450-LED-E1-SL4-7027-ULG

REPORT N
 CATALOG

CANDELA DISTRIBUTION (continued):

CANDELA

	105°	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	
110°	116.8	117.8	118.8	118.3	117.8	114.8	111.9	106.0	100.1	92.7	85.4	0°
112.5°	146.2	146.7	147.2	146.2	145.3	142.8	140.3	135.9	131.5	125.1	118.8	2.5°
115°	175.7	177.1	178.7	177.1	175.7	173.2	170.8	167.8	164.9	160.4	156.0	5°
117.5°	206.1	208.6	211.0	209.0	207.1	204.2	201.2	199.7	198.3	195.8	193.3	7.5°
120°	240.5	242.9	245.3	243.4	241.5	239.9	238.5	235.5	232.6	230.7	228.7	10°
122.5°	272.8	275.3	277.8	275.8	273.8	272.8	271.8	269.0	266.0	264.0	262.0	12.5°
125°	304.3	306.7	309.2	308.2	307.2	305.7	304.3	301.8	299.3	296.4	293.5	15°
127.5°	339.6	339.6	339.6	339.1	338.6	336.1	333.7	333.2	332.7	329.8	326.8	17.5°
130°	374.0	374.0	374.0	372.0	370.0	367.6	365.1	364.2	363.2	361.2	359.2	20°
132.5°	406.3	407.3	408.3	405.9	403.4	400.5	397.5	397.1	396.5	395.1	393.5	22.5°
135°	438.7	439.2	439.7	437.3	434.8	431.8	428.9	428.0	427.0	425.4	424.0	25°
137.5°	467.2	466.7	466.2	465.2	464.2	461.8	459.3	457.3	455.4	453.5	451.5	27.5°
140°	494.7	493.7	492.7	491.7	490.7	489.3	487.8	484.8	481.9	481.0	480.0	30°
142.5°	523.2	523.2	523.2	520.2	517.2	516.3	515.3	513.3	511.3	509.9	508.4	32.5°
145°	550.6	551.1	551.6	548.7	545.7	543.3	540.8	540.3	539.8	538.4	536.8	35°
147.5°	575.2	574.6	574.2	571.7	569.3	566.8	564.3	563.9	563.3	563.3	563.3	37.5°
150°	591.8	590.4	588.9	587.4	586.0	584.0	582.0	582.0	582.0	582.0	582.0	40°
152.5°	606.5	604.6	602.7	601.1	599.7	599.2	598.7	598.7	598.7	598.2	597.7	42.5°
155°	624.2	621.8	619.3	616.9	614.4	615.4	616.3	617.3	618.3	616.9	615.4	45°
157.5°	638.0	637.0	636.0	634.0	632.0	632.6	633.0	633.6	634.0	633.0	632.0	47.5°
160°	648.8	650.2	651.7	648.8	645.8	644.4	642.8	642.8	642.8	643.4	643.8	50°
162.5°	657.6	658.1	658.5	656.6	654.7	652.7	650.7	649.7	648.8	650.7	652.7	52.5°
165°	667.4	665.9	664.5	662.1	659.5	660.1	660.5	660.5	660.5	662.1	663.5	55°
167.5°	675.3	673.3	671.3	668.4	665.5	668.9	672.3	673.8	675.3	674.3	673.3	57.5°
170°	681.2	678.7	676.2	674.8	673.3	675.7	678.2	679.2	680.2	679.7	679.2	60°
172.5°	681.2	680.2	679.2	677.7	676.2	676.7	677.2	677.2	677.2	678.7	680.2	62.5°
175°	683.1	682.6	682.2	679.7	677.2	677.2	677.2	677.7	678.2	680.2	682.2	65°
177.5°	688.0	687.0	686.0	683.6	681.2	681.6	682.2	683.1	684.1	685.0	686.0	67.5°
180°	687.0	687.0	687.0	687.0	687.0	687.0	687.0	687.0	687.0	687.0	687.0	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°

NUMBER: P271704
 NUMBER: IST-AF-450-LED-E1-SL4-7027-ULG

REPORT NUMBER: P
 CATALOG NUMBER:

DISTRIBUTION (continued):

160°	165°	170°	175°	180°
408.3	408.3	408.3	408.3	408.3
379.8	381.0	375.9	378.3	376.7
338.3	336.3	336.0	334.8	332.4
289.6	288.1	283.2	284.9	281.3
239.4	238.9	230.2	230.7	226.4
193.0	185.9	182.4	177.2	180.0
149.6	143.5	136.1	134.2	136.9
112.7	106.8	103.2	100.1	98.9
93.3	89.8	87.9	86.7	85.9
90.2	89.4	89.0	88.2	87.9
88.2	89.0	89.0	89.0	88.2
86.2	87.9	88.2	87.9	87.0
84.4	85.5	85.5	85.1	83.9
81.5	82.7	82.7	82.4	81.5
78.3	79.1	79.5	79.5	79.9
76.0	76.7	77.5	78.3	79.5
73.2	74.4	74.8	76.4	78.0
69.7	71.2	72.0	73.2	74.8
66.0	68.0	68.5	70.1	71.7
64.5	66.0	66.0	67.2	68.5
62.5	63.3	62.9	63.7	64.0
60.5	61.4	60.9	61.7	62.2
59.0	59.7	60.5	61.4	61.7
59.7	60.9	61.4	62.5	62.9
63.3	64.9	66.5	68.0	69.2
66.8	68.8	72.4	79.5	82.4
68.8	71.7	79.9	92.2	95.8
67.6	71.2	81.0	94.1	98.5
65.3	68.0	78.7	92.2	96.2
62.2	64.9	75.5	90.2	93.7
50.2	51.8	63.7	77.5	79.9
36.8	38.0	47.1	52.6	52.2
28.5	30.0	33.2	33.7	33.2
22.5	23.4	25.0	25.0	25.3
17.3	17.8	18.5	17.8	17.3
13.0	12.7	12.3	11.9	11.5
7.5	7.5	6.4	5.5	5.1
8.2	8.1	7.1	5.7	4.9
5.4	4.9	4.4	4.0	4.0
6.4	5.9	5.4	4.9	4.9
7.8	7.8	7.4	6.8	6.8
9.3	8.8	8.4	7.8	7.8
15.2	12.8	11.8	10.8	10.8
30.9	26.5	24.1	21.6	20.6
52.6	48.1	44.6	41.2	40.2

CANDELA DISTRIBUTION:

	160°
110°	79.1
112.5°	111.4
115°	150.2
117.5°	189.5
120°	225.3
122.5°	259.1
125°	291.9
127.5°	324.8
130°	357.3
132.5°	389.7
135°	421.0
137.5°	450.9
140°	479.0
142.5°	507.9
145°	535.4
147.5°	561.9
150°	582.0
152.5°	597.2
155°	614.4
157.5°	631.6
160°	645.3
162.5°	654.7
165°	663.5
167.5°	672.3
170°	679.2
172.5°	681.2
175°	683.1
177.5°	686.6
180°	687.0

'271704

IST-AF-450-LED-E1-SL4-7027-ULG

TION (continued):

165°	170°	175°	180°
72.7	69.7	66.7	64.8
104.0	100.6	97.2	97.2
144.3	140.3	136.5	137.4
185.5	183.1	180.6	180.6
221.8	220.4	218.8	220.8
256.2	255.7	255.2	258.2
290.5	289.5	288.5	292.5
322.9	322.9	322.9	323.9
355.3	354.8	354.3	356.3
385.7	386.2	386.7	388.7
418.1	418.1	418.1	421.0
450.5	449.5	448.5	451.5
478.0	477.0	476.0	479.0
507.5	506.5	505.5	508.4
534.0	534.9	535.9	539.8
560.5	560.9	561.4	564.3
582.0	581.6	581.0	584.0
596.7	596.7	596.7	599.7
613.5	613.5	613.5	617.3
631.1	631.1	631.1	634.0
646.8	647.3	647.8	650.7
656.6	656.6	656.6	660.5
663.5	664.5	665.5	668.4
671.3	672.8	674.3	677.2
679.2	680.6	682.2	685.0
682.2	683.1	684.1	686.0
684.1	684.6	685.0	687.0
687.0	689.4	692.0	693.9
687.0	687.0	687.0	687.0

(END OF REPORT)