

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: P228194

Luminaire Tested: **ISS-AF-450-LED-E1-SL3-7030-ULG**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P228194
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P29762)-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-SL3-7030-ULG
Description: IMPACT ELITE LED QUATER SPHERE LUMINAIRE WITH UPLIGHT
LIGHT SQUARE WITH ACCULED OPTICS-TYPE III W/SPILL CONTROL, WITH UPLIGHT
GLOW
Light Source: (16) 3000K CCT, 70 CRI LEDs and (1) UPLIGHT LED
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3893.2 lumens
Efficiency: N/A
Efficacy: 92.7 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: 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

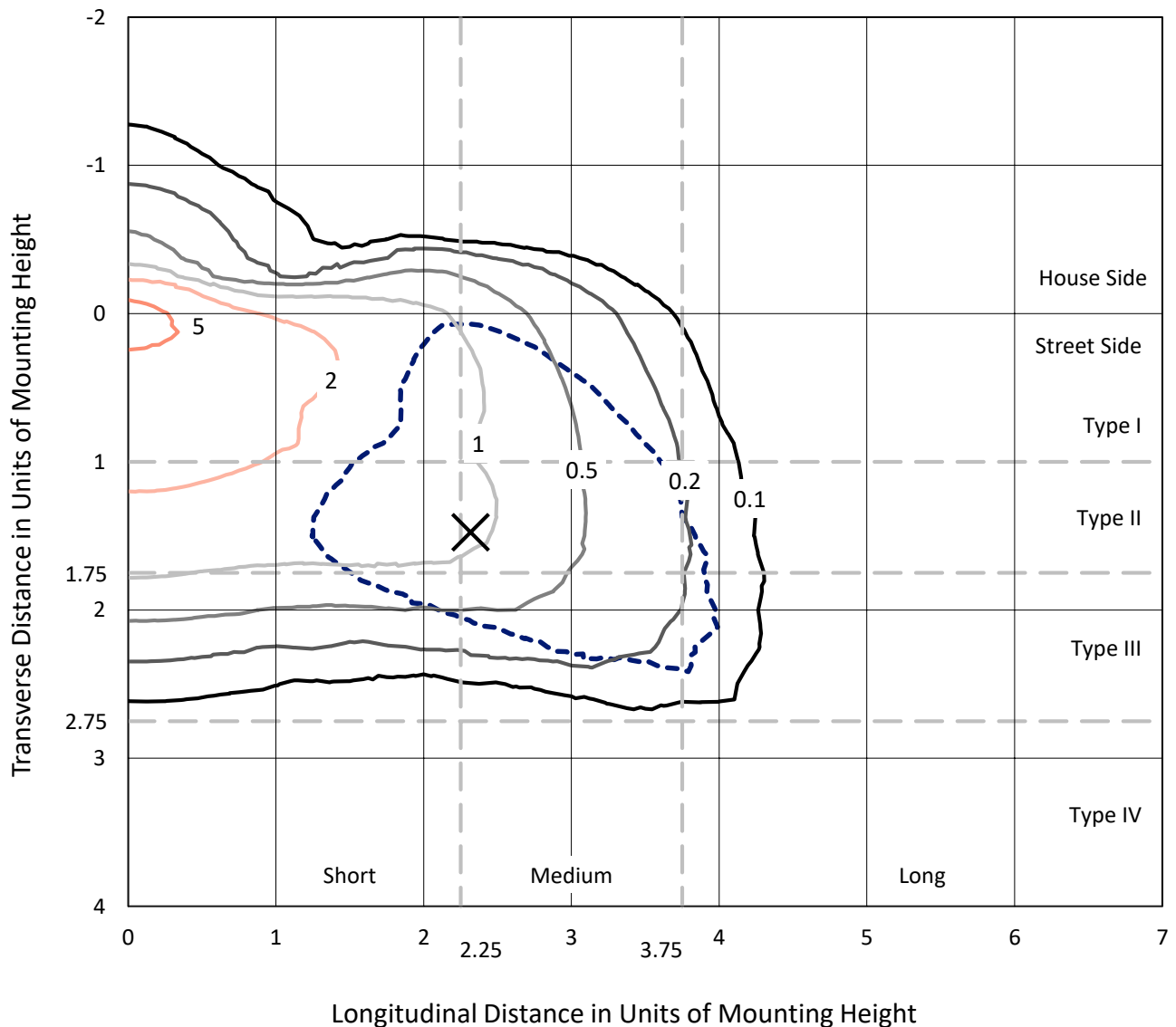


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Iso-Footcandle Lines of Horizontal Illumination

✕ Max cd
 - - - 1/2 Max cd

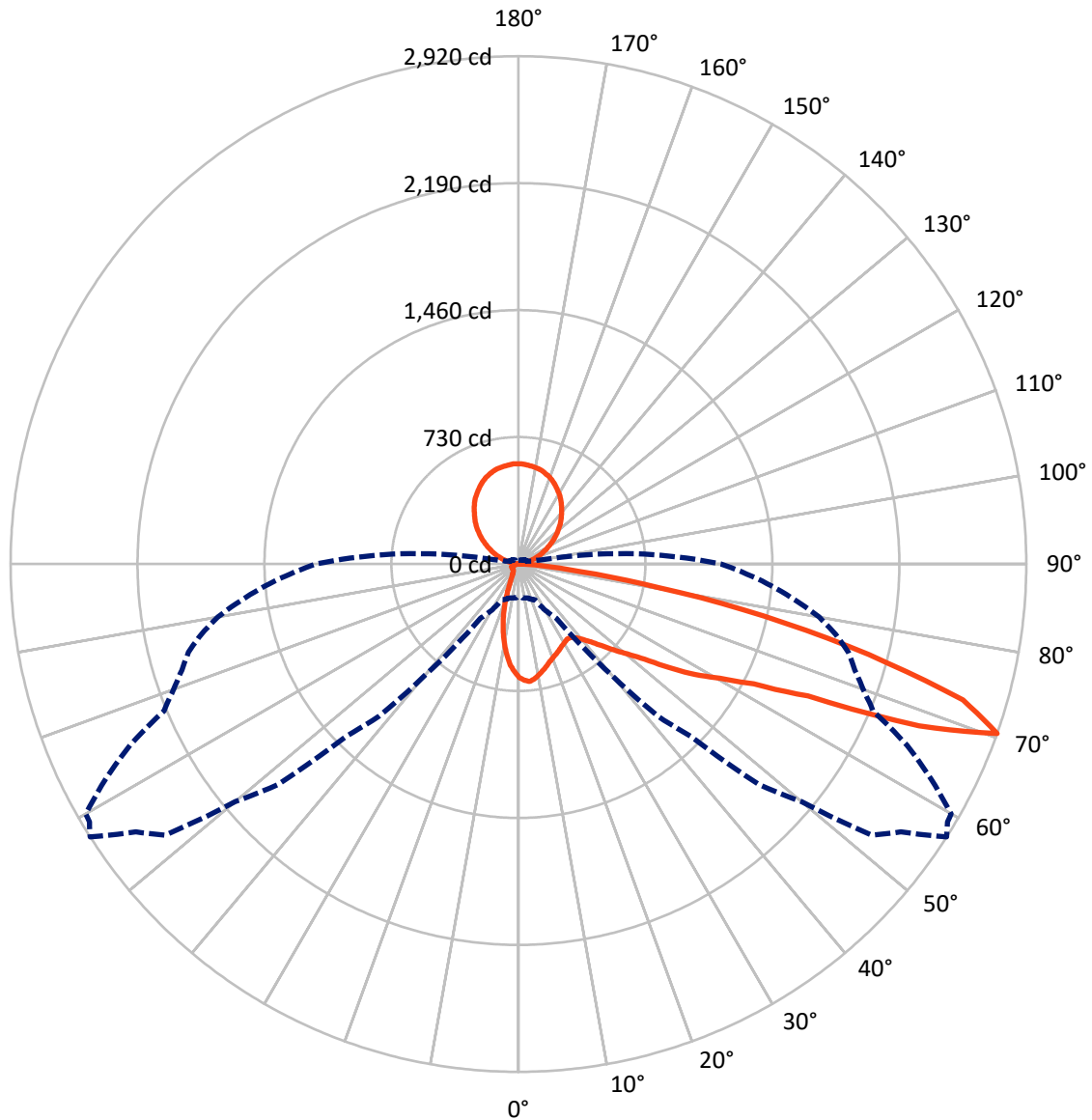


Based on 10 foot mounting height. Maximum calculated value = 6.5 fc
 Type III - Medium - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 57.5-Deg Lateral - - - Horizontal Cone Through 70-Deg Vertical

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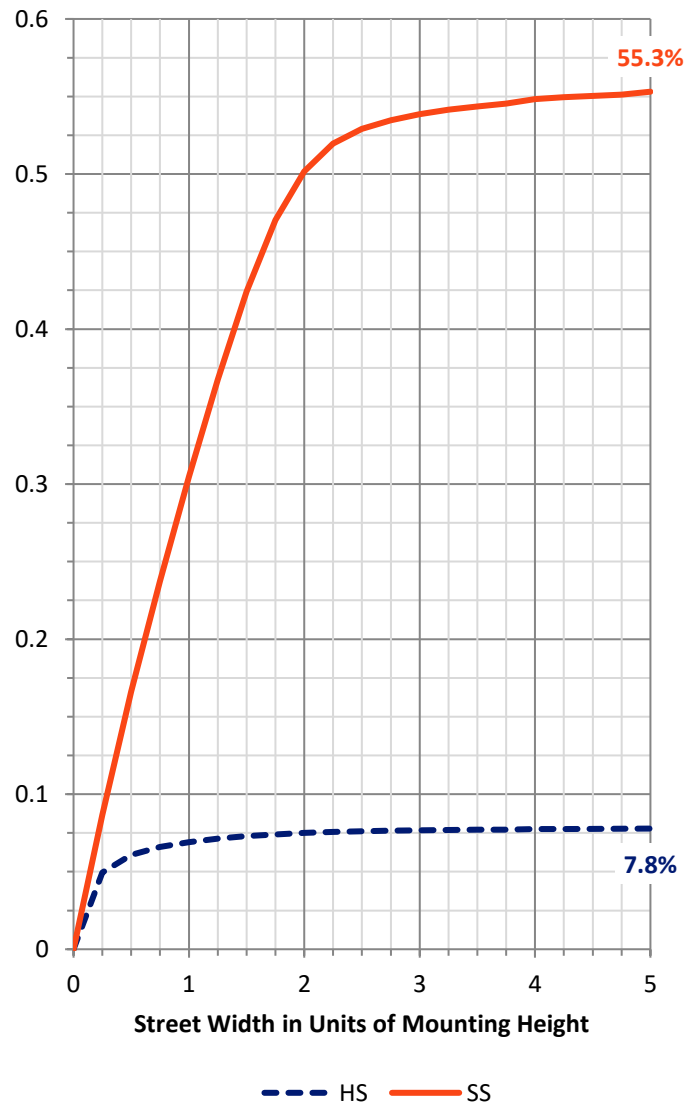
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	305.3	713.1	1018.4
	% Fixture	7.8	18.3	26.2
Street Side	Lumens	2161.7	713.1	2874.8
	% Fixture	55.5	18.3	73.8
Total	Lumens	2467.0	1426.2	3893.2
	% Fixture	63.4	36.6	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	56.4	1.4
10°-20°	122.4	3.1
20°-30°	153.8	4.0
30°-40°	201.0	5.2
40°-50°	301.6	7.7
50°-60°	476.8	12.2
60°-70°	687.3	17.7
70°-80°	425.4	10.9
80°-90°	42.2	1.1
90°-100°	4.7	0.1
100°-110°	69.0	1.8
110°-120°	153.0	3.9
120°-130°	223.9	5.7
130°-140°	265.6	6.8
140°-150°	269.3	6.9
150°-160°	231.1	5.9
160°-170°	155.1	4.0
170°-180°	54.3	1.4
0°-90°	2467.0	63.4
0°-180°	3893.2	100.0



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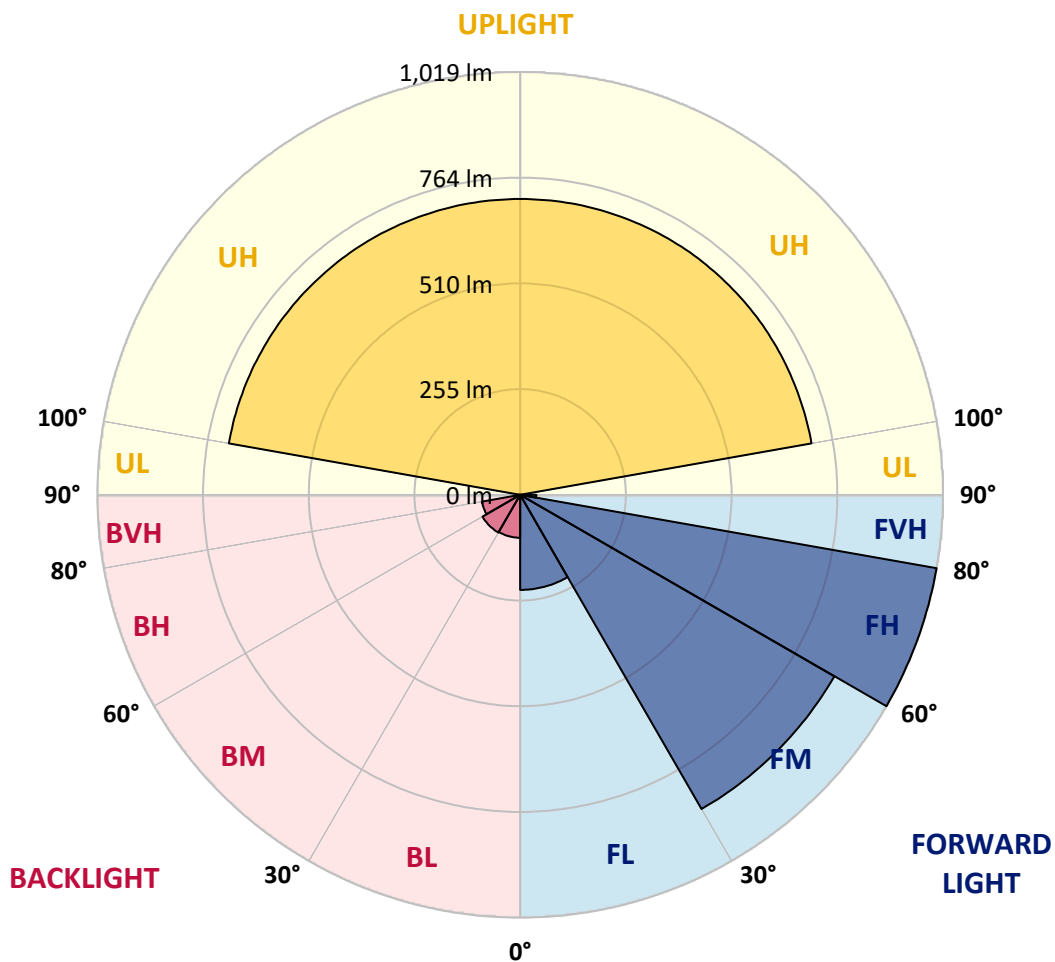
CATALOG NUMBER: ISS-AF-450-LED-E1-SL3-7030-ULG

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	229.1	5.9			
FM	(30°-60°)	874.5	22.5			
FH	(60°-80°)	1019.3	26.2			G1/1800
FVH	(80°-90°)	38.8	1.0			G1/100
BL	(0°-30°)	103.5	2.7	B0/110		
BM	(30°-60°)	105.0	2.7	B0/220		
BH	(60°-80°)	93.4	2.4	B0/110		G0/110
BVH	(80°-90°)	3.4	0.1			G0/10
UL	(90°-100°)	4.7	0.1		U1/10	
UH	(100°-180°)	713.1	18.3		U4/1000	

BUG Rating: B0-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°	653.0	653.0	653.0	653.0	653.0	653.0	653.0	653.0	653.0	653.0	653.0
2.5°	685.4	684.5	682.7	679.2	677.5	679.2	677.5	674.9	671.4	674.0	672.2
5°	683.6	685.4	681.9	679.2	683.6	685.4	681.9	681.9	678.4	681.9	680.1
7.5°	649.5	650.3	651.2	650.3	661.7	661.7	660.0	661.7	662.6	664.4	665.2
10°	606.6	607.5	609.2	611.8	625.8	627.6	628.5	630.2	632.8	634.6	639.8
12.5°	563.7	565.4	568.9	577.7	592.6	594.3	597.0	599.6	604.0	606.6	616.2
15°	527.8	528.7	532.2	541.8	563.7	568.1	569.8	573.3	582.1	582.1	592.6
17.5°	494.5	496.3	498.9	510.3	532.2	539.2	544.4	546.2	557.6	560.2	572.4
20°	469.2	470.0	470.9	481.4	501.5	512.0	516.4	523.4	532.2	539.2	549.7
22.5°	455.2	456.0	454.3	458.7	476.2	489.3	494.5	501.5	505.0	517.3	523.4
25°	456.0	456.9	452.5	449.9	458.7	472.7	477.0	484.0	482.3	499.8	499.8
27.5°	464.8	466.5	462.2	454.3	455.2	466.5	469.2	471.8	466.5	484.0	480.5
30°	482.3	484.0	478.8	472.7	463.0	470.0	470.0	470.0	460.4	475.3	469.2
32.5°	500.7	502.4	500.7	496.3	484.0	485.8	482.3	480.5	467.4	479.7	470.0
35°	527.8	528.7	529.6	529.6	512.0	515.6	505.9	500.7	488.4	498.0	484.9
37.5°	560.2	560.2	566.3	568.9	549.7	549.7	539.2	532.2	520.8	524.3	511.2
40°	589.1	591.7	605.7	613.6	596.1	589.1	580.3	574.2	565.4	565.4	552.3
42.5°	622.3	627.6	644.2	659.1	649.5	639.0	630.2	624.1	619.7	618.8	604.8
45°	663.5	669.6	688.0	702.0	704.6	696.7	689.7	683.6	680.1	678.4	666.1
47.5°	709.9	716.0	732.6	749.3	761.5	759.8	751.9	745.8	748.4	746.6	738.8
50°	761.5	765.0	775.5	794.8	822.8	828.9	827.2	822.8	828.0	828.0	821.0
52.5°	802.6	805.3	813.2	835.9	882.3	896.3	907.7	916.4	925.2	930.4	926.1
55°	840.3	840.3	841.2	870.0	939.2	962.0	987.3	1005.7	1017.1	1038.1	1046.9
57.5°	901.6	897.2	896.3	926.9	1007.5	1031.1	1067.9	1094.1	1109.9	1152.8	1151.9
60°	884.1	885.8	917.3	1007.5	1147.5	1168.5	1201.8	1229.8	1259.6	1291.1	1293.7
62.5°	762.4	766.8	814.0	948.8	1236.8	1346.2	1448.6	1526.5	1570.3	1598.3	1559.8
65°	533.9	544.4	608.3	772.9	1138.8	1307.7	1469.6	1649.9	1788.2	2002.7	2064.8
67.5°	266.1	274.0	284.5	405.3	850.8	1088.0	1311.2	1557.2	1741.0	2056.1	2232.0
70°	190.8	194.3	202.2	227.6	380.8	569.8	832.4	1184.3	1400.5	1875.8	2124.4
72.5°	147.9	151.4	161.9	197.8	252.1	278.3	330.9	540.9	804.4	1295.4	1631.6
75°	114.7	119.9	134.8	178.6	242.5	257.3	260.0	279.2	318.6	575.1	914.7
77.5°	80.5	81.4	96.3	154.1	235.5	264.3	260.0	260.0	265.2	293.2	391.3
80°	53.4	54.3	63.9	106.8	206.6	240.7	266.1	253.8	254.7	259.1	266.1
82.5°	28.0	29.8	37.6	64.8	120.8	162.8	221.5	231.1	227.6	232.0	230.2
85°	7.9	7.9	13.1	24.5	59.5	63.0	98.0	133.9	136.5	154.9	165.4
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6	3.5	7.9	8.8
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
110°	101.0	102.0	103.0	106.0	110.0	110.5	111.0	111.5	112.0	112.5	113.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	15°	25°	35°	37.5°	40°	42.5°	45°	47.5°	50°
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°	57.5°	59°	60°	62.5°	65°	67.5°	70°	72.5°	75°
0°	653.0	653.0	653.0	653.0	653.0	653.0	653.0	653.0	653.0	653.0	653.0
2.5°	674.0	670.5	669.6	667.9	668.7	666.1	665.2	661.7	661.7	660.0	658.2
5°	678.4	674.9	678.4	672.2	673.1	670.5	666.1	666.1	662.6	660.0	654.7
7.5°	666.1	666.1	667.0	663.5	664.4	663.5	658.2	657.3	652.1	652.1	646.0
10°	643.3	643.3	646.8	644.2	645.1	644.2	641.6	640.7	639.0	639.0	629.3
12.5°	617.1	622.3	627.6	625.0	625.0	626.7	626.7	627.6	626.7	625.8	618.0
15°	595.2	603.1	608.3	607.5	608.3	612.7	614.5	615.3	618.0	617.1	610.1
17.5°	575.1	583.8	588.2	591.7	594.3	597.8	603.1	605.7	609.2	608.3	601.3
20°	556.7	564.6	572.4	576.8	577.7	584.7	590.8	598.7	600.5	602.2	593.5
22.5°	537.4	544.4	560.2	557.6	563.7	576.8	580.3	591.7	591.7	597.8	585.6
25°	520.8	521.7	546.2	541.8	547.1	570.7	573.3	593.5	588.2	597.0	582.9
27.5°	504.2	503.3	533.1	527.8	533.9	566.3	568.1	596.1	590.8	601.3	582.9
30°	491.9	489.3	523.4	512.9	521.7	561.9	562.8	598.7	594.3	608.3	589.1
32.5°	489.3	484.9	514.7	506.8	515.6	557.6	562.8	608.3	603.1	620.6	596.1
35°	500.7	493.7	519.1	512.0	519.1	559.3	567.2	623.2	617.1	637.2	612.7
37.5°	521.7	516.4	537.4	530.4	535.7	571.6	578.6	642.5	641.6	666.1	638.1
40°	558.4	553.2	569.8	560.2	564.6	597.8	601.3	669.6	672.2	702.0	674.0
42.5°	608.3	599.6	612.7	601.3	607.5	637.2	633.7	702.9	710.7	751.9	719.5
45°	672.2	660.9	668.7	656.5	660.9	686.2	676.6	747.5	755.4	806.2	777.3
47.5°	742.3	728.2	737.9	722.1	724.7	751.9	734.4	800.9	813.2	877.0	849.0
50°	826.3	807.9	811.4	796.5	798.3	825.4	806.2	866.5	881.4	952.3	927.8
52.5°	933.9	907.7	907.7	887.6	888.4	915.6	891.9	944.4	961.1	1032.9	1016.2
55°	1075.7	1054.7	1050.4	1029.4	1022.3	1027.6	994.3	1031.1	1049.5	1116.9	1103.8
57.5°	1188.7	1186.0	1199.2	1169.4	1162.4	1164.1	1122.1	1124.8	1145.8	1198.3	1202.7
60°	1326.1	1330.5	1332.2	1307.7	1305.1	1280.6	1237.7	1230.7	1256.9	1292.8	1306.8
62.5°	1544.9	1540.5	1518.6	1500.3	1483.6	1418.0	1394.4	1355.8	1392.6	1412.7	1441.6
65°	2014.9	1969.4	1829.4	1841.6	1797.9	1655.2	1635.1	1557.2	1614.9	1615.8	1670.1
67.5°	2480.6	2569.9	2484.1	2485.8	2386.9	2128.7	2066.6	1911.7	1944.0	1906.4	1934.4
70°	2560.2	2685.4	2920.0	2878.0	2872.7	2674.0	2464.8	2206.6	2109.5	2028.9	1964.2
72.5°	2203.1	2328.3	2672.3	2576.9	2612.8	2673.2	2455.2	2261.8	2044.7	1942.3	1802.2
75°	1550.2	1730.5	2079.7	2029.8	2056.1	2155.9	1968.5	1945.8	1694.6	1626.3	1411.0
77.5°	830.7	1053.9	1445.1	1383.8	1395.2	1452.1	1256.9	1216.7	974.2	906.8	662.6
80°	373.8	518.2	811.4	743.1	723.0	690.6	508.5	400.9	245.1	162.8	112.9
82.5°	247.7	257.3	359.7	311.6	291.5	240.7	155.8	91.9	72.6	61.3	58.6
85°	166.3	152.3	151.4	133.9	124.3	98.0	72.6	45.5	37.6	31.5	28.9
87.5°	9.6	6.1	8.8	9.6	7.0	6.1	4.4	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°	12.0	13.0	11.5	10.6	10.0	8.5	7.0	6.5	6.0	5.5	5.0
100°	31.5	32.0	31.5	31.2	31.0	30.5	30.0	29.2	28.5	27.8	27.0
102.5°	50.8	51.0	50.8	50.6	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	92.6	92.5	92.2	92.0	91.8	91.5	91.2	91.0
110°	113.5	114.0	114.0	114.0	114.0	114.0	114.0	113.8	113.5	113.2	113.0



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CATALOG NUMBER: ISS-AF-450-LED-E1-SL3-7030-ULG

CANDELA DISTRIBUTION (continued):

	52.5°	55°	57.5°	59°	60°	62.5°	65°	67.5°	70°	72.5°	75°
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	180.4	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	253.4	253.5	253.8	254.0	254.0	254.0	254.0	254.0
127.5°	277.5	278.0	277.8	277.6	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	433.6	433.5	433.2	433.0	433.2	433.5	433.8	434.0
147.5°	453.8	454.0	453.5	453.2	453.0	452.5	452.0	452.2	452.5	452.8	453.0
150°	470.8	471.0	470.5	470.2	470.0	469.5	469.0	469.0	469.0	469.0	469.0
152.5°	486.8	487.0	486.8	486.6	486.5	486.2	486.0	486.0	486.0	486.0	486.0
155°	503.8	504.0	503.8	503.6	503.5	503.2	503.0	503.2	503.5	503.8	504.0
157.5°	519.0	519.0	518.5	518.2	518.0	517.5	517.0	517.2	517.5	517.8	518.0
160°	532.0	532.0	531.5	531.2	531.0	530.5	530.0	530.0	530.0	530.0	530.0
162.5°	541.8	542.0	541.5	541.2	541.0	540.5	540.0	539.5	539.0	538.5	538.0
165°	552.8	553.0	552.2	551.8	551.5	550.8	550.0	549.5	549.0	548.5	548.0
167.5°	560.0	560.0	559.5	559.2	559.0	558.5	558.0	558.2	558.5	558.8	559.0
170°	565.2	565.0	564.8	564.6	564.5	564.2	564.0	564.5	565.0	565.5	566.0
172.5°	568.8	569.0	568.5	568.2	568.0	567.5	567.0	567.2	567.5	567.8	568.0
175°	572.8	573.0	572.2	571.8	571.5	570.8	570.0	569.5	569.0	568.5	568.0
177.5°	577.0	577.0	576.2	575.8	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-SL3-7030-ULG

CANDELA DISTRIBUTION (continued):

	77.5°	80°	85°	90°	95°	100°	102.5°	105°	107.5°	110°	112.5°
0°	653.0	653.0	653.0	653.0	653.0	653.0	653.0	653.0	653.0	653.0	653.0
2.5°	653.8	653.8	653.0	646.8	643.3	641.6	635.5	634.6	632.0	631.1	631.1
5°	653.0	649.5	645.1	636.3	627.6	619.7	617.1	611.0	606.6	601.3	601.3
7.5°	640.7	637.2	627.6	614.5	603.1	591.7	585.6	576.8	569.8	562.8	561.1
10°	626.7	621.5	608.3	590.8	575.9	555.8	547.9	536.6	528.7	518.2	507.7
12.5°	611.8	608.3	592.6	572.4	549.7	524.3	512.0	496.3	485.8	473.5	457.8
15°	605.7	598.7	578.6	553.2	525.2	494.5	477.0	460.4	444.7	430.6	409.6
17.5°	597.8	589.1	566.3	536.6	501.5	464.8	442.0	423.6	402.6	387.8	364.1
20°	589.1	575.9	551.4	515.6	476.2	432.4	403.5	385.1	357.1	342.2	314.2
22.5°	582.1	565.4	535.7	495.4	448.2	399.1	365.0	344.0	312.5	295.0	260.0
25°	580.3	560.2	524.3	478.8	424.5	366.8	325.6	304.6	265.2	245.1	203.9
27.5°	581.2	557.6	517.3	464.8	403.5	337.9	288.8	264.3	214.4	193.4	146.2
30°	582.1	558.4	510.3	452.5	384.3	308.1	250.3	221.5	161.9	143.5	101.5
32.5°	590.8	561.9	508.5	442.9	366.8	278.3	206.6	180.3	114.7	104.2	75.3
35°	601.3	573.3	512.0	441.2	353.6	248.6	161.9	134.8	82.3	79.7	61.3
37.5°	623.2	590.8	526.1	445.5	345.7	217.9	120.8	103.3	64.8	66.5	53.4
40°	656.5	620.6	548.8	458.7	344.9	187.3	89.3	80.5	56.0	57.8	49.0
42.5°	701.1	661.7	583.8	486.7	349.2	158.4	71.8	69.1	51.6	53.4	47.3
45°	759.8	719.5	632.8	522.6	361.5	134.8	63.0	63.0	49.9	51.6	46.4
47.5°	834.2	789.5	693.2	570.7	380.8	121.7	59.5	60.4	49.0	51.6	46.4
50°	918.2	869.2	770.3	632.8	410.5	118.2	60.4	60.4	49.9	51.6	46.4
52.5°	1005.7	960.2	853.4	703.7	451.7	126.0	62.1	61.3	49.9	51.6	45.5
55°	1095.0	1053.9	945.3	786.9	508.5	154.1	66.5	63.9	49.9	51.6	46.4
57.5°	1184.3	1155.4	1041.6	876.2	579.4	204.8	84.0	74.4	55.1	56.0	47.3
60°	1284.9	1263.9	1150.1	993.5	680.1	283.6	123.4	93.7	65.6	62.1	50.8
62.5°	1415.4	1410.1	1320.0	1162.4	842.0	397.4	175.1	113.8	70.9	64.8	54.3
65°	1645.6	1659.6	1573.8	1360.2	949.7	400.0	170.7	99.8	66.5	61.3	53.4
67.5°	1876.6	1835.5	1614.9	1330.5	856.9	266.1	108.5	77.9	58.6	56.9	49.9
70°	1867.9	1755.8	1464.4	1163.3	676.6	144.4	78.8	64.8	52.5	52.5	47.3
72.5°	1675.3	1509.0	1197.4	920.8	451.7	91.9	66.5	56.9	48.1	47.3	43.8
75°	1261.3	1065.2	769.4	530.4	201.3	59.5	50.8	46.4	42.0	42.0	38.5
77.5°	593.5	334.4	185.6	123.4	67.4	40.3	35.0	35.0	34.1	35.0	31.5
80°	80.5	72.6	62.1	54.3	41.1	28.0	25.4	26.3	25.4	26.3	23.6
82.5°	49.0	43.8	35.9	34.1	25.4	19.3	18.4	19.3	17.5	18.4	14.0
85°	23.6	21.0	16.6	15.8	13.1	11.4	9.6	11.4	8.8	9.6	6.1
87.5°	0.0	1.8	0.9	1.8	1.8	1.8	0.0	1.8	0.0	1.8	0.0
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	4.0	4.0	4.0	4.5	4.8	5.0	5.5	6.0	6.5
100°	26.8	26.5	26.0	25.0	26.0	26.5	26.8	27.0	27.8	28.5	29.2
102.5°	48.2	48.5	49.0	48.0	49.0	48.5	48.2	48.0	48.5	49.0	49.5
105°	69.5	70.0	71.0	69.0	71.0	70.0	69.5	69.0	69.5	70.0	70.5
107.5°	91.2	91.5	92.0	91.0	92.0	91.5	91.2	91.0	91.2	91.5	91.8
110°	113.2	113.5	114.0	113.0	114.0	113.5	113.2	113.0	113.2	113.5	113.8



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REPORT N
 CATALOG

CANDELA DISTRIBUTION (continued):

CANDELA

	77.5°	80°	85°	90°	95°	100°	102.5°	105°	107.5°	110°	112.5°	
112.5°	135.5	136.0	137.0	135.0	137.0	136.0	135.5	135.0	135.2	135.5	135.8	0°
115°	158.5	159.0	160.0	159.0	160.0	159.0	158.5	158.0	158.0	158.0	158.0	2.5°
117.5°	180.5	181.0	182.0	180.0	182.0	181.0	180.5	180.0	180.2	180.5	180.8	5°
120°	204.5	205.0	206.0	204.0	206.0	205.0	204.5	204.0	204.0	204.0	204.0	7.5°
122.5°	230.0	231.0	233.0	232.0	233.0	231.0	230.0	229.0	228.8	228.5	228.2	10°
125°	254.8	255.5	257.0	256.0	257.0	255.5	254.8	254.0	254.0	254.0	254.0	12.5°
127.5°	278.8	279.5	281.0	278.0	281.0	279.5	278.8	278.0	277.8	277.5	277.2	15°
130°	302.8	303.5	305.0	303.0	305.0	303.5	302.8	302.0	301.8	301.5	301.2	17.5°
132.5°	326.8	327.5	329.0	327.0	329.0	327.5	326.8	326.0	325.8	325.5	325.2	20°
135°	349.5	350.0	351.0	350.0	351.0	350.0	349.5	349.0	348.8	348.5	348.2	22.5°
137.5°	371.0	372.0	374.0	372.0	374.0	372.0	371.0	370.0	369.8	369.5	369.2	25°
140°	393.0	394.0	396.0	394.0	396.0	394.0	393.0	392.0	391.5	391.0	390.5	27.5°
142.5°	413.8	414.5	416.0	415.0	416.0	414.5	413.8	413.0	412.8	412.5	412.2	30°
145°	434.8	435.5	437.0	435.0	437.0	435.5	434.8	434.0	433.8	433.5	433.2	32.5°
147.5°	453.8	454.5	456.0	453.0	456.0	454.5	453.8	453.0	452.8	452.5	452.2	35°
150°	470.0	471.0	473.0	470.0	473.0	471.0	470.0	469.0	469.0	469.0	469.0	37.5°
152.5°	486.8	487.5	489.0	486.0	489.0	487.5	486.8	486.0	486.0	486.0	486.0	40°
155°	504.8	505.5	507.0	505.0	507.0	505.5	504.8	504.0	503.8	503.5	503.2	42.5°
157.5°	519.2	520.5	523.0	520.0	523.0	520.5	519.2	518.0	517.8	517.5	517.2	45°
160°	530.8	531.5	533.0	531.0	533.0	531.5	530.8	530.0	530.0	530.0	530.0	47.5°
162.5°	538.5	539.0	540.0	537.0	540.0	539.0	538.5	538.0	538.5	539.0	539.5	50°
165°	548.5	549.0	550.0	548.0	550.0	549.0	548.5	548.0	548.5	549.0	549.5	52.5°
167.5°	560.0	561.0	563.0	561.0	563.0	561.0	560.0	559.0	558.8	558.5	558.2	55°
170°	567.2	568.5	571.0	569.0	571.0	568.5	567.2	566.0	565.5	565.0	564.5	57.5°
172.5°	568.8	569.5	571.0	568.0	571.0	569.5	568.8	568.0	567.8	567.5	567.2	60°
175°	568.8	569.5	571.0	568.0	571.0	569.5	568.8	568.0	568.5	569.0	569.5	62.5°
177.5°	574.8	575.5	577.0	574.0	577.0	575.5	574.8	574.0	574.0	574.0	574.0	65°
180°	576.0	576.0	576.0	576.0	576.0	576.0	576.0	576.0	576.0	576.0	576.0	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°
												110°



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REPORT NUMBER: P
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DISTRIBUTION (continued):

CANDELA DISTRIBUTION

115°	117.5°	120°	122.5°	125°	127.5°	130°	135°	145°	155°	165°	115°	115°
653.0	653.0	653.0	653.0	653.0	653.0	653.0	653.0	653.0	653.0	653.0	112.5°	136.0
626.7	624.1	623.2	619.7	618.8	615.3	614.5	611.0	604.8	602.2	597.8	115°	158.0
593.5	589.1	585.6	583.8	576.8	573.3	568.1	561.1	547.9	541.8	531.3	117.5°	181.0
547.1	546.2	535.7	532.2	523.4	517.3	509.4	498.0	478.8	467.4	450.8	120°	204.0
496.3	492.8	480.5	473.5	462.2	453.4	442.9	426.3	396.5	372.9	347.5	122.5°	228.0
449.0	438.5	424.5	414.0	400.0	387.8	375.5	350.1	302.9	264.3	229.3	125°	254.0
400.0	384.3	369.4	351.9	337.0	317.7	303.7	270.5	208.3	161.1	139.2	127.5°	277.0
350.1	328.2	311.6	288.0	271.3	245.1	230.2	189.9	136.5	115.5	108.5	130°	301.0
297.6	268.7	250.3	221.5	204.8	171.6	160.2	131.3	105.0	97.2	95.4	132.5°	325.0
241.6	206.6	186.4	154.9	143.5	123.4	114.7	100.7	88.4	84.9	86.7	135°	348.0
182.9	145.3	132.2	109.4	105.0	94.5	91.0	84.0	77.9	77.9	80.5	137.5°	369.0
130.4	101.5	98.0	84.0	83.2	77.9	75.3	71.8	70.0	71.8	75.3	140°	390.0
95.4	77.0	77.0	69.1	69.1	65.6	64.8	63.0	63.0	66.5	70.0	142.5°	412.0
75.3	63.0	64.8	58.6	59.5	56.9	57.8	56.9	57.8	60.4	63.0	145°	433.0
63.0	54.3	56.9	51.6	53.4	50.8	52.5	52.5	54.3	55.1	56.0	147.5°	452.0
56.0	49.9	51.6	48.1	49.9	47.3	49.9	49.9	50.8	50.8	50.8	150°	469.0
51.6	46.4	49.0	45.5	48.1	45.5	48.1	48.1	47.3	46.4	47.3	152.5°	486.0
49.0	45.5	48.1	44.6	47.3	44.6	46.4	45.5	43.8	43.8	43.8	155°	503.0
48.1	44.6	46.4	43.8	45.5	42.9	44.6	43.8	41.1	40.3	42.0	157.5°	517.0
48.1	43.8	46.4	42.9	44.6	42.0	43.8	41.1	38.5	38.5	41.1	160°	530.0
48.1	43.8	46.4	42.9	44.6	41.1	42.0	39.4	35.9	36.8	40.3	162.5°	540.0
49.0	45.5	47.3	43.8	44.6	39.4	41.1	37.6	35.0	35.9	38.5	165°	550.0
49.9	45.5	47.3	42.0	42.9	39.4	39.4	37.6	35.0	35.0	37.6	167.5°	558.0
49.9	44.6	45.5	41.1	42.0	37.6	38.5	36.8	34.1	33.3	35.0	170°	564.0
51.6	46.4	46.4	40.3	41.1	36.8	37.6	35.9	33.3	31.5	32.4	172.5°	567.0
53.4	47.3	48.1	42.0	42.0	37.6	38.5	35.0	31.5	29.8	30.6	175°	570.0
53.4	47.3	48.1	42.9	42.9	38.5	38.5	35.0	29.8	28.0	28.0	177.5°	574.0
50.8	46.4	47.3	42.9	42.9	38.5	38.5	34.1	28.9	26.3	25.4	180°	576.0
49.0	44.6	45.5	40.3	41.1	36.8	37.6	35.9	33.3	31.5	32.4		
44.6	41.1	41.1	37.6	36.8	32.4	32.4	29.8	25.4	21.9	20.1		
38.5	35.0	34.1	30.6	30.6	28.0	27.1	24.5	21.0	18.4	17.5		
31.5	27.1	27.1	22.8	22.8	20.1	21.0	18.4	15.8	14.9	14.0		
22.8	18.4	18.4	14.9	14.9	12.3	13.1	12.3	11.4	11.4	10.5		
14.0	9.6	10.5	7.9	9.6	7.0	7.9	7.0	7.0	6.1	6.1		
7.0	3.5	5.3	2.6	4.4	0.9	2.6	1.8	1.8	1.8	1.8		
0.9	0.0	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	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		
7.0	8.5	10.0	11.5	13.0	12.0	11.0	9.0	4.0	3.0	2.0		
30.0	30.5	31.0	31.5	32.0	31.5	31.0	30.0	22.0	14.0	10.0		
50.0	50.2	50.5	50.8	51.0	50.8	50.5	50.0	45.0	38.0	32.0		
71.0	71.0	71.0	71.0	71.0	70.8	70.5	70.0	66.0	61.0	56.0		
92.0	92.2	92.5	92.8	93.0	92.5	92.0	91.0	88.0	84.0	80.0		
114.0	114.0	114.0	114.0	114.0	113.5	113.0	112.0	110.0	106.0	103.0		

'228194
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REPORT NUMBER: P228194
 CATALOG NUMBER: ISS-AF-450

TION (continued):

CANDELA DISTRIBUTION (con

117.5°	120°	122.5°	125°	127.5°	130°	135°	145°	155°	165°		175°	180°
136.0	136.0	136.0	136.0	135.5	135.0	134.0	132.0	129.0	126.0	0°	653.0	653.0
158.0	158.0	158.0	158.0	157.5	157.0	156.0	154.0	151.0	149.0	2.5°	593.5	596.1
180.8	180.5	180.2	180.0	179.8	179.5	179.0	177.0	174.0	172.0	5°	527.8	528.7
204.0	204.0	204.0	204.0	203.5	203.0	202.0	201.0	198.0	196.0	7.5°	448.2	446.4
228.0	228.0	228.0	228.0	227.8	227.5	227.0	226.0	223.0	221.0	10°	342.2	337.9
253.8	253.5	253.2	253.0	252.8	252.5	252.0	251.0	248.0	247.0	12.5°	220.6	214.4
277.2	277.5	277.8	278.0	277.5	277.0	276.0	274.0	272.0	270.0	15°	133.0	131.3
301.0	301.0	301.0	301.0	300.5	300.0	299.0	298.0	294.0	293.0	17.5°	106.8	106.8
325.0	325.0	325.0	325.0	324.2	323.5	322.0	321.0	318.0	317.0	20°	95.4	95.4
348.0	348.0	348.0	348.0	347.2	346.5	345.0	345.0	341.0	339.0	22.5°	88.4	88.4
369.0	369.0	369.0	369.0	368.5	368.0	367.0	367.0	364.0	363.0	25°	83.2	84.0
390.0	390.0	390.0	390.0	389.8	389.5	389.0	388.0	386.0	385.0	27.5°	78.8	78.8
412.0	412.0	412.0	412.0	411.5	411.0	410.0	410.0	407.0	408.0	30°	73.5	73.5
433.2	433.5	433.8	434.0	433.5	433.0	432.0	431.0	428.0	428.0	32.5°	64.8	64.8
452.5	453.0	453.5	454.0	453.8	453.5	453.0	452.0	448.0	447.0	35°	57.8	56.9
469.5	470.0	470.5	471.0	470.8	470.5	470.0	469.0	465.0	464.0	37.5°	51.6	52.5
486.2	486.5	486.8	487.0	486.8	486.5	486.0	485.0	482.0	483.0	40°	47.3	48.1
503.2	503.5	503.8	504.0	503.8	503.5	503.0	503.0	501.0	502.0	42.5°	45.5	45.5
517.5	518.0	518.5	519.0	519.0	519.0	519.0	519.0	516.0	517.0	45°	43.8	43.8
530.5	531.0	531.5	532.0	532.0	532.0	532.0	532.0	529.0	529.0	47.5°	43.8	43.8
540.5	541.0	541.5	542.0	541.8	541.5	541.0	541.0	538.0	539.0	50°	42.9	43.8
550.8	551.5	552.2	553.0	552.8	552.5	552.0	552.0	548.0	549.0	52.5°	42.0	42.0
558.5	559.0	559.5	560.0	560.0	560.0	560.0	561.0	558.0	559.0	55°	39.4	40.3
564.2	564.5	564.8	565.0	565.2	565.5	566.0	567.0	565.0	566.0	57.5°	36.8	37.6
567.5	568.0	568.5	569.0	568.8	568.5	568.0	569.0	567.0	569.0	60°	34.1	34.1
570.8	571.5	572.2	573.0	572.8	572.5	572.0	572.0	569.0	570.0	62.5°	30.6	30.6
574.8	575.5	576.2	577.0	577.0	577.0	577.0	578.0	574.0	575.0	65°	28.0	28.0
576.0	576.0	576.0	576.0	576.0	576.0	576.0	576.0	576.0	576.0	67.5°	24.5	24.5
										70°	21.9	21.9
										72.5°	19.3	19.3
										75°	16.6	16.6
										77.5°	14.0	13.1
										80°	10.5	10.5
										82.5°	6.1	6.1
										85°	1.8	1.8
										87.5°	0.0	0.0
										90°	0.0	0.0
										92.5°	0.0	0.0
										95°	1.0	1.0
										97.5°	2.0	2.0
										100°	8.0	8.0
										102.5°	28.0	28.0
										105°	54.0	54.0
										107.5°	77.0	78.0
										110°	102.0	101.0



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CANDELA DISTRIBUTION (continued):

	175°	180°
112.5°	124.0	124.0
115°	147.0	146.0
117.5°	170.0	169.0
120°	195.0	193.0
122.5°	220.0	219.0
125°	246.0	244.0
127.5°	269.0	267.0
130°	292.0	290.0
132.5°	314.0	313.0
135°	337.0	336.0
137.5°	360.0	359.0
140°	383.0	382.0
142.5°	406.0	404.0
145°	426.0	425.0
147.5°	444.0	444.0
150°	462.0	461.0
152.5°	480.0	479.0
155°	500.0	499.0
157.5°	515.0	513.0
160°	527.0	525.0
162.5°	536.0	535.0
165°	547.0	546.0
167.5°	556.0	555.0
170°	563.0	562.0
172.5°	566.0	565.0
175°	569.0	567.0
177.5°	573.0	572.0
180°	576.0	576.0

(END OF REPORT)

Cooper Lighting Solutions Photometric Lab
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Peachtree City, GA 30269

Scaled Data Report

