

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: P227674

Luminaire Tested: **ISS-AF-450-LED-E1-T3-7030-ULG**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P227674
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P29759)-DOWNLIGHT AND
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: MCGRAW-EDISON
Catalog Number: ISS-AF-450-LED-E1-T3-7030-ULG
Description: IMPACT ELITE LED QUATER SPHERE LUMINAIRE WITH UPLIGHT
LIGHT SQUARE WITH ACCULED OPTICS-TYPE III, 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: 4076.2 lumens
Efficiency: N/A
Efficacy: 97.0 lumens/watt
Luminous Opening: Rectangular w/ Sides (W: 0.5' x L: 0.5' x H: 0.54')
IES Classification: Type III - Medium - Non-Cutoff
BUG Rating: B1 - U5 - G1

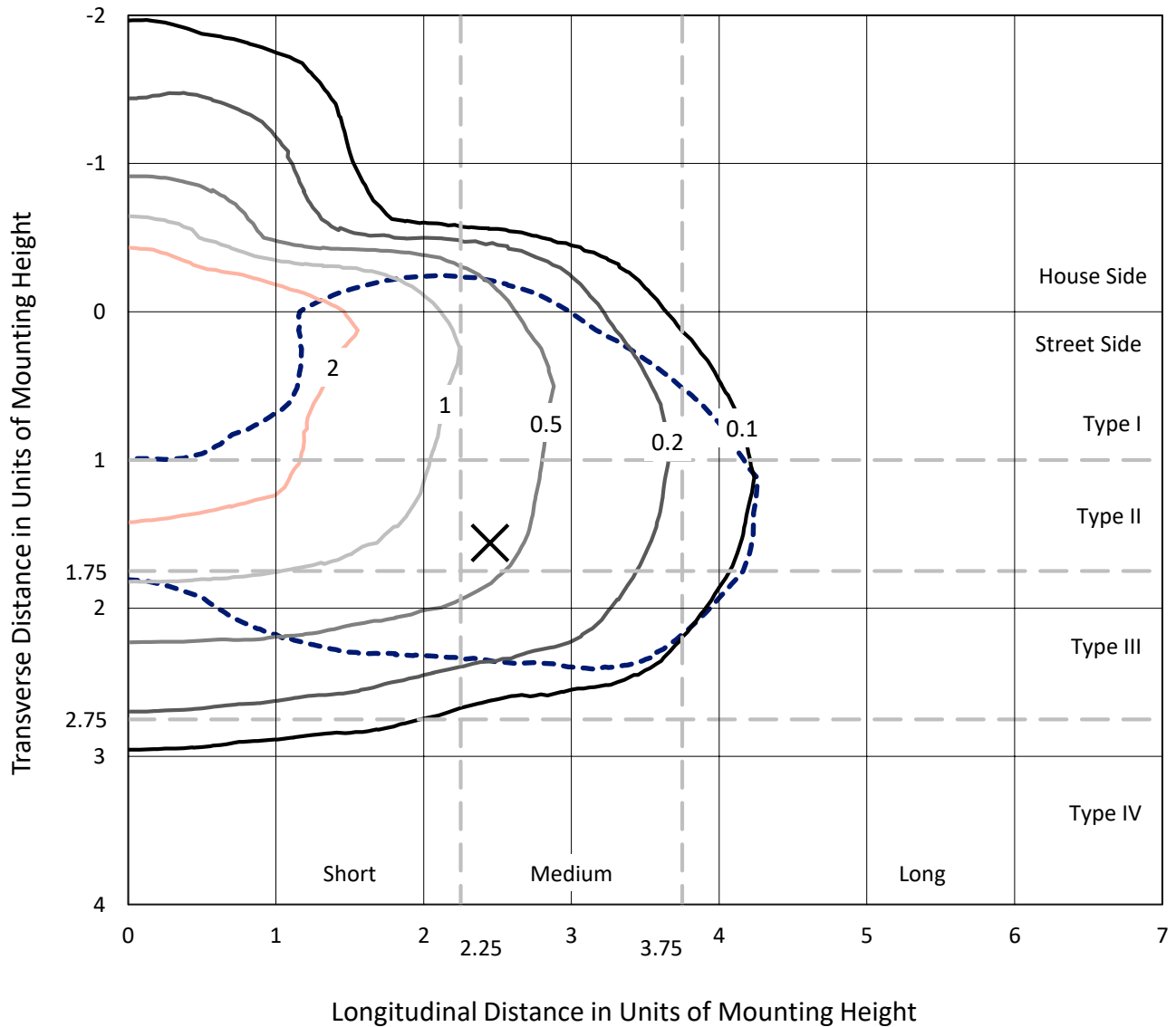
Input Watts (W): 42.01
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

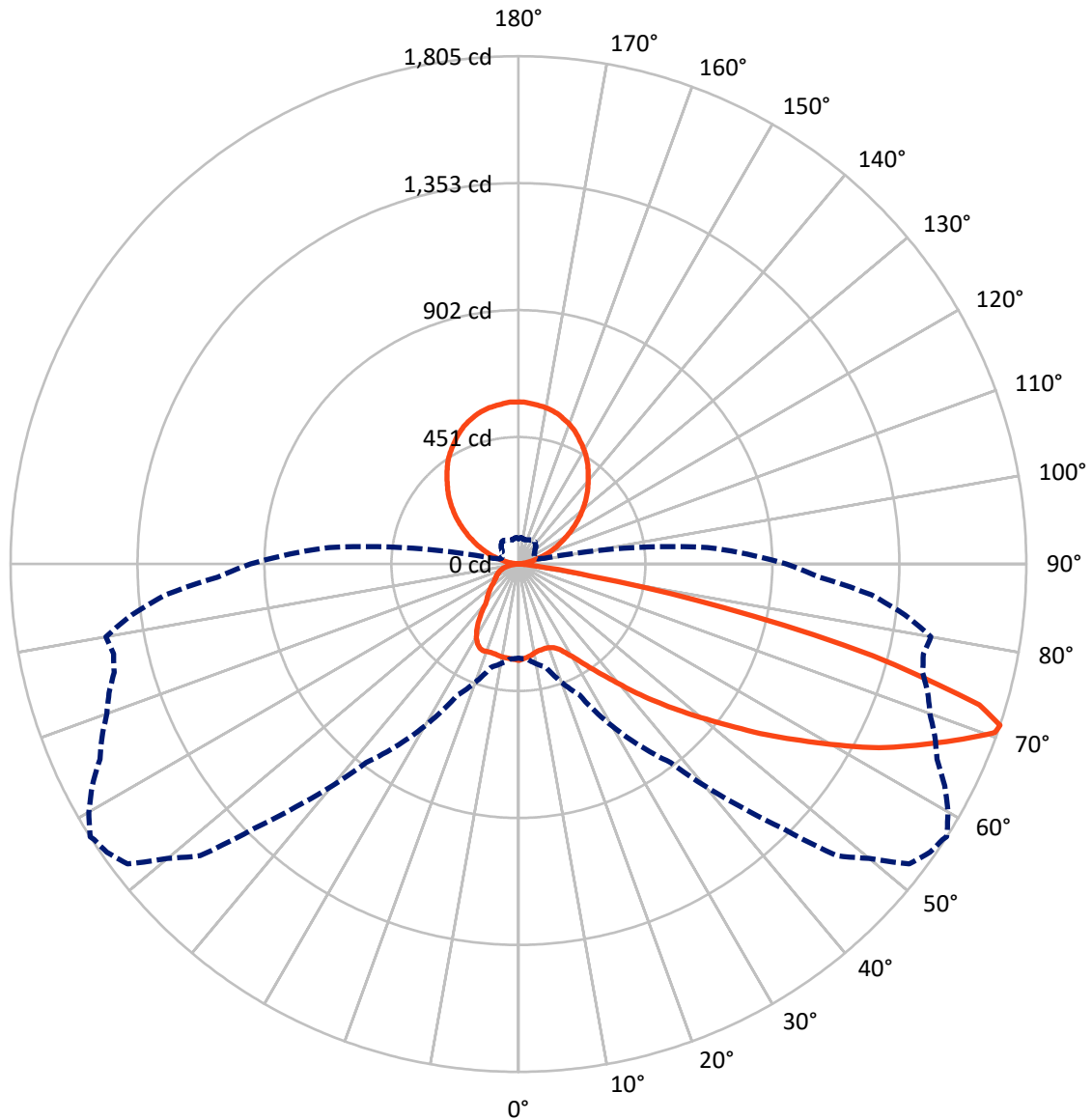
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 3.5 fc
 Type III - Medium - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 57.5-Deg Lateral - - - Horizontal Cone Through 71-Deg Vertical

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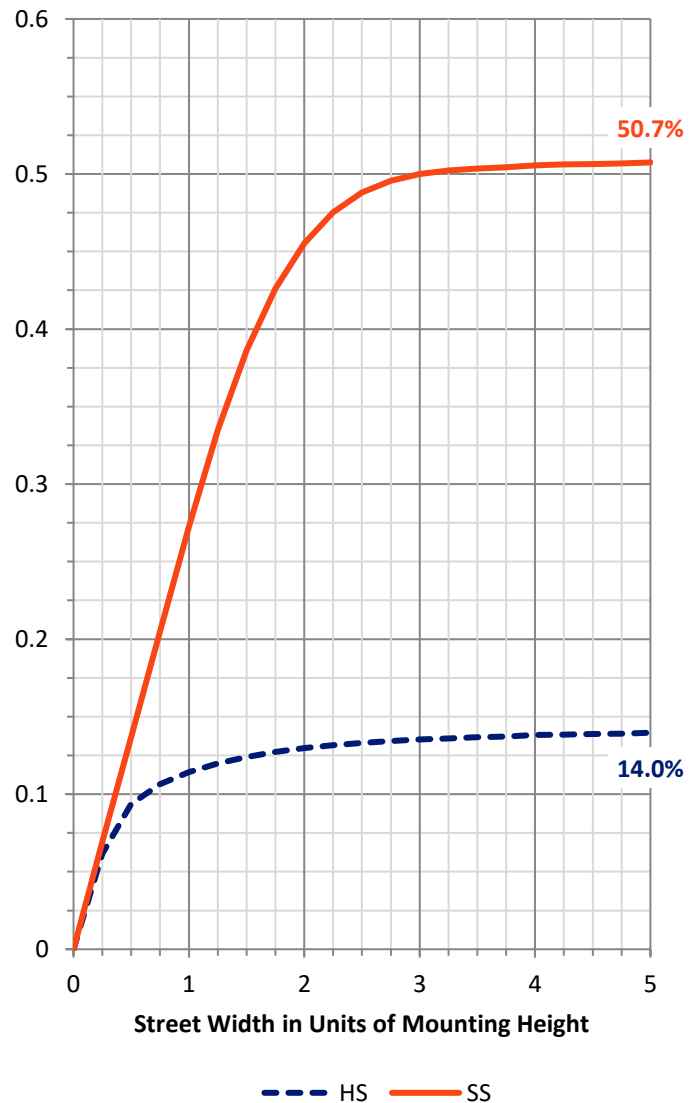
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	576.9	713.1	1290.0
	% Fixture	14.2	17.5	31.6
Street Side	Lumens	2073.1	713.1	2786.2
	% Fixture	50.9	17.5	68.4
Total	Lumens	2650.0	1426.2	4076.2
	% Fixture	65.0	35.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	32.2	0.8
10°-20°	92.8	2.3
20°-30°	154.1	3.8
30°-40°	245.3	6.0
40°-50°	398.6	9.8
50°-60°	597.6	14.7
60°-70°	712.9	17.5
70°-80°	385.0	9.4
80°-90°	31.3	0.8
90°-100°	4.7	0.1
100°-110°	69.0	1.7
110°-120°	153.0	3.8
120°-130°	223.9	5.5
130°-140°	265.6	6.5
140°-150°	269.3	6.6
150°-160°	231.1	5.7
160°-170°	155.1	3.8
170°-180°	54.3	1.3
0°-90°	2650.0	65.0
0°-180°	4076.2	100.0



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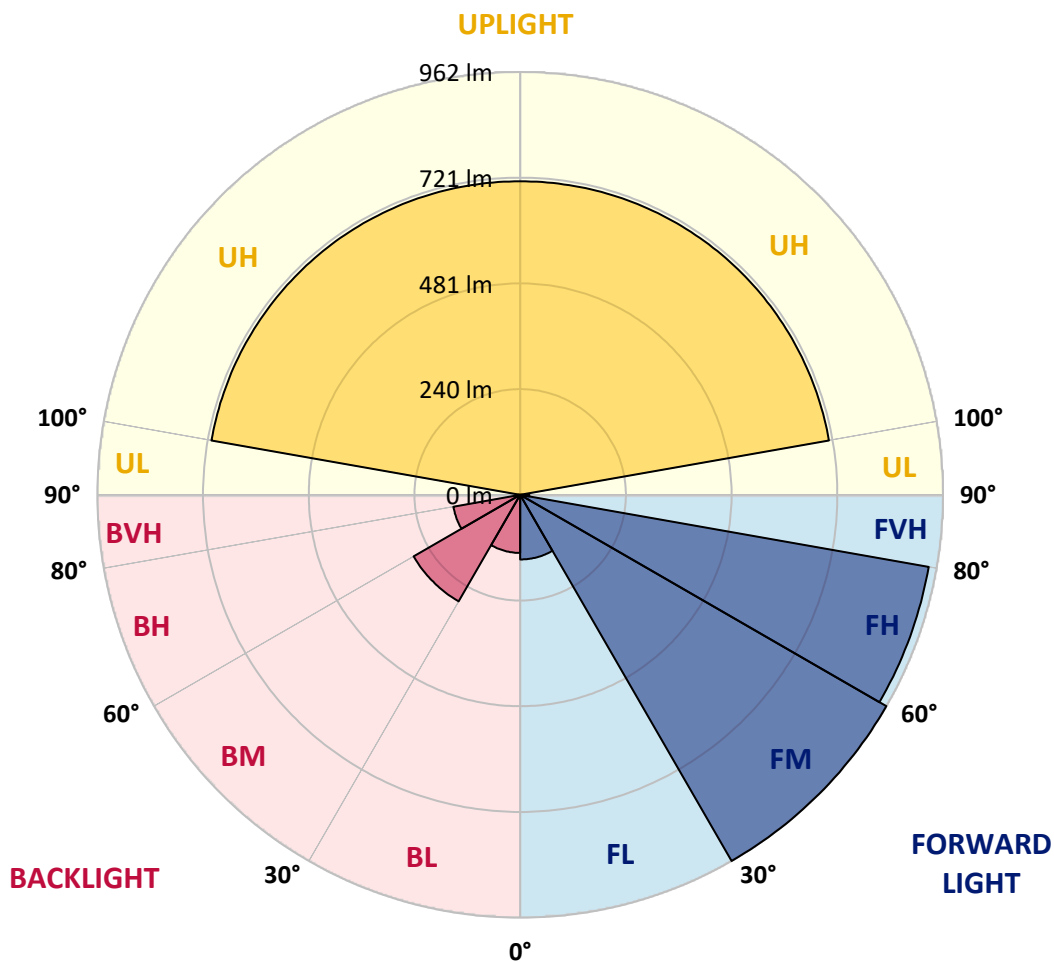
CATALOG NUMBER: ISS-AF-450-LED-E1-T3-7030-ULG

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	147.0	3.6			
FM (30°-60°)	961.8	23.6			
FH (60°-80°)	943.6	23.2			G1/1800
FVH (80°-90°)	20.6	0.5			G1/100
BL (0°-30°)	132.2	3.2	B1/500		
BM (30°-60°)	279.7	6.9	B1/1000		
BH (60°-80°)	154.3	3.8	B1/500		G1/500
BVH (80°-90°)	10.7	0.3			G1/100
UL (90°-100°)	4.7	0.1		U1/10	
UH (100°-180°)	713.1	17.5		U4/1000	

BUG Rating: B1-U5-G1

Type III Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	37.5°	40°	42.5°	45°	47.5°	50°
0°	342.3	342.3	342.3	342.3	342.3	342.3	342.3	342.3	342.3	342.3	342.3
2.5°	342.3	341.5	340.6	340.6	340.6	339.7	337.1	338.0	340.6	338.8	341.5
5°	341.5	339.7	338.8	338.8	338.8	336.2	335.3	334.5	339.7	335.3	338.8
7.5°	331.8	331.8	330.1	331.8	333.6	331.0	329.2	330.1	334.5	330.1	334.5
10°	324.8	323.1	322.2	322.2	324.0	320.5	318.7	320.5	325.7	320.5	326.6
12.5°	322.2	323.1	320.5	320.5	319.6	315.2	315.2	315.2	319.6	315.2	320.5
15°	326.6	325.7	323.1	321.3	318.7	315.2	314.3	315.2	318.7	313.4	319.6
17.5°	332.7	332.7	328.3	324.0	321.3	317.8	317.8	316.1	318.7	315.2	319.6
20°	348.5	345.8	339.7	332.7	325.7	324.0	320.5	320.5	322.2	318.7	321.3
22.5°	375.6	373.0	362.5	349.3	338.0	333.6	331.8	331.0	329.2	327.5	327.5
25°	411.5	407.1	394.9	379.1	359.9	356.3	352.8	350.2	344.1	344.1	339.7
27.5°	450.0	445.7	432.5	415.0	391.4	386.1	381.7	378.2	367.7	367.7	359.9
30°	493.8	488.6	472.8	453.5	426.4	424.6	418.5	413.3	399.3	398.4	387.9
32.5°	544.6	537.6	521.8	496.4	467.5	468.4	458.8	455.3	436.9	437.8	423.8
35°	602.4	594.5	578.7	545.5	515.7	518.3	509.6	503.4	480.7	480.7	465.8
37.5°	663.7	663.7	643.5	605.0	569.1	575.2	564.7	558.6	535.8	539.3	515.7
40°	732.0	736.3	714.4	670.7	633.9	636.5	628.6	621.6	594.5	600.6	575.2
42.5°	803.8	811.6	792.4	746.8	705.7	714.4	701.3	694.3	665.4	678.6	648.8
45°	907.9	909.7	873.8	830.0	795.9	803.8	785.4	782.7	746.8	760.9	731.1
47.5°	973.6	969.2	943.0	916.7	896.6	912.3	895.7	891.3	850.2	859.8	817.8
50°	1018.3	1020.9	1000.8	998.1	1001.6	1031.4	1028.8	1020.0	971.0	964.0	911.4
52.5°	1058.5	1047.2	1043.7	1068.2	1105.8	1140.8	1154.8	1143.5	1090.1	1070.8	1020.0
55°	1051.5	1034.9	1053.3	1112.8	1187.2	1241.5	1243.3	1235.4	1187.2	1179.4	1124.2
57.5°	1004.3	1007.8	1045.4	1130.3	1256.4	1312.4	1322.1	1312.4	1273.0	1280.1	1234.5
60°	938.6	945.6	1005.1	1114.6	1311.6	1359.7	1364.1	1375.5	1349.2	1367.6	1336.1
62.5°	840.5	850.2	926.3	1075.2	1273.0	1344.8	1385.1	1411.4	1406.1	1448.2	1431.5
65°	772.2	772.2	846.7	1029.6	1235.4	1330.0	1390.4	1439.4	1446.4	1512.9	1506.8
67.5°	645.3	649.7	713.6	902.7	1189.9	1296.7	1387.7	1470.9	1512.9	1618.0	1623.3
70°	446.5	450.0	492.1	644.4	961.4	1052.4	1186.4	1322.1	1448.2	1606.6	1688.9
71°	334.5	338.8	380.0	513.9	814.3	889.6	1028.8	1169.7	1328.2	1534.0	1626.8
72.5°	163.7	166.4	206.6	330.1	566.5	662.8	743.3	878.2	1046.3	1281.8	1413.1
75°	76.2	77.0	85.8	119.1	216.3	257.4	293.3	380.0	484.2	690.8	850.2
77.5°	56.0	56.0	61.3	77.9	112.1	113.8	112.1	114.7	138.3	197.9	297.7
80°	41.2	41.2	44.7	52.5	74.4	74.4	71.8	72.7	70.0	72.7	82.3
82.5°	27.1	27.1	28.9	31.5	45.5	45.5	43.8	43.8	42.0	41.2	44.7
85°	15.8	16.6	17.5	14.9	19.3	18.4	16.6	18.4	17.5	15.8	19.3
87.5°	0.0	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.9	0.0	0.9
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
92.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
95°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
97.5°	2.0	2.0	2.0	3.0	4.0	5.2	6.5	7.8	9.0	10.0	11.0
100°	8.0	8.0	10.0	14.0	22.0	24.0	26.0	28.0	30.0	30.5	31.0
102.5°	28.0	28.0	32.0	38.0	45.0	46.2	47.5	48.8	50.0	50.2	50.5
105°	54.0	54.0	56.0	61.0	66.0	67.0	68.0	69.0	70.0	70.2	70.5
107.5°	78.0	77.0	80.0	84.0	88.0	88.8	89.5	90.2	91.0	91.5	92.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	15°	25°	35°	37.5°	40°	42.5°	45°	47.5°	50°
110°	101.0	102.0	103.0	106.0	110.0	110.5	111.0	111.5	112.0	112.5	113.0
112.5°	124.0	124.0	126.0	129.0	132.0	132.5	133.0	133.5	134.0	134.5	135.0
115°	146.0	147.0	149.0	151.0	154.0	154.5	155.0	155.5	156.0	156.5	157.0
117.5°	169.0	170.0	172.0	174.0	177.0	177.5	178.0	178.5	179.0	179.2	179.5
120°	193.0	195.0	196.0	198.0	201.0	201.2	201.5	201.8	202.0	202.5	203.0
122.5°	219.0	220.0	221.0	223.0	226.0	226.2	226.5	226.8	227.0	227.2	227.5
125°	244.0	246.0	247.0	248.0	251.0	251.2	251.5	251.8	252.0	252.2	252.5
127.5°	267.0	269.0	270.0	272.0	274.0	274.5	275.0	275.5	276.0	276.5	277.0
130°	290.0	292.0	293.0	294.0	298.0	298.2	298.5	298.8	299.0	299.5	300.0
132.5°	313.0	314.0	317.0	318.0	321.0	321.2	321.5	321.8	322.0	322.8	323.5
135°	336.0	337.0	339.0	341.0	345.0	345.0	345.0	345.0	345.0	345.8	346.5
137.5°	359.0	360.0	363.0	364.0	367.0	367.0	367.0	367.0	367.0	367.5	368.0
140°	382.0	383.0	385.0	386.0	388.0	388.2	388.5	388.8	389.0	389.2	389.5
142.5°	404.0	406.0	408.0	407.0	410.0	410.0	410.0	410.0	410.0	410.5	411.0
145°	425.0	426.0	428.0	428.0	431.0	431.2	431.5	431.8	432.0	432.5	433.0
147.5°	444.0	444.0	447.0	448.0	452.0	452.2	452.5	452.8	453.0	453.2	453.5
150°	461.0	462.0	464.0	465.0	469.0	469.2	469.5	469.8	470.0	470.2	470.5
152.5°	479.0	480.0	483.0	482.0	485.0	485.2	485.5	485.8	486.0	486.2	486.5
155°	499.0	500.0	502.0	501.0	503.0	503.0	503.0	503.0	503.0	503.2	503.5
157.5°	513.0	515.0	517.0	516.0	519.0	519.0	519.0	519.0	519.0	519.0	519.0
160°	525.0	527.0	529.0	529.0	532.0	532.0	532.0	532.0	532.0	532.0	532.0
162.5°	535.0	536.0	539.0	538.0	541.0	541.0	541.0	541.0	541.0	541.2	541.5
165°	546.0	547.0	549.0	548.0	552.0	552.0	552.0	552.0	552.0	552.2	552.5
167.5°	555.0	556.0	559.0	558.0	561.0	560.8	560.5	560.2	560.0	560.0	560.0
170°	562.0	563.0	566.0	565.0	567.0	566.8	566.5	566.2	566.0	565.8	565.5
172.5°	565.0	566.0	569.0	567.0	569.0	568.8	568.5	568.2	568.0	568.2	568.5
175°	567.0	569.0	570.0	569.0	572.0	572.0	572.0	572.0	572.0	572.2	572.5
177.5°	572.0	573.0	575.0	574.0	578.0	577.8	577.5	577.2	577.0	577.0	577.0
180°	576.0	576.0	576.0	576.0	576.0	576.0	576.0	576.0	576.0	576.0	576.0



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CANDELA DISTRIBUTION (continued):

	52.5°	55°	57°	57.5°	60°	62.5°	65°	67.5°	70°	72.5°	75°
0°	342.3	342.3	342.3	342.3	342.3	342.3	342.3	342.3	342.3	342.3	342.3
2.5°	338.0	340.6	340.6	337.1	339.7	337.1	338.8	336.2	338.8	334.5	339.7
5°	335.3	338.0	338.0	332.7	338.0	332.7	337.1	331.0	337.1	330.1	337.1
7.5°	328.3	334.5	334.5	327.5	333.6	328.3	333.6	327.5	332.7	324.8	333.6
10°	320.5	326.6	327.5	320.5	327.5	321.3	329.2	321.3	329.2	320.5	330.1
12.5°	315.2	322.2	324.0	316.1	324.8	316.9	326.6	317.8	326.6	316.9	328.3
15°	314.3	320.5	322.2	315.2	323.1	314.3	325.7	315.2	326.6	316.1	329.2
17.5°	315.2	320.5	322.2	314.3	322.2	315.2	324.8	316.1	326.6	316.9	329.2
20°	317.8	321.3	321.3	316.9	323.1	316.9	324.8	316.1	327.5	318.7	330.1
22.5°	325.7	326.6	326.6	323.1	326.6	322.2	328.3	322.2	330.1	323.1	333.6
25°	338.8	338.0	336.2	335.3	336.2	333.6	337.1	332.7	340.6	334.5	345.0
27.5°	361.6	358.1	356.3	356.3	355.5	356.3	356.3	354.6	358.1	356.3	363.4
30°	389.6	383.5	380.9	383.5	380.0	383.5	382.6	381.7	385.2	383.5	389.6
32.5°	426.4	415.9	414.1	419.4	412.4	418.5	413.3	415.9	418.5	420.3	423.8
35°	469.3	457.0	455.3	460.5	452.7	461.4	455.3	458.8	460.5	464.9	467.5
37.5°	520.1	505.2	502.6	509.6	499.1	508.7	499.9	510.4	507.8	513.9	516.6
40°	581.4	563.9	557.7	567.4	555.1	563.0	554.2	565.6	563.0	575.2	577.9
42.5°	656.7	631.3	625.1	634.8	616.4	619.0	612.0	625.1	623.4	640.0	642.7
45°	734.6	703.9	695.2	704.8	683.8	689.1	678.6	692.6	691.7	704.8	715.3
47.5°	821.3	783.6	772.2	782.7	757.4	763.5	753.0	767.9	768.7	783.6	794.1
50°	911.4	872.0	857.2	866.8	843.2	847.5	837.0	855.4	854.5	874.7	882.6
52.5°	1009.5	969.2	957.9	962.2	934.2	939.5	930.7	953.5	948.2	960.5	976.2
55°	1118.1	1071.7	1058.5	1071.7	1038.4	1045.4	1034.0	1055.0	1046.3	1062.0	1066.4
57.5°	1229.3	1183.7	1173.2	1182.9	1151.3	1156.6	1141.7	1159.2	1152.2	1162.7	1169.7
60°	1347.5	1306.3	1295.8	1306.3	1275.7	1276.6	1251.2	1269.5	1259.0	1272.2	1269.5
62.5°	1460.4	1425.4	1422.8	1437.7	1399.1	1394.8	1364.1	1377.2	1362.4	1371.1	1360.6
65°	1556.7	1536.6	1540.1	1552.3	1518.2	1507.7	1472.7	1479.7	1457.8	1457.8	1444.7
67.5°	1682.8	1660.9	1660.9	1671.4	1628.5	1601.4	1553.2	1547.1	1511.2	1504.2	1473.6
70°	1787.9	1794.0	1787.0	1795.8	1745.0	1689.8	1625.9	1595.3	1548.0	1525.2	1489.3
71°	1750.2	1785.2	1797.5	1804.5	1762.5	1707.3	1640.8	1601.4	1555.9	1525.2	1486.7
72.5°	1579.5	1664.4	1712.6	1712.6	1717.8	1682.8	1618.9	1576.0	1524.3	1484.1	1448.2
75°	1106.7	1245.0	1307.2	1300.2	1345.7	1361.5	1366.7	1348.3	1319.5	1261.7	1236.3
77.5°	492.9	649.7	743.3	744.2	793.2	836.1	870.3	906.2	893.1	865.0	863.3
80°	112.1	203.1	260.0	262.7	307.3	346.7	370.4	406.3	410.6	370.4	347.6
82.5°	48.2	56.9	64.8	63.9	78.8	94.6	112.1	121.7	117.3	97.2	91.9
85°	20.1	26.3	28.0	26.3	32.4	35.9	42.0	42.9	49.9	44.7	47.3
87.5°	0.0	0.9	0.9	0.0	1.8	0.0	1.8	0.9	4.4	1.8	5.3
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
92.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
95°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
97.5°	12.0	13.0	11.8	11.5	10.0	8.5	7.0	6.5	6.0	5.5	5.0
100°	31.5	32.0	31.6	31.5	31.0	30.5	30.0	29.2	28.5	27.8	27.0
102.5°	50.8	51.0	50.8	50.8	50.5	50.2	50.0	49.5	49.0	48.5	48.0
105°	70.8	71.0	71.0	71.0	71.0	71.0	71.0	70.5	70.0	69.5	69.0
107.5°	92.5	93.0	92.8	92.8	92.5	92.2	92.0	91.8	91.5	91.2	91.0



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CANDELA DISTRIBUTION (continued):

	52.5°	55°	57°	57.5°	60°	62.5°	65°	67.5°	70°	72.5°	75°
110°	113.5	114.0	114.0	114.0	114.0	114.0	114.0	113.8	113.5	113.2	113.0
112.5°	135.5	136.0	136.0	136.0	136.0	136.0	136.0	135.8	135.5	135.2	135.0
115°	157.5	158.0	158.0	158.0	158.0	158.0	158.0	158.0	158.0	158.0	158.0
117.5°	179.8	180.0	180.2	180.2	180.5	180.8	181.0	180.8	180.5	180.2	180.0
120°	203.5	204.0	204.0	204.0	204.0	204.0	204.0	204.0	204.0	204.0	204.0
122.5°	227.8	228.0	228.0	228.0	228.0	228.0	228.0	228.2	228.5	228.8	229.0
125°	252.8	253.0	253.2	253.2	253.5	253.8	254.0	254.0	254.0	254.0	254.0
127.5°	277.5	278.0	277.8	277.8	277.5	277.2	277.0	277.2	277.5	277.8	278.0
130°	300.5	301.0	301.0	301.0	301.0	301.0	301.0	301.2	301.5	301.8	302.0
132.5°	324.2	325.0	325.0	325.0	325.0	325.0	325.0	325.2	325.5	325.8	326.0
135°	347.2	348.0	348.0	348.0	348.0	348.0	348.0	348.2	348.5	348.8	349.0
137.5°	368.5	369.0	369.0	369.0	369.0	369.0	369.0	369.2	369.5	369.8	370.0
140°	389.8	390.0	390.0	390.0	390.0	390.0	390.0	390.5	391.0	391.5	392.0
142.5°	411.5	412.0	412.0	412.0	412.0	412.0	412.0	412.2	412.5	412.8	413.0
145°	433.5	434.0	433.8	433.8	433.5	433.2	433.0	433.2	433.5	433.8	434.0
147.5°	453.8	454.0	453.6	453.6	453.0	452.5	452.0	452.2	452.5	452.8	453.0
150°	470.8	471.0	470.6	470.6	470.0	469.5	469.0	469.0	469.0	469.0	469.0
152.5°	486.8	487.0	486.8	486.8	486.5	486.2	486.0	486.0	486.0	486.0	486.0
155°	503.8	504.0	503.8	503.8	503.5	503.2	503.0	503.2	503.5	503.8	504.0
157.5°	519.0	519.0	518.6	518.6	518.0	517.5	517.0	517.2	517.5	517.8	518.0
160°	532.0	532.0	531.6	531.6	531.0	530.5	530.0	530.0	530.0	530.0	530.0
162.5°	541.8	542.0	541.6	541.6	541.0	540.5	540.0	539.5	539.0	538.5	538.0
165°	552.8	553.0	552.4	552.4	551.5	550.8	550.0	549.5	549.0	548.5	548.0
167.5°	560.0	560.0	559.6	559.6	559.0	558.5	558.0	558.2	558.5	558.8	559.0
170°	565.2	565.0	564.8	564.8	564.5	564.2	564.0	564.5	565.0	565.5	566.0
172.5°	568.8	569.0	568.6	568.6	568.0	567.5	567.0	567.2	567.5	567.8	568.0
175°	572.8	573.0	572.4	572.4	571.5	570.8	570.0	569.5	569.0	568.5	568.0
177.5°	577.0	577.0	576.4	576.4	575.5	574.8	574.0	574.0	574.0	574.0	574.0
180°	576.0	576.0	576.0	576.0	576.0	576.0	576.0	576.0	576.0	576.0	576.0



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CATALOG NUMBER: ISS-AF-450-LED-E1-T3-7030-ULG

CANDELA DISTRIBUTION (continued):

	77.5°	80°	82.5°	85°	87.5°	90°	95°	100°	102.5°	105°	107.5°
0°	342.3	342.3	342.3	342.3	342.3	342.3	342.3	342.3	342.3	342.3	342.3
2.5°	336.2	340.6	336.2	340.6	338.0	340.6	339.7	340.6	336.2	340.6	335.3
5°	330.1	337.1	331.0	336.2	331.0	337.1	337.1	337.1	331.0	338.0	331.8
7.5°	324.8	332.7	324.8	332.7	327.5	333.6	333.6	336.2	329.2	337.1	328.3
10°	319.6	329.2	319.6	331.0	322.2	331.8	332.7	334.5	324.8	335.3	326.6
12.5°	316.9	329.2	317.8	329.2	318.7	331.8	332.7	334.5	324.0	337.1	325.7
15°	316.9	330.1	317.8	330.1	318.7	331.8	333.6	335.3	324.0	338.0	325.7
17.5°	316.9	330.1	319.6	331.0	320.5	332.7	334.5	336.2	325.7	338.0	327.5
20°	319.6	331.8	321.3	333.6	323.1	335.3	336.2	338.8	327.5	338.8	329.2
22.5°	325.7	336.2	327.5	338.8	331.0	340.6	341.5	344.1	335.3	345.0	337.1
25°	336.2	347.6	340.6	349.3	345.0	352.8	354.6	354.6	351.1	357.2	354.6
27.5°	358.1	366.9	361.6	369.5	366.9	373.0	373.0	373.9	376.5	378.2	380.9
30°	386.1	392.2	390.5	394.9	395.7	399.3	399.3	404.5	415.0	404.5	403.6
32.5°	423.8	427.3	428.1	429.9	433.4	436.0	439.5	445.7	454.4	429.9	422.0
35°	470.2	471.0	473.7	476.3	482.4	484.2	495.6	491.2	491.2	452.7	436.0
37.5°	521.0	521.0	528.0	528.0	542.8	543.7	555.1	532.3	519.2	469.3	444.8
40°	584.9	584.0	591.9	593.6	613.8	614.6	612.9	563.0	535.0	473.7	440.4
42.5°	652.3	654.9	665.4	668.9	683.8	689.1	667.2	584.0	542.0	471.0	425.5
45°	725.8	731.1	744.2	753.8	769.6	763.5	710.9	593.6	534.1	455.3	396.6
47.5°	806.4	811.6	822.1	840.5	847.5	840.5	746.8	597.1	521.8	430.8	354.6
50°	887.8	896.6	911.4	937.7	941.2	923.7	790.6	610.3	512.2	405.4	306.4
52.5°	979.7	988.5	1006.0	1049.8	1041.0	1005.1	842.3	634.8	514.8	389.6	265.3
55°	1076.9	1089.2	1123.3	1166.2	1147.0	1090.9	899.2	670.7	525.3	373.0	219.8
57.5°	1179.4	1192.5	1237.2	1287.9	1250.3	1175.0	957.0	698.7	530.6	338.8	169.9
60°	1280.9	1299.3	1357.1	1399.1	1340.5	1246.8	1008.6	717.1	516.6	274.0	131.3
62.5°	1373.7	1403.5	1468.3	1491.1	1397.4	1292.3	1036.7	703.9	459.7	189.1	105.9
65°	1439.4	1477.9	1520.0	1517.3	1386.9	1277.4	1015.6	643.5	342.3	125.2	90.2
67.5°	1467.4	1503.3	1512.9	1468.3	1311.6	1211.8	940.3	518.3	197.0	93.7	78.8
70°	1477.9	1508.6	1454.3	1346.6	1164.5	1050.7	768.7	330.1	107.7	76.2	68.3
71°	1473.6	1488.4	1385.1	1259.0	1070.8	951.7	674.2	251.3	91.9	70.9	64.8
72.5°	1414.0	1393.0	1233.6	1093.6	907.9	787.1	524.5	158.5	75.3	63.9	60.4
75°	1155.7	1061.2	907.9	775.7	618.1	494.7	284.6	81.4	60.4	55.2	52.5
77.5°	755.6	673.3	547.2	444.8	338.0	256.5	116.4	56.0	48.2	46.4	45.5
80°	269.7	216.3	163.7	143.6	108.6	89.3	56.9	42.9	37.6	38.5	37.6
82.5°	76.2	70.0	60.4	56.0	49.0	48.2	36.8	32.4	29.8	31.5	30.6
85°	37.6	32.4	23.6	22.8	17.5	20.1	18.4	21.9	19.3	20.1	18.4
87.5°	2.6	3.5	0.9	2.6	0.0	2.6	3.5	4.4	0.9	3.5	2.6
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
92.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
95°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
97.5°	4.8	4.5	4.2	4.0	4.0	4.0	4.0	4.5	4.8	5.0	5.5
100°	26.8	26.5	26.2	26.0	25.5	25.0	26.0	26.5	26.8	27.0	27.8
102.5°	48.2	48.5	48.8	49.0	48.5	48.0	49.0	48.5	48.2	48.0	48.5
105°	69.5	70.0	70.5	71.0	70.0	69.0	71.0	70.0	69.5	69.0	69.5
107.5°	91.2	91.5	91.8	92.0	91.5	91.0	92.0	91.5	91.2	91.0	91.2



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REPORT N
 CATALOG

CANDELA DISTRIBUTION (continued):

CANDELA

	77.5°	80°	82.5°	85°	87.5°	90°	95°	100°	102.5°	105°	107.5°	
110°	113.2	113.5	113.8	114.0	113.5	113.0	114.0	113.5	113.2	113.0	113.2	0°
112.5°	135.5	136.0	136.5	137.0	136.0	135.0	137.0	136.0	135.5	135.0	135.2	2.5°
115°	158.5	159.0	159.5	160.0	159.5	159.0	160.0	159.0	158.5	158.0	158.0	5°
117.5°	180.5	181.0	181.5	182.0	181.0	180.0	182.0	181.0	180.5	180.0	180.2	7.5°
120°	204.5	205.0	205.5	206.0	205.0	204.0	206.0	205.0	204.5	204.0	204.0	10°
122.5°	230.0	231.0	232.0	233.0	232.5	232.0	233.0	231.0	230.0	229.0	228.8	12.5°
125°	254.8	255.5	256.2	257.0	256.5	256.0	257.0	255.5	254.8	254.0	254.0	15°
127.5°	278.8	279.5	280.2	281.0	279.5	278.0	281.0	279.5	278.8	278.0	277.8	17.5°
130°	302.8	303.5	304.2	305.0	304.0	303.0	305.0	303.5	302.8	302.0	301.8	20°
132.5°	326.8	327.5	328.2	329.0	328.0	327.0	329.0	327.5	326.8	326.0	325.8	22.5°
135°	349.5	350.0	350.5	351.0	350.5	350.0	351.0	350.0	349.5	349.0	348.8	25°
137.5°	371.0	372.0	373.0	374.0	373.0	372.0	374.0	372.0	371.0	370.0	369.8	27.5°
140°	393.0	394.0	395.0	396.0	395.0	394.0	396.0	394.0	393.0	392.0	391.5	30°
142.5°	413.8	414.5	415.2	416.0	415.5	415.0	416.0	414.5	413.8	413.0	412.8	32.5°
145°	434.8	435.5	436.2	437.0	436.0	435.0	437.0	435.5	434.8	434.0	433.8	35°
147.5°	453.8	454.5	455.2	456.0	454.5	453.0	456.0	454.5	453.8	453.0	452.8	37.5°
150°	470.0	471.0	472.0	473.0	471.5	470.0	473.0	471.0	470.0	469.0	469.0	40°
152.5°	486.8	487.5	488.2	489.0	487.5	486.0	489.0	487.5	486.8	486.0	486.0	42.5°
155°	504.8	505.5	506.2	507.0	506.0	505.0	507.0	505.5	504.8	504.0	503.8	45°
157.5°	519.2	520.5	521.8	523.0	521.5	520.0	523.0	520.5	519.2	518.0	517.8	47.5°
160°	530.8	531.5	532.2	533.0	532.0	531.0	533.0	531.5	530.8	530.0	530.0	50°
162.5°	538.5	539.0	539.5	540.0	538.5	537.0	540.0	539.0	538.5	538.0	538.5	52.5°
165°	548.5	549.0	549.5	550.0	549.0	548.0	550.0	549.0	548.5	548.0	548.5	55°
167.5°	560.0	561.0	562.0	563.0	562.0	561.0	563.0	561.0	560.0	559.0	558.8	57.5°
170°	567.2	568.5	569.8	571.0	570.0	569.0	571.0	568.5	567.2	566.0	565.5	60°
172.5°	568.8	569.5	570.2	571.0	569.5	568.0	571.0	569.5	568.8	568.0	567.8	62.5°
175°	568.8	569.5	570.2	571.0	569.5	568.0	571.0	569.5	568.8	568.0	568.5	65°
177.5°	574.8	575.5	576.2	577.0	575.5	574.0	577.0	575.5	574.8	574.0	574.0	67.5°
180°	576.0	576.0	576.0	576.0	576.0	576.0	576.0	576.0	576.0	576.0	576.0	70°
												71°
												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

110°	112.5°	115°	117.5°	120°	122.5°	125°	127.5°	130°	135°	145°	110°	110°
342.3	342.3	342.3	342.3	342.3	342.3	342.3	342.3	342.3	342.3	342.3	110°	113.5
341.5	338.0	342.3	338.0	342.3	339.7	342.3	339.7	342.3	344.1	344.1	112.5°	135.5
339.7	333.6	341.5	337.1	342.3	338.0	341.5	338.8	343.2	345.0	346.7	115°	158.0
338.8	332.7	340.6	334.5	342.3	336.2	341.5	338.0	343.2	345.0	348.5	117.5°	180.5
338.0	330.1	340.6	331.8	341.5	335.3	341.5	336.2	342.3	344.1	345.0	120°	204.0
338.0	329.2	340.6	331.0	341.5	332.7	340.6	332.7	341.5	340.6	338.0	122.5°	228.5
338.8	327.5	340.6	329.2	340.6	330.1	339.7	329.2	338.0	335.3	333.6	125°	254.0
338.8	327.5	339.7	328.3	338.8	329.2	337.1	327.5	335.3	334.5	331.8	127.5°	277.5
340.6	329.2	339.7	331.8	339.7	330.1	336.2	327.5	333.6	328.3	317.8	130°	301.5
345.8	338.0	345.8	338.0	341.5	332.7	335.3	324.8	324.0	315.2	298.6	132.5°	325.5
358.1	354.6	352.8	343.2	340.6	329.2	325.7	313.4	309.1	295.9	273.2	135°	348.5
373.9	366.0	355.5	344.1	332.7	318.7	309.1	299.4	289.8	273.2	244.3	137.5°	369.5
384.4	373.0	351.1	335.3	314.3	302.9	286.3	275.8	261.8	240.8	212.8	140°	391.0
391.4	373.9	340.6	322.2	294.2	279.3	257.4	246.0	225.9	205.8	185.6	142.5°	412.5
393.1	370.4	326.6	306.4	269.7	253.0	224.1	211.9	192.6	178.6	170.7	145°	433.5
386.1	358.1	304.7	278.4	238.1	218.9	191.7	183.0	171.6	166.4	162.9	147.5°	452.5
372.1	334.5	270.5	239.9	198.7	183.9	169.9	169.9	163.7	161.1	155.0	150°	469.0
346.7	299.4	226.8	197.0	169.0	166.4	158.5	162.0	157.6	155.8	147.1	152.5°	486.0
307.3	249.5	183.0	165.5	152.3	154.1	148.8	152.3	149.7	148.8	138.3	155°	503.5
256.5	198.7	154.1	148.0	139.2	141.8	137.5	141.8	139.2	140.1	132.2	157.5°	517.5
204.9	161.1	136.6	133.1	127.0	128.7	126.1	130.5	129.6	133.1	128.7	160°	530.0
163.7	137.5	121.7	119.1	115.6	116.4	115.6	120.0	120.8	127.8	127.8	162.5°	539.0
135.7	118.2	109.4	108.6	105.1	105.9	106.8	111.2	114.7	123.5	127.8	165°	549.0
116.4	105.9	99.8	98.9	97.2	98.1	99.8	105.1	108.6	120.0	129.6	167.5°	558.5
102.4	96.3	91.9	91.9	90.2	91.9	93.7	98.9	103.3	116.4	126.1	170°	565.0
91.9	87.6	84.9	85.8	84.9	86.7	88.4	93.7	98.9	111.2	120.8	172.5°	567.5
82.3	79.7	77.9	78.8	78.8	81.4	83.2	88.4	92.8	104.2	116.4	175°	569.0
74.4	72.7	71.8	72.7	73.5	76.2	78.8	82.3	85.8	96.3	110.3	177.5°	574.0
68.3	66.5	66.5	66.5	67.4	70.0	73.5	75.3	78.8	90.2	103.3	180°	576.0
64.8	63.9	63.9	63.9	64.8	67.4	70.9	72.7	76.2	87.6	99.8		
60.4	60.4	61.3	60.4	62.2	63.0	66.5	68.3	72.7	84.1	95.4		
53.4	53.4	54.3	54.3	56.0	56.0	58.7	60.4	65.7	75.3	85.8		
47.3	47.3	49.0	48.2	48.2	46.4	49.9	51.7	56.0	65.7	76.2		
40.3	39.4	41.2	38.5	37.6	35.9	38.5	41.2	48.2	54.3	56.0		
31.5	28.9	29.8	27.1	27.1	25.4	28.0	28.9	33.3	39.4	42.9		
19.3	15.8	17.5	14.9	16.6	14.9	15.8	16.6	20.1	24.5	23.6		
4.4	2.6	3.5	0.9	2.6	0.0	2.6	0.9	2.6	0.9	0.0		
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		
6.0	6.5	7.0	8.5	10.0	11.5	13.0	12.0	11.0	9.0	4.0		
28.5	29.2	30.0	30.5	31.0	31.5	32.0	31.5	31.0	30.0	22.0		
49.0	49.5	50.0	50.2	50.5	50.8	51.0	50.8	50.5	50.0	45.0		
70.0	70.5	71.0	71.0	71.0	71.0	71.0	70.8	70.5	70.0	66.0		
91.5	91.8	92.0	92.2	92.5	92.8	93.0	92.5	92.0	91.0	88.0		

'227674
 ISS-AF-450-LED-E1-T3-7030-ULG

REPORT NUMBER: P227674
 CATALOG NUMBER: ISS-AF-450

TION (continued):

CANDELA DISTRIBUTION (con

112.5°	115°	117.5°	120°	122.5°	125°	127.5°	130°	135°	145°		155°	165°
113.8	114.0	114.0	114.0	114.0	114.0	113.5	113.0	112.0	110.0	0°	342.3	342.3
135.8	136.0	136.0	136.0	136.0	136.0	135.5	135.0	134.0	132.0	2.5°	345.8	345.0
158.0	158.0	158.0	158.0	158.0	158.0	157.5	157.0	156.0	154.0	5°	350.2	350.2
180.8	181.0	180.8	180.5	180.2	180.0	179.8	179.5	179.0	177.0	7.5°	351.1	352.8
204.0	204.0	204.0	204.0	204.0	204.0	203.5	203.0	202.0	201.0	10°	345.0	343.2
228.2	228.0	228.0	228.0	228.0	228.0	227.8	227.5	227.0	226.0	12.5°	335.3	333.6
254.0	254.0	253.8	253.5	253.2	253.0	252.8	252.5	252.0	251.0	15°	334.5	333.6
277.2	277.0	277.2	277.5	277.8	278.0	277.5	277.0	276.0	274.0	17.5°	328.3	324.0
301.2	301.0	301.0	301.0	301.0	301.0	300.5	300.0	299.0	298.0	20°	310.8	302.9
325.2	325.0	325.0	325.0	325.0	325.0	324.2	323.5	322.0	321.0	22.5°	286.3	274.9
348.2	348.0	348.0	348.0	348.0	348.0	347.2	346.5	345.0	345.0	25°	256.5	240.8
369.2	369.0	369.0	369.0	369.0	369.0	368.5	368.0	367.0	367.0	27.5°	224.1	208.4
390.5	390.0	390.0	390.0	390.0	390.0	389.8	389.5	389.0	388.0	30°	198.7	186.5
412.2	412.0	412.0	412.0	412.0	412.0	411.5	411.0	410.0	410.0	32.5°	180.4	173.4
433.2	433.0	433.2	433.5	433.8	434.0	433.5	433.0	432.0	431.0	35°	165.5	161.1
452.2	452.0	452.5	453.0	453.5	454.0	453.8	453.5	453.0	452.0	37.5°	155.8	148.8
469.0	469.0	469.5	470.0	470.5	471.0	470.8	470.5	470.0	469.0	40°	146.2	137.5
486.0	486.0	486.2	486.5	486.8	487.0	486.8	486.5	486.0	485.0	42.5°	137.5	128.7
503.2	503.0	503.2	503.5	503.8	504.0	503.8	503.5	503.0	503.0	45°	128.7	122.6
517.2	517.0	517.5	518.0	518.5	519.0	519.0	519.0	519.0	519.0	47.5°	124.3	119.1
530.0	530.0	530.5	531.0	531.5	532.0	532.0	532.0	532.0	532.0	50°	122.6	117.3
539.5	540.0	540.5	541.0	541.5	542.0	541.8	541.5	541.0	541.0	52.5°	124.3	120.0
549.5	550.0	550.8	551.5	552.2	553.0	552.8	552.5	552.0	552.0	55°	127.8	125.2
558.2	558.0	558.5	559.0	559.5	560.0	560.0	560.0	560.0	561.0	57.5°	124.3	120.0
564.5	564.0	564.2	564.5	564.8	565.0	565.2	565.5	566.0	567.0	60°	116.4	109.4
567.2	567.0	567.5	568.0	568.5	569.0	568.8	568.5	568.0	569.0	62.5°	111.2	104.2
569.5	570.0	570.8	571.5	572.2	573.0	572.8	572.5	572.0	572.0	65°	106.8	101.6
574.0	574.0	574.8	575.5	576.2	577.0	577.0	577.0	577.0	578.0	67.5°	102.4	97.2
576.0	576.0	576.0	576.0	576.0	576.0	576.0	576.0	576.0	576.0	70°	97.2	91.9
										71°	94.6	88.4
										72.5°	90.2	83.2
										75°	81.4	74.4
										77.5°	67.4	59.5
										80°	51.7	46.4
										82.5°	38.5	34.1
										85°	20.1	15.8
										87.5°	0.0	0.0
										90°	0.0	0.0
										92.5°	0.0	0.0
										95°	1.0	1.0
										97.5°	3.0	2.0
										100°	14.0	10.0
										102.5°	38.0	32.0
										105°	61.0	56.0
										107.5°	84.0	80.0



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tinued):

175°	180°
342.3	342.3
345.8	345.0
351.1	352.0
354.6	353.7
345.0	343.2
335.3	335.3
334.5	334.5
322.2	321.3
301.2	298.6
271.4	268.8
234.6	231.1
202.3	202.3
180.4	180.4
169.0	169.9
158.5	159.4
142.7	142.7
129.6	129.6
123.5	122.6
118.2	117.3
114.7	113.8
111.2	111.2
108.6	108.6
108.6	106.8
109.4	106.8
107.7	105.9
107.7	106.8
109.4	107.7
109.4	105.9
99.8	93.7
94.6	89.3
84.9	81.4
72.7	71.8
56.9	56.0
46.4	43.8
33.3	28.9
13.1	13.1
0.0	0.0
0.0	0.0
0.0	0.0
1.0	1.0
2.0	2.0
8.0	8.0
28.0	28.0
54.0	54.0
77.0	78.0

CANDELA DISTRIBUTION (continued):

	155°	165°	175°
110°	106.0	103.0	102.0
112.5°	129.0	126.0	124.0
115°	151.0	149.0	147.0
117.5°	174.0	172.0	170.0
120°	198.0	196.0	195.0
122.5°	223.0	221.0	220.0
125°	248.0	247.0	246.0
127.5°	272.0	270.0	269.0
130°	294.0	293.0	292.0
132.5°	318.0	317.0	314.0
135°	341.0	339.0	337.0
137.5°	364.0	363.0	360.0
140°	386.0	385.0	383.0
142.5°	407.0	408.0	406.0
145°	428.0	428.0	426.0
147.5°	448.0	447.0	444.0
150°	465.0	464.0	462.0
152.5°	482.0	483.0	480.0
155°	501.0	502.0	500.0
157.5°	516.0	517.0	515.0
160°	529.0	529.0	527.0
162.5°	538.0	539.0	536.0
165°	548.0	549.0	547.0
167.5°	558.0	559.0	556.0
170°	565.0	566.0	563.0
172.5°	567.0	569.0	566.0
175°	569.0	570.0	569.0
177.5°	574.0	575.0	573.0
180°	576.0	576.0	576.0



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<u>180°</u>
101.0
124.0
146.0
169.0
193.0
219.0
244.0
267.0
290.0
313.0
336.0
359.0
382.0
404.0
425.0
444.0
461.0
479.0
499.0
513.0
525.0
535.0
546.0
555.0
562.0
565.0
567.0
572.0
576.0

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