

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: P271705

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P271705
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P35948)-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-SLL-7027-ULG
Description: IMPACT ELITE LED TRAPEZOID LUMINAIRE WITH UPLIGHT
LIGHT SQUARE WITH ACCULED OPTICS-90° SPILL LIGHT ELIMINATOR LEFT, 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: 4054.3 lumens
Efficiency: N/A
Efficacy: 96.5 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: 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

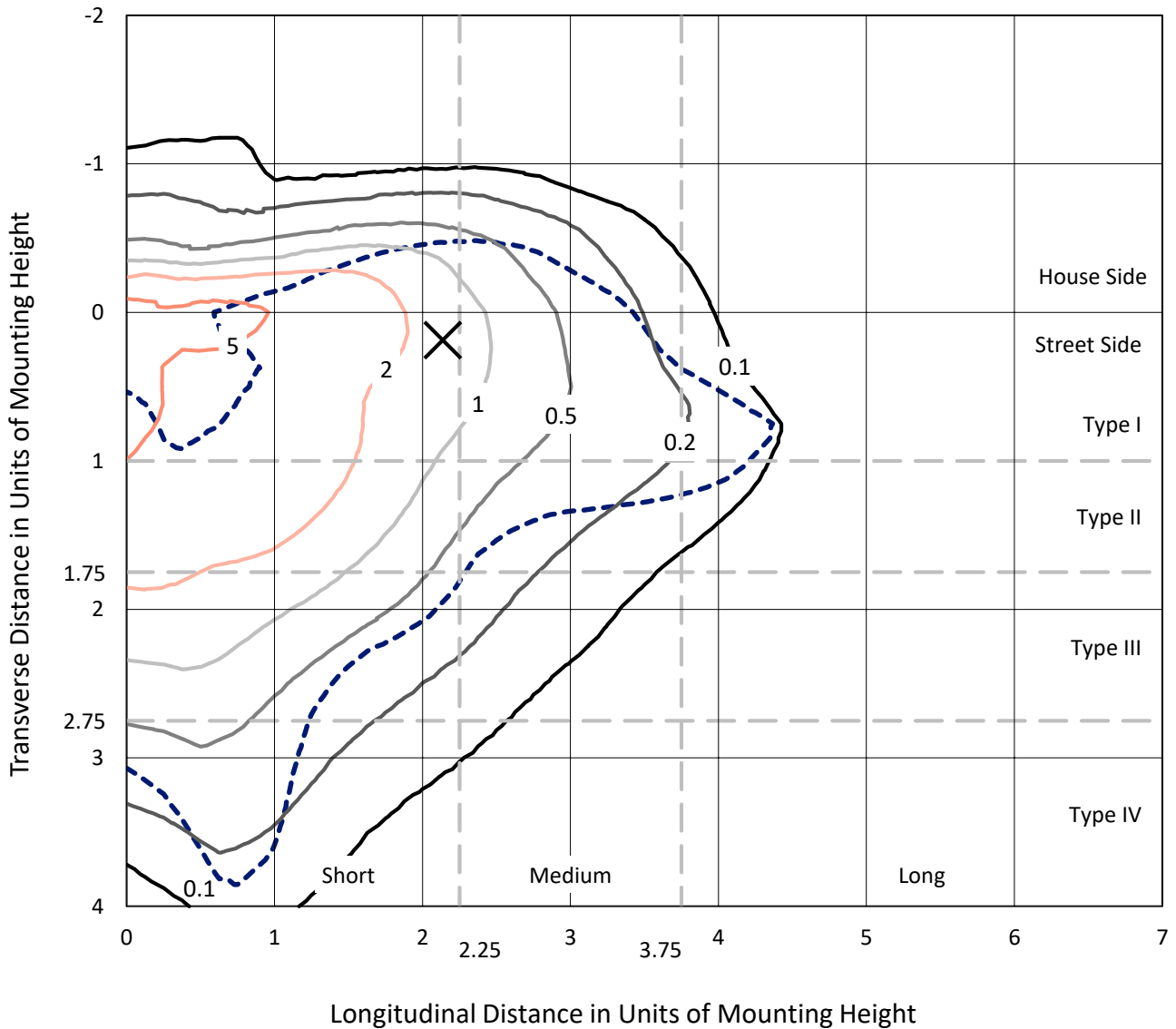


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Iso-Footcandle Lines of Horizontal Illumination

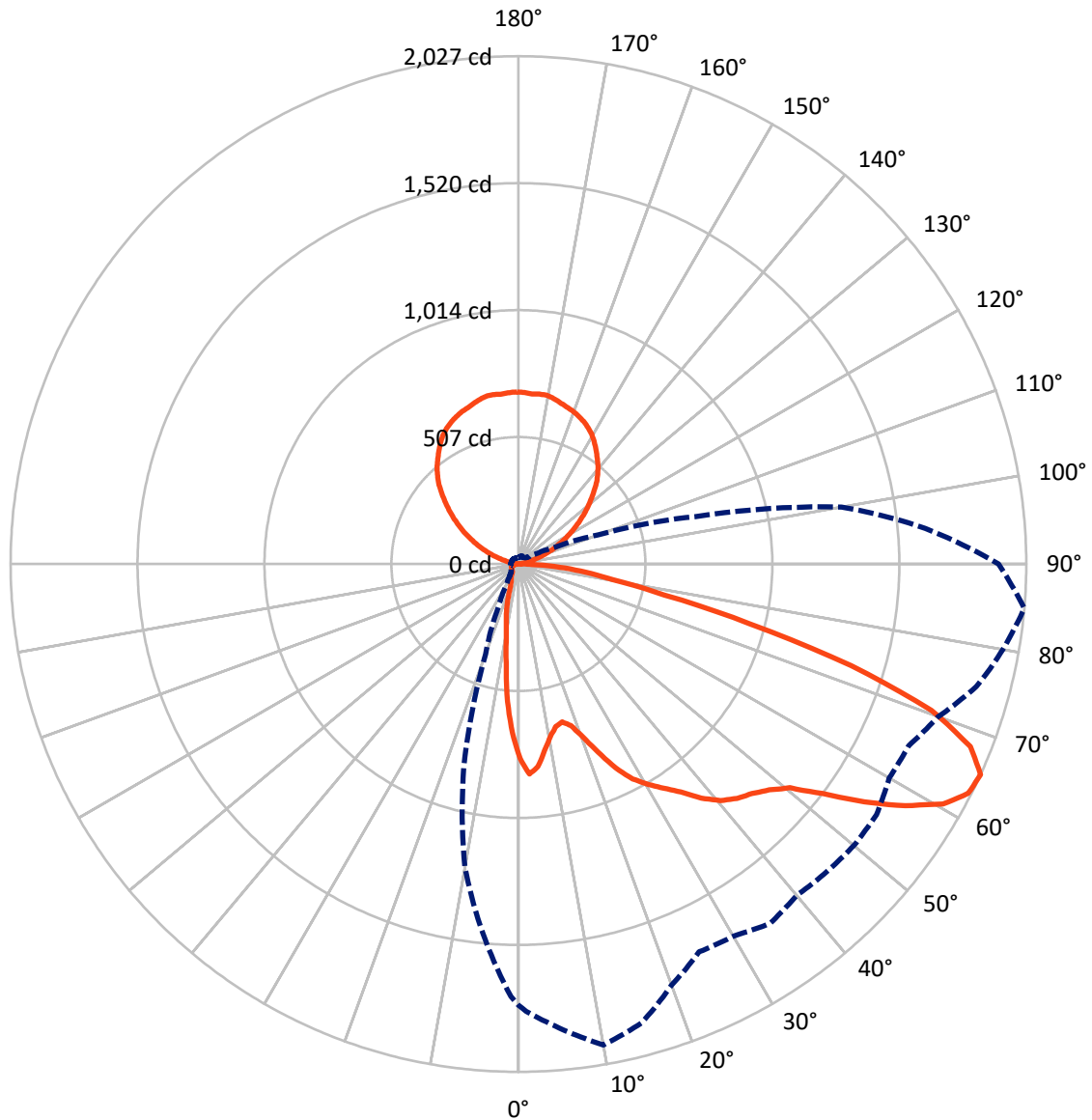
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 8.5 fc
 Type IV - Short - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 85-Deg Lateral - - - Horizontal Cone Through 65-Deg Vertical

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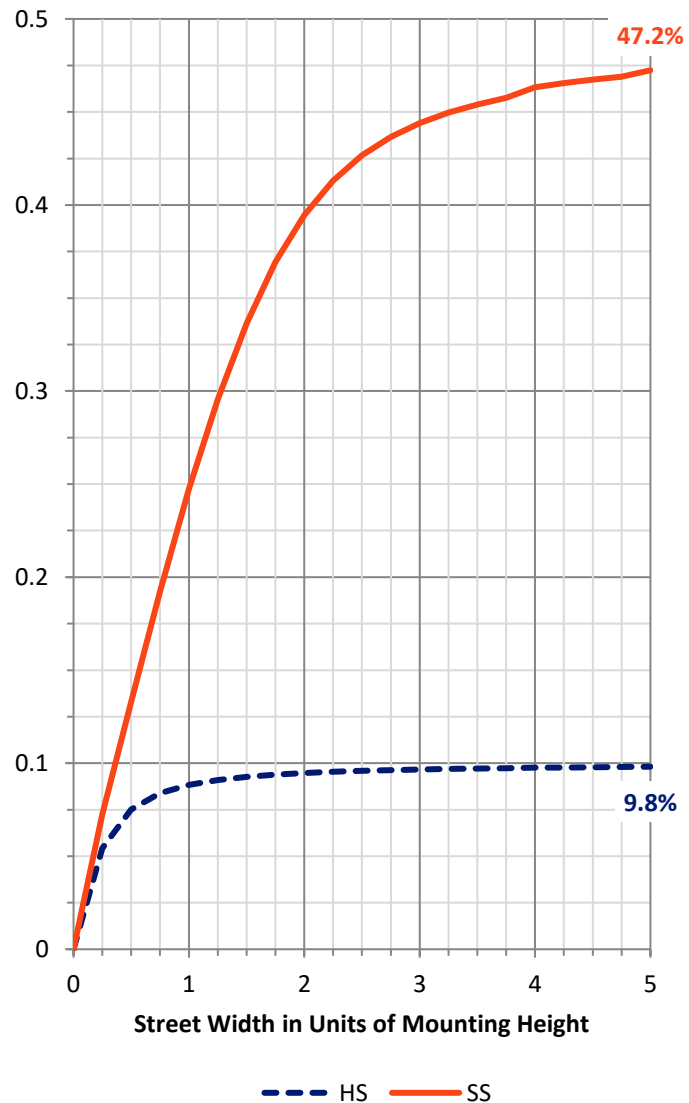
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	403.6	851.5	1255.2
	% Fixture	10.0	21.0	31.0
Street Side	Lumens	1947.6	851.6	2799.2
	% Fixture	48.0	21.0	69.0
Total	Lumens	2351.2	1703.1	4054.3
	% Fixture	58.0	42.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	57.5	1.4
10°-20°	110.7	2.7
20°-30°	157.8	3.9
30°-40°	229.0	5.6
40°-50°	327.6	8.1
50°-60°	502.9	12.4
60°-70°	582.1	14.4
70°-80°	297.0	7.3
80°-90°	86.7	2.1
90°-100°	9.2	0.2
100°-110°	56.3	1.4
110°-120°	163.0	4.0
120°-130°	268.1	6.6
130°-140°	330.6	8.2
140°-150°	338.2	8.3
150°-160°	284.9	7.0
160°-170°	187.6	4.6
170°-180°	65.0	1.6
0°-90°	2351.2	58.0
0°-180°	4054.3	100.0



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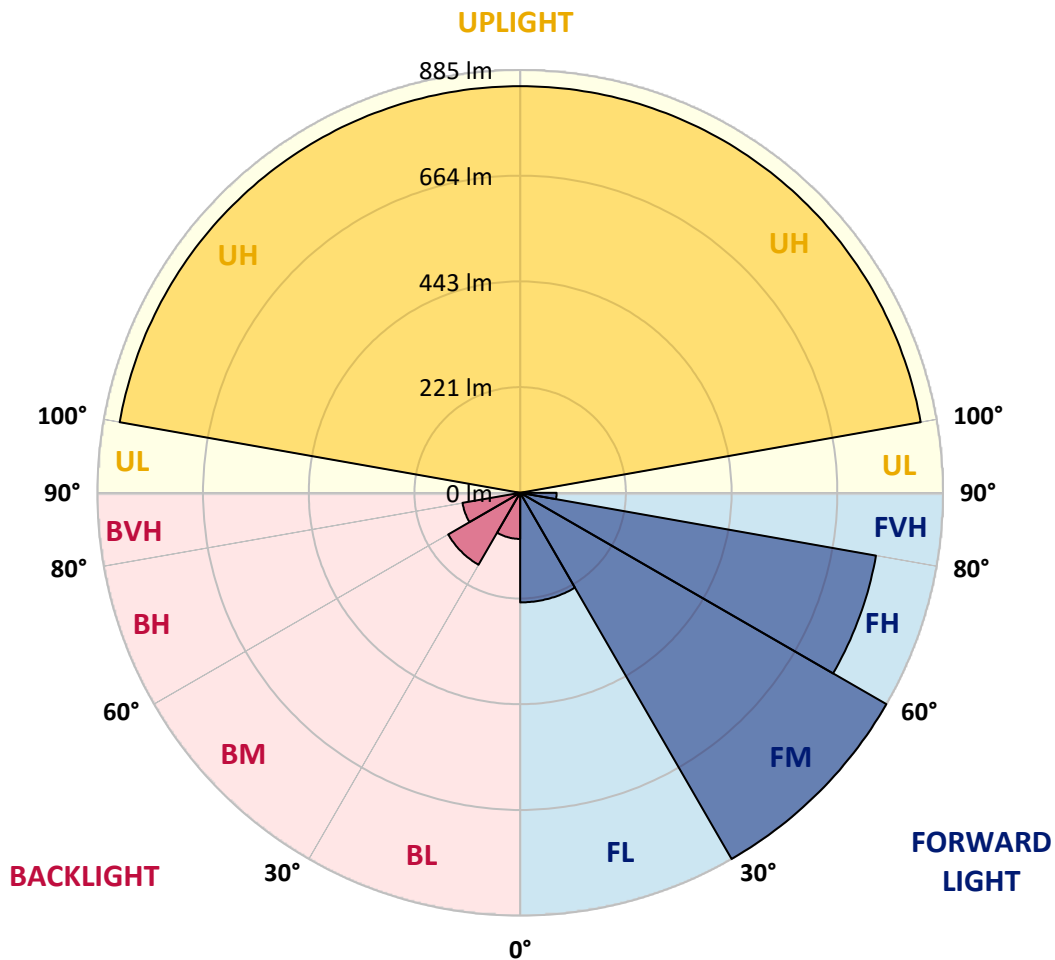
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	229.5	5.7			
FM	(30°-60°)	885.3	21.8			
FH	(60°-80°)	756.5	18.7			G1/1800
FVH	(80°-90°)	76.2	1.9			G1/100
BL	(0°-30°)	96.5	2.4	B0/110		
BM	(30°-60°)	174.1	4.3	B0/220		
BH	(60°-80°)	122.6	3.0	B1/500		G1/500
BVH	(80°-90°)	10.5	0.3			G1/100
UL	(90°-100°)	9.2	0.2		U1/10	
UH	(100°-180°)	851.5	21.0		U4/1000	

BUG Rating: B1-U5-G1

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	1°	5°	10°	15°	20°	25°	30°	35°	40°	45°
0°	776.5	776.5	776.5	776.5	776.5	776.5	776.5	776.5	776.5	776.5	776.5
2.5°	803.7	804.5	815.6	826.4	839.7	837.8	848.9	857.2	864.7	865.9	871.4
5°	754.7	762.6	787.5	808.9	835.9	856.7	879.4	897.0	910.2	922.4	924.0
7.5°	685.9	691.9	720.7	754.3	793.0	820.7	854.7	884.4	905.4	925.2	929.6
10°	626.9	632.5	664.6	708.0	742.0	778.0	813.2	837.4	864.7	881.7	890.0
12.5°	598.5	605.2	635.6	675.2	710.0	744.9	771.4	792.2	807.7	810.9	813.2
15°	609.5	613.1	646.7	681.9	709.6	727.0	734.2	746.9	745.6	751.9	753.0
17.5°	654.2	652.7	688.2	712.7	726.2	724.2	713.2	706.4	694.6	691.1	701.3
20°	731.0	736.5	759.4	774.5	760.7	728.5	698.2	677.2	660.5	655.0	653.9
22.5°	820.7	827.9	852.9	844.9	809.7	751.2	695.7	662.1	641.6	635.6	633.2
25°	914.9	919.7	932.4	905.4	855.9	780.0	712.4	665.4	638.1	629.4	628.2
27.5°	990.8	995.6	989.7	958.9	887.3	812.4	735.4	679.6	643.9	635.2	631.3
30°	1052.9	1055.3	1035.6	997.2	926.0	848.4	765.4	704.5	662.9	643.2	640.4
32.5°	1122.5	1120.9	1082.5	1029.5	958.9	880.9	799.9	732.6	681.2	657.0	652.7
35°	1198.9	1185.0	1117.4	1061.7	981.4	905.9	831.0	762.2	710.4	678.4	672.8
37.5°	1266.9	1252.7	1162.0	1086.9	1003.9	925.2	855.5	800.6	755.0	725.8	723.5
40°	1319.9	1302.5	1196.1	1103.9	1014.9	939.4	884.4	848.9	818.7	795.1	795.1
42.5°	1362.7	1343.7	1229.4	1123.8	1024.9	961.2	932.7	920.4	914.1	901.1	905.9
45°	1403.8	1384.4	1256.7	1136.4	1047.1	1003.5	1007.4	1018.2	1037.1	1029.5	1036.4
47.5°	1442.9	1423.9	1287.5	1156.6	1089.7	1079.4	1100.1	1142.7	1179.9	1209.2	1229.8
50°	1508.6	1486.1	1342.9	1215.9	1156.9	1162.0	1221.4	1305.2	1365.9	1392.7	1391.1
52.5°	1633.2	1601.2	1461.9	1326.7	1253.0	1281.6	1351.6	1457.2	1536.3	1557.3	1565.6
55°	1785.5	1760.2	1633.9	1473.4	1420.0	1429.9	1516.9	1636.4	1697.3	1719.1	1726.1
57.5°	1874.9	1868.1	1789.1	1630.4	1578.6	1574.7	1688.3	1785.9	1838.5	1859.1	1852.8
59°	1895.9	1897.8	1852.8	1741.6	1670.4	1661.7	1777.2	1867.8	1911.8	1918.0	1914.8
60°	1893.9	1904.9	1899.5	1802.4	1728.6	1717.5	1814.8	1901.0	1937.8	1947.6	1936.6
62.5°	1853.1	1872.2	1924.8	1914.5	1860.3	1803.7	1849.6	1912.1	1935.8	1926.3	1918.0
65°	1760.6	1785.5	1858.6	1949.6	1897.4	1788.3	1707.9	1715.1	1751.1	1727.4	1738.8
67.5°	1600.8	1629.3	1668.1	1874.5	1798.6	1615.4	1477.4	1409.7	1392.7	1415.7	1452.1
70°	1302.1	1320.8	1418.9	1710.7	1579.4	1327.9	1154.6	1064.4	1034.4	1087.4	1124.6
72.5°	918.4	946.2	1075.5	1415.7	1299.4	1063.6	873.8	790.7	760.7	763.0	795.4
75°	558.9	596.5	751.5	1119.4	1024.1	814.9	665.7	606.0	596.8	591.7	586.2
77.5°	368.7	382.9	494.1	772.5	690.7	579.5	499.5	524.1	551.4	557.3	564.5
80°	250.0	254.3	320.3	541.9	454.9	428.0	403.9	461.5	513.4	522.9	517.7
82.5°	153.9	166.9	223.5	365.5	362.7	350.1	319.2	364.4	398.7	404.7	415.4
85°	53.4	55.8	137.2	322.9	368.7	372.5	263.0	207.7	233.4	229.0	164.6
87.5°	23.0	25.7	42.7	216.0	249.5	206.5	120.2	106.8	82.3	46.4	44.6
90°	6.5	6.5	6.1	7.8	12.8	11.3	11.4	9.1	7.8	7.4	6.8
92.5°	4.0	4.0	4.0	4.4	4.9	5.4	5.9	5.9	5.9	5.9	5.9
95°	4.9	4.9	4.9	5.4	5.9	6.4	6.8	6.8	6.8	6.8	6.8
97.5°	6.8	6.8	6.8	7.4	7.8	7.8	7.8	8.4	8.8	8.8	8.8
100°	7.8	7.8	7.8	8.4	8.8	9.3	9.8	10.8	11.8	16.2	20.6
102.5°	10.8	10.8	10.8	11.8	12.8	15.2	17.7	22.1	26.5	32.9	39.3
105°	20.6	20.8	21.6	24.1	26.5	30.9	35.3	41.2	47.1	54.4	61.8
107.5°	40.2	40.4	41.2	44.6	48.1	52.6	57.0	64.3	71.7	79.1	86.3



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

CANDELA DISTRIBUTION (continued):

	0°	1°	5°	10°	15°	20°	25°	30°	35°	40°	45°
110°	64.8	65.1	66.7	69.7	72.7	79.1	85.4	92.7	100.1	106.0	111.9
112.5°	97.2	97.2	97.2	100.6	104.0	111.4	118.8	125.1	131.5	135.9	140.3
115°	137.4	137.2	136.5	140.3	144.3	150.2	156.0	160.4	164.9	167.8	170.8
117.5°	180.6	180.6	180.6	183.1	185.5	189.5	193.3	195.8	198.3	199.7	201.2
120°	220.8	220.4	218.8	220.4	221.8	225.3	228.7	230.7	232.6	235.5	238.5
122.5°	258.2	257.5	255.2	255.7	256.2	259.1	262.0	264.0	266.0	269.0	271.8
125°	292.5	291.7	288.5	289.5	290.5	291.9	293.5	296.4	299.3	301.8	304.3
127.5°	323.9	323.7	322.9	322.9	322.9	324.8	326.8	329.8	332.7	333.2	333.7
130°	356.3	355.9	354.3	354.8	355.3	357.3	359.2	361.2	363.2	364.2	365.1
132.5°	388.7	388.2	386.7	386.2	385.7	389.7	393.5	395.1	396.5	397.1	397.5
135°	421.0	420.5	418.1	418.1	418.1	421.0	424.0	425.4	427.0	428.0	428.9
137.5°	451.5	450.9	448.5	449.5	450.5	450.9	451.5	453.5	455.4	457.3	459.3
140°	479.0	478.3	476.0	477.0	478.0	479.0	480.0	481.0	481.9	484.8	487.8
142.5°	508.4	507.8	505.5	506.5	507.5	507.9	508.4	509.9	511.3	513.3	515.3
145°	539.8	539.1	535.9	534.9	534.0	535.4	536.8	538.4	539.8	540.3	540.8
147.5°	564.3	563.8	561.4	560.9	560.5	561.9	563.3	563.3	563.3	563.9	564.3
150°	584.0	583.4	581.0	581.6	582.0	582.0	582.0	582.0	582.0	582.0	582.0
152.5°	599.7	599.1	596.7	596.7	596.7	597.2	597.7	598.2	598.7	598.7	598.7
155°	617.3	616.6	613.5	613.5	613.5	614.4	615.4	616.9	618.3	617.3	616.3
157.5°	634.0	633.5	631.1	631.1	631.1	631.6	632.0	633.0	634.0	633.6	633.0
160°	650.7	650.1	647.8	647.3	646.8	645.3	643.8	643.4	642.8	642.8	642.8
162.5°	660.5	659.7	656.6	656.6	656.6	654.7	652.7	650.7	648.8	649.7	650.7
165°	668.4	667.8	665.5	664.5	663.5	663.5	663.5	662.1	660.5	660.5	660.5
167.5°	677.2	676.6	674.3	672.8	671.3	672.3	673.3	674.3	675.3	673.8	672.3
170°	685.0	684.5	682.2	680.6	679.2	679.2	679.2	679.7	680.2	679.2	678.2
172.5°	686.0	685.7	684.1	683.1	682.2	681.2	680.2	678.7	677.2	677.2	677.2
175°	687.0	686.7	685.0	684.6	684.1	683.1	682.2	680.2	678.2	677.7	677.2
177.5°	693.9	693.5	692.0	689.4	687.0	686.6	686.0	685.0	684.1	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°	776.5	776.5	776.5	776.5	776.5	776.5	776.5	776.5	776.5	776.5	776.5
2.5°	870.2	865.1	868.2	863.9	856.7	852.0	846.5	839.4	831.0	820.0	808.9
5°	920.4	916.5	906.6	892.4	872.5	855.9	836.2	812.9	793.5	768.6	745.2
7.5°	924.7	918.4	900.3	873.8	843.3	812.4	789.1	751.2	726.5	687.0	660.5
10°	885.2	885.5	867.4	842.5	810.9	774.5	740.8	699.3	663.3	623.0	578.7
12.5°	827.1	832.5	833.4	811.3	780.4	742.0	704.5	664.9	620.2	577.1	536.4
15°	761.0	776.9	778.0	772.5	756.4	723.9	689.4	653.9	608.3	561.4	515.4
17.5°	702.0	717.2	731.0	743.7	744.4	729.0	708.0	677.6	632.0	576.7	522.9
20°	657.4	673.5	697.4	720.7	746.4	754.3	755.9	736.5	687.8	620.2	547.4
22.5°	638.9	657.8	681.9	725.8	771.4	799.4	815.2	815.2	764.2	685.0	587.9
25°	634.8	650.4	687.0	741.6	802.5	851.6	881.7	901.9	865.1	768.6	637.7
27.5°	637.7	658.5	704.1	759.9	823.6	886.4	935.9	971.1	936.7	825.5	683.9
30°	648.7	679.9	727.0	784.8	850.4	916.9	976.5	1021.4	996.0	877.4	727.8
32.5°	668.1	706.1	759.4	811.7	876.9	948.9	1007.9	1066.7	1048.2	913.4	751.2
35°	696.9	741.6	790.3	842.9	905.4	977.4	1040.2	1117.4	1110.8	958.4	774.5
37.5°	743.7	789.5	834.3	879.4	938.5	1008.7	1086.9	1185.4	1179.9	1025.2	812.1
40°	825.9	852.9	886.0	914.9	970.7	1037.5	1121.4	1241.6	1261.4	1082.5	845.2
42.5°	927.9	943.8	953.3	961.2	989.7	1052.5	1146.2	1279.2	1311.6	1125.4	871.0
45°	1058.1	1053.4	1034.4	1016.2	1013.0	1061.3	1157.7	1306.9	1351.2	1166.9	897.0
47.5°	1211.9	1201.7	1149.9	1090.1	1056.9	1077.1	1177.9	1347.6	1399.9	1221.4	929.6
50°	1389.6	1365.4	1280.7	1179.9	1118.6	1121.7	1229.0	1404.2	1463.9	1292.6	990.0
52.5°	1554.1	1510.9	1410.1	1276.9	1189.1	1199.7	1320.8	1521.3	1595.2	1410.5	1091.7
55°	1699.2	1643.9	1535.1	1389.2	1309.7	1328.2	1467.5	1676.3	1746.3	1550.9	1194.6
57.5°	1822.8	1763.7	1656.6	1527.9	1429.1	1444.6	1598.4	1820.3	1867.4	1677.1	1293.0
59°	1878.8	1820.8	1721.8	1603.1	1510.6	1543.0	1691.0	1891.9	1912.1	1725.7	1330.6
60°	1906.1	1848.0	1760.9	1645.1	1560.4	1603.1	1739.9	1946.1	1928.8	1732.9	1344.9
62.5°	1904.1	1863.4	1806.0	1726.9	1711.5	1782.8	1899.5	2015.7	1940.2	1712.3	1353.9
65°	1747.9	1744.4	1708.8	1717.9	1782.3	1892.3	1963.9	2027.1	1916.4	1630.4	1310.1
67.5°	1457.9	1472.6	1477.4	1533.1	1683.9	1870.5	1933.4	1945.7	1813.2	1455.3	1173.5
70°	1125.8	1093.2	1146.7	1245.2	1462.4	1702.8	1792.2	1749.4	1601.9	1218.7	958.4
72.5°	797.1	806.5	883.2	1011.0	1232.1	1481.3	1621.4	1388.4	1205.3	912.0	679.6
75°	599.7	644.4	681.5	793.5	1000.7	1268.9	1384.4	954.4	785.2	628.9	444.6
77.5°	574.7	571.1	542.7	566.4	721.5	888.9	987.7	595.7	491.6	411.3	268.5
80°	531.2	500.7	449.0	426.0	454.5	570.7	626.9	382.9	327.2	287.5	151.5
82.5°	412.1	391.6	337.0	335.4	378.9	405.5	431.2	271.4	246.0	233.0	93.0
85°	261.5	268.5	275.3	335.9	420.5	425.2	335.4	165.4	129.7	182.7	59.4
87.5°	77.5	126.2	153.1	259.9	378.9	380.2	252.3	54.2	48.7	57.0	34.5
90°	6.8	6.8	7.8	8.8	8.8	8.8	8.3	6.8	6.8	6.8	7.8
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



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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



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

CANDELA DISTRIBUTION (continued):

	105°	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°
0°	776.5	776.5	776.5	776.5	776.5	776.5	776.5	776.5	776.5	776.5	776.5
2.5°	797.4	795.9	784.8	766.2	767.7	759.1	748.0	730.2	726.5	716.8	715.1
5°	725.4	706.9	682.7	653.4	642.4	627.4	611.9	600.9	587.0	574.4	591.4
7.5°	629.4	602.0	573.9	543.0	525.3	500.7	487.7	462.4	443.9	440.3	425.5
10°	549.0	514.5	482.6	454.9	421.7	398.7	382.0	368.2	355.5	340.2	330.7
12.5°	495.7	456.9	422.8	388.4	372.5	353.7	343.3	330.3	312.1	299.0	286.4
15°	471.5	429.6	392.4	362.4	339.4	321.5	303.4	287.5	267.8	253.1	238.5
17.5°	468.4	413.7	366.7	333.0	308.1	288.7	264.6	243.7	219.5	203.3	191.1
20°	471.9	401.9	343.0	299.0	273.7	239.7	217.2	191.5	167.7	146.3	127.0
22.5°	486.2	395.5	319.5	271.4	233.8	195.0	170.9	138.1	117.9	97.3	89.8
25°	505.5	391.6	299.5	240.8	193.5	155.0	122.2	95.0	85.9	80.7	78.0
27.5°	526.0	384.5	276.9	212.8	161.0	114.4	91.4	79.9	76.4	73.6	71.5
30°	541.5	370.6	249.2	182.7	128.2	97.6	81.5	74.0	71.5	68.5	66.5
32.5°	548.2	349.4	224.3	154.3	108.0	83.8	71.1	66.8	64.5	61.7	60.5
35°	547.1	325.2	211.6	143.2	98.9	74.4	62.5	59.7	56.5	53.8	51.0
37.5°	548.2	303.0	201.7	140.5	95.0	67.2	57.0	55.0	52.6	49.9	47.5
40°	553.0	290.7	197.0	134.5	91.8	64.5	52.6	50.7	50.2	47.1	45.1
42.5°	555.0	291.9	194.7	126.2	83.8	63.7	52.6	48.3	48.3	45.8	43.5
45°	552.5	300.7	196.2	121.5	78.0	59.7	55.3	48.3	47.1	45.1	42.7
47.5°	559.7	307.0	196.2	120.6	74.0	55.8	52.6	53.0	47.9	45.5	42.0
50°	589.0	312.9	192.2	119.5	72.9	51.8	49.9	52.2	53.8	46.4	42.3
52.5°	640.9	320.3	187.8	117.5	71.1	48.7	46.4	49.0	55.0	48.7	42.3
55°	693.9	333.8	185.1	114.4	68.8	46.7	42.0	47.1	50.2	48.3	42.0
57.5°	750.4	348.5	182.4	106.8	63.3	44.6	40.3	41.1	45.1	46.7	40.7
59°	767.3	355.5	180.0	101.3	58.5	43.1	39.2	38.0	40.3	44.6	40.0
60°	779.5	356.0	177.1	96.5	55.8	42.3	38.4	36.8	37.5	45.8	40.3
62.5°	780.8	355.5	168.5	86.7	50.2	40.7	37.2	35.2	34.5	38.4	41.1
65°	731.8	339.0	152.7	81.5	50.7	39.2	35.2	33.7	32.0	32.8	35.7
67.5°	640.0	296.4	136.0	82.6	53.4	38.0	33.7	32.0	30.8	30.0	31.2
70°	484.2	246.0	131.3	85.5	55.8	37.2	31.2	29.6	28.8	28.5	28.5
72.5°	335.4	202.5	126.2	87.5	57.7	36.8	28.8	27.3	26.9	26.5	26.5
75°	216.0	147.1	104.5	74.4	52.6	33.7	26.1	24.5	24.2	23.7	24.2
77.5°	127.8	102.9	76.7	52.2	38.4	26.9	22.5	21.4	21.4	21.4	21.8
80°	70.8	60.9	51.0	33.7	27.3	20.2	18.5	17.3	17.3	17.8	18.5
82.5°	42.3	33.7	28.8	21.4	18.5	14.2	13.8	13.0	13.5	13.8	14.6
85°	27.7	21.4	17.3	14.2	12.7	9.2	7.9	8.4	8.7	9.5	9.9
87.5°	15.5	11.9	9.5	8.4	7.5	4.0	3.1	3.1	4.0	4.7	5.5
90°	8.8	8.8	8.8	7.8	6.8	6.8	6.8	7.4	7.8	7.8	7.8
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

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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	59°
172.5°	681.2	680.2	679.2	677.7	676.2	676.7	677.2	677.2	677.2	678.7	680.2	60°
175°	683.1	682.6	682.2	679.7	677.2	677.2	677.2	677.7	678.2	680.2	682.2	62.5°
177.5°	688.0	687.0	686.0	683.6	681.2	681.6	682.2	683.1	684.1	685.0	686.0	65°
180°	687.0	687.0	687.0	687.0	687.0	687.0	687.0	687.0	687.0	687.0	687.0	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

160°	165°	170°	175°	180°	185°	190°	195°	200°	205°	210°	110°	160°
776.5	776.5	776.5	776.5	776.5	776.5	776.5	776.5	776.5	776.5	776.5	110°	79.1
720.7	709.2	696.9	687.8	691.9	678.8	679.9	676.3	674.8	674.0	665.7	112.5°	111.4
570.7	575.2	556.9	558.9	564.5	551.0	541.9	556.9	555.0	541.5	549.0	115°	150.2
411.3	412.5	404.2	385.6	385.6	395.5	399.0	406.2	411.0	427.6	417.4	117.5°	189.5
314.5	303.4	295.0	286.8	282.0	272.2	274.5	283.2	288.7	298.2	305.7	120°	225.3
273.4	261.0	246.4	233.8	227.0	218.0	212.0	210.0	212.0	206.1	206.5	122.5°	259.1
227.0	216.0	199.7	193.0	180.4	173.2	169.3	164.1	160.2	151.9	148.3	125°	291.9
176.0	161.3	144.8	144.8	135.6	129.7	128.2	127.0	124.5	120.2	115.9	127.5°	324.8
117.0	107.5	98.1	93.3	94.1	93.3	91.0	95.0	95.0	96.5	95.7	130°	357.3
85.5	83.8	80.3	77.5	76.0	75.5	76.0	77.2	79.5	81.5	83.5	132.5°	389.7
76.7	76.0	72.9	70.0	69.6	68.8	68.8	70.0	70.3	70.8	70.3	135°	421.0
71.1	69.6	66.8	64.9	64.0	63.7	64.0	62.9	62.2	62.5	62.2	137.5°	450.9
64.5	63.3	60.5	58.9	58.5	58.5	57.3	57.0	56.1	56.5	56.1	140°	479.0
59.4	57.7	55.0	53.0	53.0	52.6	53.0	52.6	52.2	51.8	51.8	142.5°	507.9
49.9	49.5	46.7	45.8	46.4	47.5	47.5	47.5	47.9	47.5	47.5	145°	535.4
46.4	45.8	43.1	41.1	40.7	40.7	40.7	41.5	42.7	43.1	43.8	147.5°	561.9
43.8	43.5	40.7	39.2	38.4	38.0	37.5	37.5	38.0	39.5	40.7	150°	582.0
42.3	41.5	38.8	36.8	36.4	36.0	35.7	35.7	35.7	36.0	37.2	152.5°	597.2
41.5	40.3	37.2	35.2	34.5	34.0	34.0	34.5	34.0	34.0	34.0	155°	614.4
40.3	39.5	36.4	34.0	33.2	33.2	32.8	32.8	32.8	32.0	32.0	157.5°	631.6
40.0	38.8	35.7	33.2	32.4	32.0	31.6	32.0	31.2	30.8	30.5	160°	645.3
39.2	37.5	34.0	32.0	31.6	30.8	30.5	30.5	30.5	29.6	29.6	162.5°	654.7
38.8	36.8	33.2	31.2	30.5	29.6	29.3	29.3	30.0	29.3	29.3	165°	663.5
38.4	35.7	32.0	29.6	29.3	28.5	28.0	28.5	29.6	28.8	28.5	167.5°	672.3
36.8	34.9	31.2	29.3	28.5	27.7	27.3	27.7	28.5	28.5	28.5	170°	679.2
36.0	34.0	30.5	28.5	28.0	27.3	26.9	26.9	28.0	28.0	27.7	172.5°	681.2
34.9	33.2	29.6	27.3	26.5	26.5	26.1	26.1	26.5	26.5	26.9	175°	683.1
33.2	32.4	28.8	26.1	25.7	25.3	25.3	25.3	25.3	26.1	26.1	177.5°	686.6
31.6	31.2	27.7	25.3	24.5	24.5	24.5	24.5	24.5	25.0	25.3	180°	687.0
29.3	29.3	26.1	23.7	23.4	23.0	23.0	23.0	23.0	23.4	23.7		
26.9	27.3	24.2	21.8	21.4	21.4	21.4	21.4	21.8	21.8	22.2		
24.5	25.0	21.8	19.3	19.3	19.3	19.3	19.3	19.3	19.3	20.2		
22.2	22.2	18.5	16.2	16.6	17.0	17.3	17.0	17.0	17.3	18.5		
19.0	18.5	15.5	13.5	13.5	14.2	14.6	14.2	14.6	14.6	16.2		
15.0	15.0	11.9	9.9	9.9	11.5	11.5	11.5	11.9	12.3	13.5		
11.5	11.0	8.4	6.7	6.7	7.9	8.4	8.7	9.2	9.5	10.3		
6.7	6.7	4.3	2.8	3.1	3.5	4.7	4.7	4.7	5.5	6.7		
7.4	7.3	5.9	4.9	4.9	4.9	5.9	6.8	7.4	7.8	7.8		
5.4	4.9	4.4	4.0	4.0	4.0	4.4	4.9	5.4	5.9	5.9		
6.4	5.9	5.4	4.9	4.9	4.9	5.4	5.9	6.4	6.8	6.8		
7.8	7.8	7.4	6.8	6.8	6.8	7.4	7.8	7.8	7.8	8.4		
9.3	8.8	8.4	7.8	7.8	7.8	8.4	8.8	9.3	9.8	10.8		
15.2	12.8	11.8	10.8	10.8	10.8	11.8	12.8	15.2	17.7	22.1		
30.9	26.5	24.1	21.6	20.6	21.6	24.1	26.5	30.9	35.3	41.2		
52.6	48.1	44.6	41.2	40.2	41.2	44.6	48.1	52.6	57.0	64.3		

271705
 IST-AF-450-LED-E1-SLL-7027-ULG

REPORT NUMBER: P271705
 CATALOG NUMBER: IST-AF-450

TION (continued):

CANDELA DISTRIBUTION (con

165°	170°	175°	180°	185°	190°	195°	200°	205°	210°		215°	220°
72.7	69.7	66.7	64.8	66.7	69.7	72.7	79.1	85.4	92.7	0°	776.5	776.5
104.0	100.6	97.2	97.2	97.2	100.6	104.0	111.4	118.8	125.1	2.5°	672.8	672.4
144.3	140.3	136.5	137.4	136.5	140.3	144.3	150.2	156.0	160.4	5°	552.2	548.7
185.5	183.1	180.6	180.6	180.6	183.1	185.5	189.5	193.3	195.8	7.5°	428.0	441.1
221.8	220.4	218.8	220.8	218.8	220.4	221.8	225.3	228.7	230.7	10°	308.5	317.6
256.2	255.7	255.2	258.2	255.2	255.7	256.2	259.1	262.0	264.0	12.5°	214.8	219.5
290.5	289.5	288.5	292.5	288.5	289.5	290.5	291.9	293.5	296.4	15°	148.0	157.5
322.9	322.9	322.9	323.9	322.9	322.9	322.9	324.8	326.8	329.8	17.5°	115.2	116.3
355.3	354.8	354.3	356.3	354.3	354.8	355.3	357.3	359.2	361.2	20°	95.0	95.7
385.7	386.2	386.7	388.7	386.7	386.2	385.7	389.7	393.5	395.1	22.5°	84.2	85.9
418.1	418.1	418.1	421.0	418.1	418.1	418.1	421.0	424.0	425.4	25°	70.8	72.4
450.5	449.5	448.5	451.5	448.5	449.5	450.5	450.9	451.5	453.5	27.5°	62.5	64.0
478.0	477.0	476.0	479.0	476.0	477.0	478.0	479.0	480.0	481.0	30°	57.3	58.1
507.5	506.5	505.5	508.4	505.5	506.5	507.5	507.9	508.4	509.9	32.5°	52.2	52.2
534.0	534.9	535.9	539.8	535.9	534.9	534.0	535.4	536.8	538.4	35°	47.9	48.3
560.5	560.9	561.4	564.3	561.4	560.9	560.5	561.9	563.3	563.3	37.5°	44.6	45.5
582.0	581.6	581.0	584.0	581.0	581.6	582.0	582.0	582.0	582.0	40°	42.0	42.3
596.7	596.7	596.7	599.7	596.7	596.7	596.7	597.2	597.7	598.2	42.5°	38.0	38.8
613.5	613.5	613.5	617.3	613.5	613.5	613.5	614.4	615.4	616.9	45°	34.5	34.9
631.1	631.1	631.1	634.0	631.1	631.1	631.1	631.6	632.0	633.0	47.5°	32.0	32.0
646.8	647.3	647.8	650.7	647.8	647.3	646.8	645.3	643.8	643.4	50°	30.5	30.8
656.6	656.6	656.6	660.5	656.6	656.6	656.6	654.7	652.7	650.7	52.5°	29.6	30.0
663.5	664.5	665.5	668.4	665.5	664.5	663.5	663.5	663.5	662.1	55°	29.3	30.0
671.3	672.8	674.3	677.2	674.3	672.8	671.3	672.3	673.3	674.3	57.5°	29.3	29.6
679.2	680.6	682.2	685.0	682.2	680.6	679.2	679.2	679.2	679.7	59°	28.8	29.3
682.2	683.1	684.1	686.0	684.1	683.1	682.2	681.2	680.2	678.7	60°	28.8	29.6
684.1	684.6	685.0	687.0	685.0	684.6	684.1	683.1	682.2	680.2	62.5°	27.7	28.5
687.0	689.4	692.0	693.9	692.0	689.4	687.0	686.6	686.0	685.0	65°	26.9	27.7
687.0	687.0	687.0	687.0	687.0	687.0	687.0	687.0	687.0	687.0	67.5°	25.7	26.9
										70°	24.5	25.7
										72.5°	23.0	24.5
										75°	21.4	22.5
										77.5°	19.3	20.6
										80°	17.0	17.3
										82.5°	14.2	14.2
										85°	10.7	9.5
										87.5°	5.9	6.3
										90°	7.8	7.4
										92.5°	5.9	5.9
										95°	6.8	6.8
										97.5°	8.8	8.8
										100°	11.8	16.2
										102.5°	26.5	32.9
										105°	47.1	54.4
										107.5°	71.7	79.1



REPORT NUMBER: P271705

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

0-LED-E1-SLL-7027-ULG

tinued):

CANDELA DISTRIBUTION (continued):

225°	230°	235°	240°	245°	250°	255°	260°	265°		215°	220°	225°
776.5	776.5	776.5	776.5	776.5	776.5	776.5	776.5	776.5	110°	100.1	106.0	111.9
664.2	664.2	676.0	677.2	663.3	666.9	673.5	665.7	674.4	112.5°	131.5	135.9	140.3
557.3	552.5	553.0	549.9	555.3	549.0	555.7	553.4	551.4	115°	164.9	167.8	170.8
432.7	441.1	435.0	423.6	432.7	425.5	412.1	413.3	398.3	117.5°	198.3	199.7	201.2
325.2	319.2	316.0	310.5	295.9	298.7	283.7	286.0	291.1	120°	232.6	235.5	238.5
224.3	219.9	225.0	221.5	215.5	216.9	219.9	223.0	231.4	122.5°	266.0	269.0	271.8
157.5	155.5	154.3	156.7	163.3	166.9	172.0	181.5	186.3	125°	299.3	301.8	304.3
118.3	118.7	117.5	121.0	126.6	129.4	130.5	131.3	136.8	127.5°	332.7	333.2	333.7
97.6	99.4	98.9	100.1	98.5	96.8	98.1	95.7	93.7	130°	363.2	364.2	365.1
85.5	85.9	83.8	83.5	81.0	79.1	77.5	77.5	76.7	132.5°	396.5	397.1	397.5
72.4	72.9	70.8	70.8	70.3	71.5	70.8	69.2	68.8	135°	427.0	428.0	428.9
64.9	64.0	62.9	62.9	62.2	62.2	62.5	62.9	62.5	137.5°	455.4	457.3	459.3
58.1	57.3	57.0	57.3	57.0	57.3	57.7	57.3	57.7	140°	481.9	484.8	487.8
53.4	52.6	52.6	53.0	52.6	53.0	53.0	53.0	52.6	142.5°	511.3	513.3	515.3
49.5	48.7	48.7	48.7	48.3	47.5	46.7	45.5	44.3	145°	539.8	540.3	540.8
46.4	45.8	45.1	44.6	43.5	41.1	40.3	40.3	40.3	147.5°	563.3	563.9	564.3
43.5	42.7	42.3	40.7	39.2	38.4	38.4	38.4	38.4	150°	582.0	582.0	582.0
40.0	38.8	38.0	37.5	37.2	37.2	36.8	36.8	36.8	152.5°	598.7	598.7	598.7
35.7	35.2	35.2	35.7	35.7	35.7	35.7	35.2	35.7	155°	618.3	617.3	616.3
32.8	32.8	33.2	33.7	34.0	34.5	34.9	34.5	34.9	157.5°	634.0	633.6	633.0
31.6	31.6	31.6	32.4	32.8	33.2	34.0	34.0	34.0	160°	642.8	642.8	642.8
30.8	30.8	31.2	31.6	32.0	32.4	32.8	33.2	33.7	162.5°	648.8	649.7	650.7
30.5	30.8	30.5	30.8	31.2	32.0	32.4	32.4	32.8	165°	660.5	660.5	660.5
30.5	30.5	30.5	30.5	31.2	31.6	31.2	31.6	32.0	167.5°	675.3	673.8	672.3
30.5	30.5	30.0	30.5	30.8	31.2	30.8	30.8	31.6	170°	680.2	679.2	678.2
30.0	30.5	30.0	30.0	30.5	30.8	30.5	30.8	31.2	172.5°	677.2	677.2	677.2
29.3	29.6	29.3	29.6	29.6	30.0	30.0	30.0	30.5	175°	678.2	677.7	677.2
28.5	28.5	28.5	28.8	28.8	29.3	29.3	29.6	29.3	177.5°	684.1	683.1	682.2
27.7	27.7	27.7	28.0	28.0	28.5	28.8	28.5	28.5	180°	687.0	687.0	687.0
26.9	26.5	26.1	26.5	26.9	26.9	27.3	26.9	27.3				
25.7	25.3	25.0	25.0	25.3	25.3	25.7	25.3	25.3				
23.7	23.7	23.0	23.0	23.0	23.0	23.4	23.0	22.5				
21.4	21.4	20.6	20.6	20.6	20.6	20.2	20.2	20.2				
17.8	18.1	18.1	17.8	17.8	17.3	17.3	17.0	16.6				
13.5	14.2	14.6	14.6	14.6	14.6	14.6	13.8	13.0				
9.5	10.7	11.9	11.9	11.5	11.5	11.5	10.3	9.2				
5.9	7.2	7.5	8.4	7.2	6.7	6.7	5.9	5.5				
6.8	6.8	7.6	8.3	10.0	10.0	10.4	8.6	7.3				
5.9	6.4	6.8	6.8	6.8	6.4	5.9	5.9	5.9				
6.8	6.8	6.8	7.4	7.8	7.4	6.8	6.8	6.8				
8.8	10.3	11.8	10.8	9.8	9.3	8.8	8.4	7.8				
20.6	24.5	28.5	26.9	25.5	24.1	22.5	20.6	18.7				
39.3	44.2	49.0	47.6	46.2	43.7	41.2	39.7	38.3				
61.8	66.3	70.7	69.7	68.7	66.3	63.8	61.8	59.8				
86.3	89.8	93.2	92.7	92.3	90.3	88.3	86.9	85.4				



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CATALOG NUMBER: IST-AF-450-LED-E1-SLL-7027-L

SLL-7027-ULG

CANDELA DISTRIBUTION (continued):

230°	235°	240°	245°	250°	255°	260°	265°		270°	275°	280°	285°
114.8	117.8	118.3	118.8	117.8	116.8	115.3	113.8	0°	776.5	776.5	776.5	776.5
142.8	145.3	146.2	147.2	146.7	146.2	145.3	144.3	2.5°	666.9	681.5	683.5	685.5
173.2	175.7	177.1	178.7	177.1	175.7	174.7	173.7	5°	548.2	562.9	554.5	558.0
204.2	207.1	209.0	211.0	208.6	206.1	205.2	204.2	7.5°	400.3	390.9	403.1	410.5
239.9	241.5	243.4	245.3	242.9	240.5	239.5	238.5	10°	292.3	303.4	308.1	316.8
272.8	273.8	275.8	277.8	275.3	272.8	271.8	270.9	12.5°	242.5	249.5	258.4	272.2
305.7	307.2	308.2	309.2	306.7	304.3	304.3	304.3	15°	196.5	201.7	212.8	226.2
336.1	338.6	339.1	339.6	339.6	339.6	339.1	338.6	17.5°	143.2	150.6	157.8	168.9
367.6	370.0	372.0	374.0	374.0	374.0	373.0	372.0	20°	96.1	99.4	108.0	113.2
400.5	403.4	405.9	408.3	407.3	406.3	406.3	406.3	22.5°	77.2	78.3	79.9	84.2
431.8	434.8	437.3	439.7	439.2	438.7	440.2	441.7	25°	69.2	70.0	71.1	72.9
461.8	464.2	465.2	466.2	466.7	467.2	469.6	472.1	27.5°	62.9	63.3	64.5	65.3
489.3	490.7	491.7	492.7	493.7	494.7	497.1	499.5	30°	57.3	57.0	57.3	58.5
516.3	517.2	520.2	523.2	523.2	523.2	523.6	524.1	32.5°	51.5	51.5	52.2	52.2
543.3	545.7	548.7	551.6	551.1	550.6	549.1	547.7	35°	44.3	43.8	44.6	45.8
566.8	569.3	571.7	574.2	574.6	575.2	573.7	572.2	37.5°	40.7	41.1	42.0	42.7
584.0	586.0	587.4	588.9	590.4	591.8	593.3	594.8	40°	38.8	39.2	40.0	40.7
599.2	599.7	601.1	602.7	604.6	606.5	609.1	611.5	42.5°	36.8	37.5	38.4	39.5
615.4	614.4	616.9	619.3	621.8	624.2	625.2	626.2	45°	35.7	36.4	37.5	38.8
632.6	632.0	634.0	636.0	637.0	638.0	638.0	638.0	47.5°	35.2	36.0	37.2	38.8
644.4	645.8	648.8	651.7	650.2	648.8	648.3	647.8	50°	34.5	35.7	36.8	38.4
652.7	654.7	656.6	658.5	658.1	657.6	656.6	655.7	52.5°	34.5	35.2	36.4	38.4
660.1	659.5	662.1	664.5	665.9	667.4	666.5	665.5	55°	33.2	34.5	35.7	37.5
668.9	665.5	668.4	671.3	673.3	675.3	675.3	675.3	57.5°	32.4	33.2	34.9	37.2
675.7	673.3	674.8	676.2	678.7	681.2	682.2	683.1	59°	32.0	32.8	34.5	36.8
676.7	676.2	677.7	679.2	680.2	681.2	682.2	683.1	60°	31.2	32.4	34.0	36.4
677.2	677.2	679.7	682.2	682.6	683.1	682.2	681.2	62.5°	30.5	31.6	33.2	35.7
681.6	681.2	683.6	686.0	687.0	688.0	686.6	685.0	65°	29.3	30.8	32.4	34.0
687.0	687.0	687.0	687.0	687.0	687.0	687.0	687.0	67.5°	28.5	29.3	30.8	32.4
								70°	26.9	27.7	28.8	30.0
								72.5°	25.0	25.3	26.1	27.3
								75°	22.2	22.5	23.0	24.2
								77.5°	19.3	19.3	19.9	21.4
								80°	16.2	16.2	16.6	17.3
								82.5°	12.3	12.3	13.0	14.2
								85°	8.7	8.4	9.5	10.3
								87.5°	5.1	4.7	5.1	5.1
								90°	7.3	8.1	8.6	9.6
								92.5°	5.9	5.9	5.9	5.9
								95°	6.8	6.8	6.8	6.8
								97.5°	7.8	7.8	8.4	8.8
								100°	18.7	18.7	20.6	22.5
								102.5°	37.3	38.3	39.7	41.2
								105°	59.8	59.8	61.8	63.8
								107.5°	84.4	85.4	86.9	88.3

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

ILG

CANDELA DISTRIBUTION (continued):

290°	295°	300°	305°	310°	315°	320°		270°	275°	280°	285°	290°
776.5	776.5	776.5	776.5	776.5	776.5	776.5	110°	114.8	113.8	115.3	116.8	117.8
693.4	689.4	692.6	704.9	709.2	714.7	733.4	112.5°	144.3	144.3	145.3	146.2	146.7
566.8	572.0	566.8	591.7	592.9	609.5	616.2	115°	174.7	173.7	174.7	175.7	177.1
416.5	423.2	434.3	450.9	455.7	479.3	499.5	117.5°	205.2	204.2	205.2	206.1	208.6
325.2	333.8	349.4	359.5	369.8	383.7	399.8	120°	238.5	238.5	239.5	240.5	242.9
288.7	297.9	311.4	324.4	339.0	349.7	363.2	122.5°	271.8	270.9	271.8	272.8	275.3
241.3	255.5	268.5	285.6	297.9	317.2	333.0	125°	304.3	304.3	304.3	304.3	306.7
184.3	204.2	217.2	237.7	256.4	273.4	294.6	127.5°	340.5	338.6	339.1	339.6	339.6
128.2	143.5	160.2	182.4	206.5	229.8	258.4	130°	373.0	372.0	373.0	374.0	374.0
88.2	96.5	109.1	132.1	157.0	190.7	221.5	132.5°	407.3	406.3	406.3	406.3	407.3
75.2	78.3	83.0	94.1	115.2	151.9	185.9	135°	442.7	441.7	440.2	438.7	439.2
66.8	69.2	72.4	78.0	89.0	114.4	151.9	137.5°	473.0	472.1	469.6	467.2	466.7
61.4	64.0	67.2	71.1	77.2	94.5	122.6	140°	501.5	499.5	497.1	494.7	493.7
53.8	55.8	58.5	62.9	67.2	81.0	108.3	142.5°	526.0	524.1	523.6	523.2	523.2
47.5	49.9	53.4	56.5	60.9	72.0	98.5	145°	549.7	547.7	549.1	550.6	551.1
44.3	46.7	49.9	52.6	55.8	64.9	91.4	147.5°	574.2	572.2	573.7	575.2	574.6
42.3	44.6	47.9	50.2	52.2	62.5	88.7	150°	598.7	594.8	593.3	591.8	590.4
41.1	43.8	46.7	48.3	52.2	63.7	81.8	152.5°	616.3	611.5	609.1	606.5	604.6
40.7	43.5	46.7	49.5	57.3	60.2	77.5	155°	629.2	626.2	625.2	624.2	621.8
41.1	43.5	47.5	55.3	55.8	57.0	72.9	157.5°	642.8	638.0	638.0	638.0	637.0
41.1	44.6	53.0	57.7	53.0	53.8	68.5	160°	653.7	647.8	648.3	648.8	650.2
41.5	46.4	55.0	53.8	51.5	50.2	63.7	162.5°	661.5	655.7	656.6	657.6	658.1
41.5	45.5	52.6	50.7	47.5	47.9	58.1	165°	669.3	665.5	666.5	667.4	665.9
40.3	45.5	50.7	45.8	43.5	45.5	53.4	167.5°	681.2	675.3	675.3	675.3	673.3
39.5	46.7	45.1	42.3	42.3	44.3	51.0	170°	688.0	683.1	682.2	681.2	678.7
39.2	47.9	42.7	41.1	41.1	43.8	49.9	172.5°	688.0	683.1	682.2	681.2	680.2
38.0	44.6	39.2	38.4	39.5	41.5	48.3	175°	686.0	681.2	682.2	683.1	682.6
35.7	37.2	36.0	36.0	37.5	40.0	47.5	177.5°	689.0	685.0	686.6	688.0	687.0
32.8	33.7	33.7	34.0	35.7	37.5	48.3	180°	687.0	687.0	687.0	687.0	687.0
30.5	30.5	31.2	31.6	32.8	35.7	46.4						
27.7	28.0	28.0	28.8	29.6	32.4	44.6						
24.5	24.5	25.3	25.3	26.5	29.3	40.0						
21.4	21.4	21.4	21.8	22.5	25.3	32.8						
17.8	17.8	17.8	18.1	18.5	21.0	25.0						
14.2	13.8	13.5	13.5	14.2	16.2	19.3						
9.9	9.9	9.5	9.5	9.5	10.7	13.0						
5.5	4.7	5.1	5.5	5.1	5.9	7.2						
9.3	9.6	9.1	8.4	8.4	8.4	9.7						
6.4	6.8	6.8	6.8	6.4	5.9	5.9						
7.4	7.8	7.4	6.8	6.8	6.8	6.8						
9.3	9.8	10.8	11.8	10.3	8.8	8.8						
24.1	25.5	26.9	28.5	24.5	20.6	16.2						
43.7	46.2	47.6	49.0	44.2	39.3	32.9						
66.3	68.7	69.7	70.7	66.3	61.8	54.4						
90.3	92.3	92.7	93.2	89.8	86.3	79.1						



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CANDELA DISTRIBUTION (continued):

295°	300°	305°	310°	315°	320°		325°	330°	335°	340°	345°	350°
118.8	118.3	117.8	114.8	111.9	106.0	0°	776.5	776.5	776.5	776.5	776.5	776.5
147.2	146.2	145.3	142.8	140.3	135.9	2.5°	731.0	741.2	757.5	760.7	773.7	782.9
178.7	177.1	175.7	173.2	170.8	167.8	5°	619.4	643.9	652.7	669.7	699.3	714.3
211.0	209.0	207.1	204.2	201.2	199.7	7.5°	511.0	529.6	550.6	577.9	599.7	625.4
245.3	243.4	241.5	239.9	238.5	235.5	10°	420.5	447.0	474.2	496.4	526.9	557.7
277.8	275.8	273.8	272.8	271.8	269.0	12.5°	373.3	388.1	414.9	446.2	484.2	518.5
309.2	308.2	307.2	305.7	304.3	301.8	15°	348.9	366.3	395.2	428.4	468.7	511.5
339.6	339.1	338.6	336.1	333.7	333.2	17.5°	318.4	346.0	378.9	426.3	478.5	537.9
374.0	372.0	370.0	367.6	365.1	364.2	20°	288.4	322.0	365.1	427.6	500.0	577.1
408.3	405.9	403.4	400.5	397.5	397.1	22.5°	261.9	301.8	356.4	434.7	527.2	630.1
439.7	437.3	434.8	431.8	428.9	428.0	25°	230.7	284.0	349.7	449.3	569.2	701.3
466.2	465.2	464.2	461.8	459.3	457.3	27.5°	205.7	267.0	339.8	462.0	607.5	769.8
492.7	491.7	490.7	489.3	487.8	484.8	30°	178.0	247.2	325.9	466.3	654.2	825.9
523.2	520.2	517.2	516.3	515.3	513.3	32.5°	155.9	228.6	310.2	462.4	675.2	865.1
551.6	548.7	545.7	543.3	540.8	540.3	35°	145.2	215.1	296.7	448.5	692.6	907.4
574.2	571.7	569.3	566.8	564.3	563.9	37.5°	138.1	200.5	283.7	425.5	712.4	949.3
588.9	587.4	586.0	584.0	582.0	582.0	40°	129.0	189.0	272.9	409.0	727.8	984.1
602.7	601.1	599.7	599.2	598.7	598.7	42.5°	120.6	178.9	264.6	394.4	731.8	1015.4
619.3	616.9	614.4	615.4	616.3	617.3	45°	113.5	172.5	258.4	395.2	734.5	1058.9
636.0	634.0	632.0	632.6	633.0	633.6	47.5°	108.0	166.5	255.8	408.5	763.8	1119.4
651.7	648.8	645.8	644.4	642.8	642.8	50°	102.9	161.3	252.0	434.7	810.9	1201.2
658.5	656.6	654.7	652.7	650.7	649.7	52.5°	96.8	154.3	246.9	461.5	862.4	1310.9
664.5	662.1	659.5	660.1	660.5	660.5	55°	89.0	144.8	241.3	484.2	932.4	1444.1
671.3	668.4	665.5	668.9	672.3	673.8	57.5°	76.7	133.7	237.7	495.7	975.4	1520.9
676.2	674.8	673.3	675.7	678.2	679.2	59°	70.3	123.0	235.7	490.0	986.9	1533.9
679.2	677.7	676.2	676.7	677.2	677.2	60°	66.8	116.7	232.6	483.4	990.0	1525.6
682.2	679.7	677.2	677.2	677.2	677.7	62.5°	62.2	101.7	219.5	449.7	945.7	1425.1
686.0	683.6	681.2	681.6	682.2	683.1	65°	63.3	96.1	189.8	382.9	844.0	1229.0
687.0	687.0	687.0	687.0	687.0	687.0	67.5°	64.9	93.7	164.1	309.4	672.8	1016.9
						70°	63.7	92.5	149.1	246.0	503.9	761.4
						72.5°	62.2	87.5	129.4	197.8	319.5	533.2
						75°	55.0	73.6	101.7	135.6	201.7	388.4
						77.5°	43.1	56.5	72.0	84.2	102.5	274.2
						80°	31.6	41.1	47.1	50.7	57.0	187.0
						82.5°	22.5	27.7	30.0	32.0	38.0	140.0
						85°	17.0	19.3	21.0	21.0	25.7	98.9
						87.5°	9.5	9.9	9.9	10.7	12.7	26.9
						90°	10.6	10.6	10.2	10.2	8.8	7.5
						92.5°	5.9	5.9	5.9	5.4	4.9	4.4
						95°	6.8	6.8	6.8	6.4	5.9	5.4
						97.5°	8.8	8.4	7.8	7.8	7.8	7.4
						100°	11.8	10.8	9.8	9.3	8.8	8.4
						102.5°	26.5	22.1	17.7	15.2	12.8	11.8
						105°	47.1	41.2	35.3	30.9	26.5	24.1
						107.5°	71.7	64.3	57.0	52.6	48.1	44.6



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

CANDELA DISTRIBUTION (continued):

355°	359°	360°		325°	330°	335°	340°	345°	350°	355°
776.5	776.5	776.5	110°	100.1	92.7	85.4	79.1	72.7	69.7	66.7
793.0	799.0	803.7	112.5°	131.5	125.1	118.8	111.4	104.0	100.6	97.2
737.3	751.9	754.7	115°	164.9	160.4	156.0	150.2	144.3	140.3	136.5
653.9	677.6	685.9	117.5°	198.3	195.8	193.3	189.5	185.5	183.1	180.6
592.5	618.2	626.9	120°	232.6	230.7	228.7	225.3	221.8	220.4	218.8
558.9	589.0	598.5	122.5°	266.0	264.0	262.0	259.1	256.2	255.7	255.2
559.7	595.7	609.5	125°	299.3	296.4	293.5	291.9	290.5	289.5	288.5
596.0	637.3	654.2	127.5°	332.7	329.8	326.8	324.8	322.9	322.9	322.9
658.5	718.4	731.0	130°	363.2	361.2	359.2	357.3	355.3	354.8	354.3
743.3	801.7	820.7	132.5°	396.5	395.1	393.5	389.7	385.7	386.2	386.7
822.8	900.3	914.9	135°	427.0	425.4	424.0	421.0	418.1	418.1	418.1
901.1	977.7	990.8	137.5°	455.4	453.5	451.5	450.9	450.5	449.5	448.5
961.5	1041.9	1052.9	140°	481.9	481.0	480.0	479.0	478.0	477.0	476.0
1019.8	1110.3	1122.5	142.5°	511.3	509.9	508.4	507.9	507.5	506.5	505.5
1084.6	1184.7	1198.9	145°	539.8	538.4	536.8	535.4	534.0	534.9	535.9
1143.1	1257.9	1266.9	147.5°	563.3	563.3	563.3	561.9	560.5	560.9	561.4
1208.0	1317.5	1319.9	150°	582.0	582.0	582.0	582.0	582.0	581.6	581.0
1261.0	1361.9	1362.7	152.5°	598.7	598.2	597.7	597.2	596.7	596.7	596.7
1312.4	1403.4	1403.8	155°	618.3	616.9	615.4	614.4	613.5	613.5	613.5
1366.2	1448.9	1442.9	157.5°	634.0	633.0	632.0	631.6	631.1	631.1	631.1
1451.2	1502.7	1508.6	160°	642.8	643.4	643.8	645.3	646.8	647.3	647.8
1580.6	1626.5	1633.2	162.5°	648.8	650.7	652.7	654.7	656.6	656.6	656.6
1730.9	1794.6	1785.5	165°	660.5	662.1	663.5	663.5	663.5	664.5	665.5
1794.6	1867.4	1874.9	167.5°	675.3	674.3	673.3	672.3	671.3	672.8	674.3
1783.9	1883.2	1895.9	170°	680.2	679.7	679.2	679.2	679.2	680.6	682.2
1767.0	1878.4	1893.9	172.5°	677.2	678.7	680.2	681.2	682.2	683.1	684.1
1670.4	1828.9	1853.1	175°	678.2	680.2	682.2	683.1	684.1	684.6	685.0
1508.3	1726.5	1760.6	177.5°	684.1	685.0	686.0	686.6	687.0	689.4	692.0
1299.8	1573.5	1600.8	180°	687.0	687.0	687.0	687.0	687.0	687.0	687.0
1014.2	1278.7	1302.1								
674.0	878.1	918.4								
428.4	566.4	558.9								
316.0	368.2	368.7								
229.3	252.7	250.0								
177.7	154.3	153.9								
62.2	54.5	53.4								
26.9	22.5	23.0								
6.1	6.1	6.5								
4.0	4.0	4.0								
4.9	4.9	4.9								
6.8	6.8	6.8								
7.8	7.8	7.8								
10.8	10.8	10.8								
21.6	20.8	20.6								
41.2	40.4	40.2								



359°	360°
65.1	64.8
97.2	97.2
137.2	137.4
180.6	180.6
220.4	220.8
257.5	258.2
291.7	292.5
323.7	323.9
355.9	356.3
388.2	388.7
420.5	421.0
450.9	451.5
478.3	479.0
507.8	508.4
539.1	539.8
563.8	564.3
583.4	584.0
599.1	599.7
616.6	617.3
633.5	634.0
650.1	650.7
659.7	660.5
667.8	668.4
676.6	677.2
684.5	685.0
685.7	686.0
686.7	687.0
693.5	693.9
687.0	687.0

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