

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: P228193

Luminaire Tested: **ISS-AF-450-LED-E1-SL3-7050-ULG**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P228193  
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-SL3-7050-ULG  
Description: IMPACT ELITE LED QUATER SPHERE LUMINAIRE WITH UPLIGHT  
LIGHT SQUARE WITH ACCUED OPTICS-TYPE III W/SPILL CONTROL, WITH UPLIGHT  
GLOW  
Light Source: (16) 5000K CCT, 70 CRI LEDs and (1) UPLIGHT LED  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4213.2 lumens  
Efficiency: N/A  
Efficacy: 100.3 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

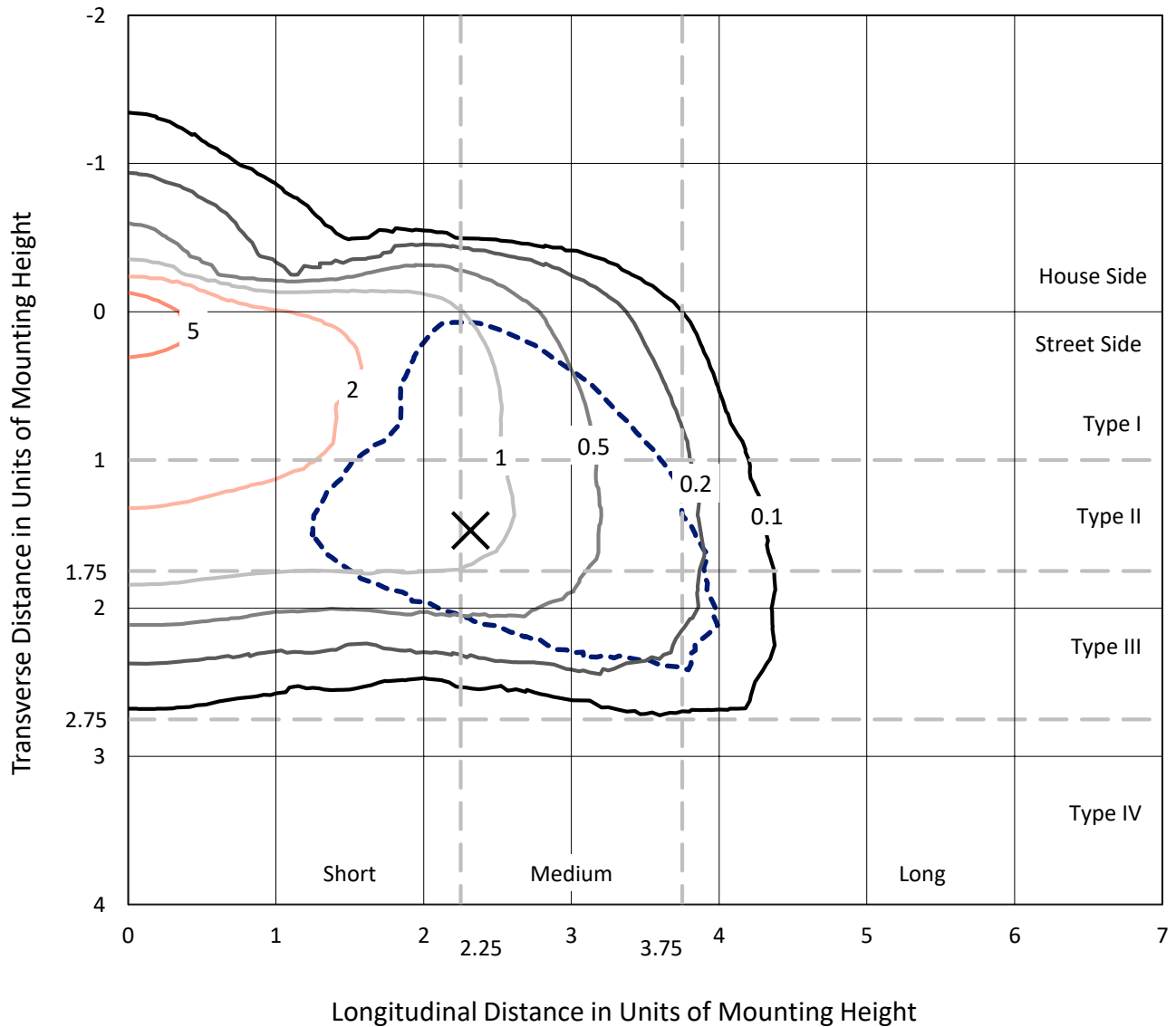


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### Iso-Footcandle Lines of Horizontal Illumination

× Max cd  
 - - - 1/2 Max cd

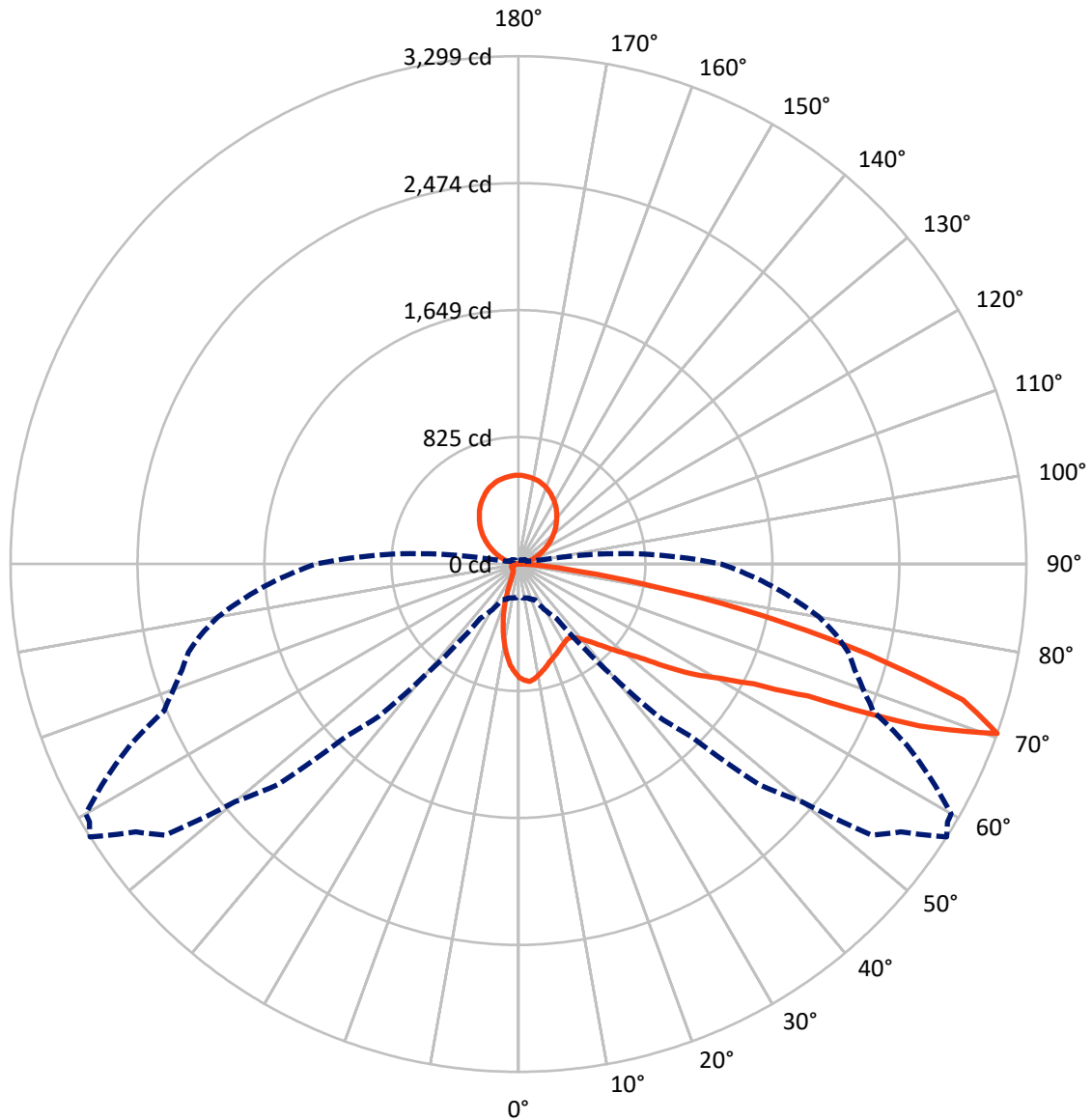


Based on 10 foot mounting height. Maximum calculated value = 7.4 fc  
 Type III - Medium - Non-Cutoff

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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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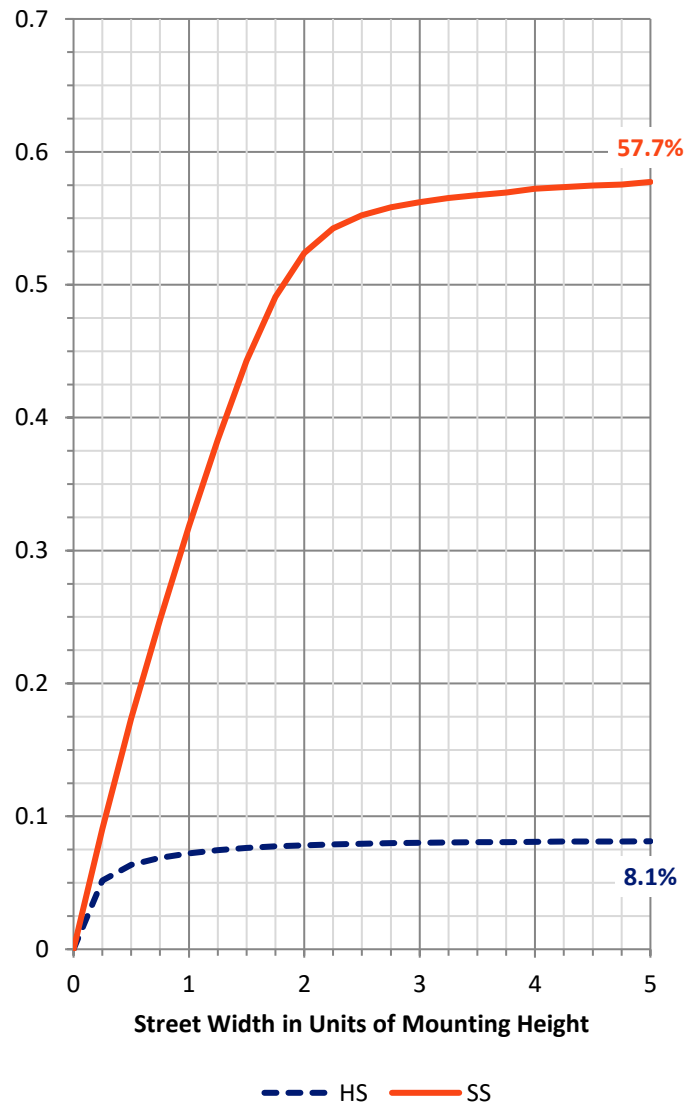
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	344.9	713.1	1058.0
	% Fixture	8.2	16.9	25.1
<b>Street Side</b>	Lumens	2442.1	713.1	3155.2
	% Fixture	58.0	16.9	74.9
<b>Total</b>	Lumens	2787.0	1426.2	4213.2
	% Fixture	66.1	33.9	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	63.7	1.5
10°-20°	138.3	3.3
20°-30°	173.8	4.1
30°-40°	227.1	5.4
40°-50°	340.7	8.1
50°-60°	538.7	12.8
60°-70°	776.5	18.4
70°-80°	480.6	11.4
80°-90°	47.7	1.1
90°-100°	4.7	0.1
100°-110°	69.0	1.6
110°-120°	153.0	3.6
120°-130°	223.9	5.3
130°-140°	265.6	6.3
140°-150°	269.3	6.4
150°-160°	231.1	5.5
160°-170°	155.1	3.7
170°-180°	54.3	1.3
0°-90°	2787.0	66.1
0°-180°	4213.2	100.0



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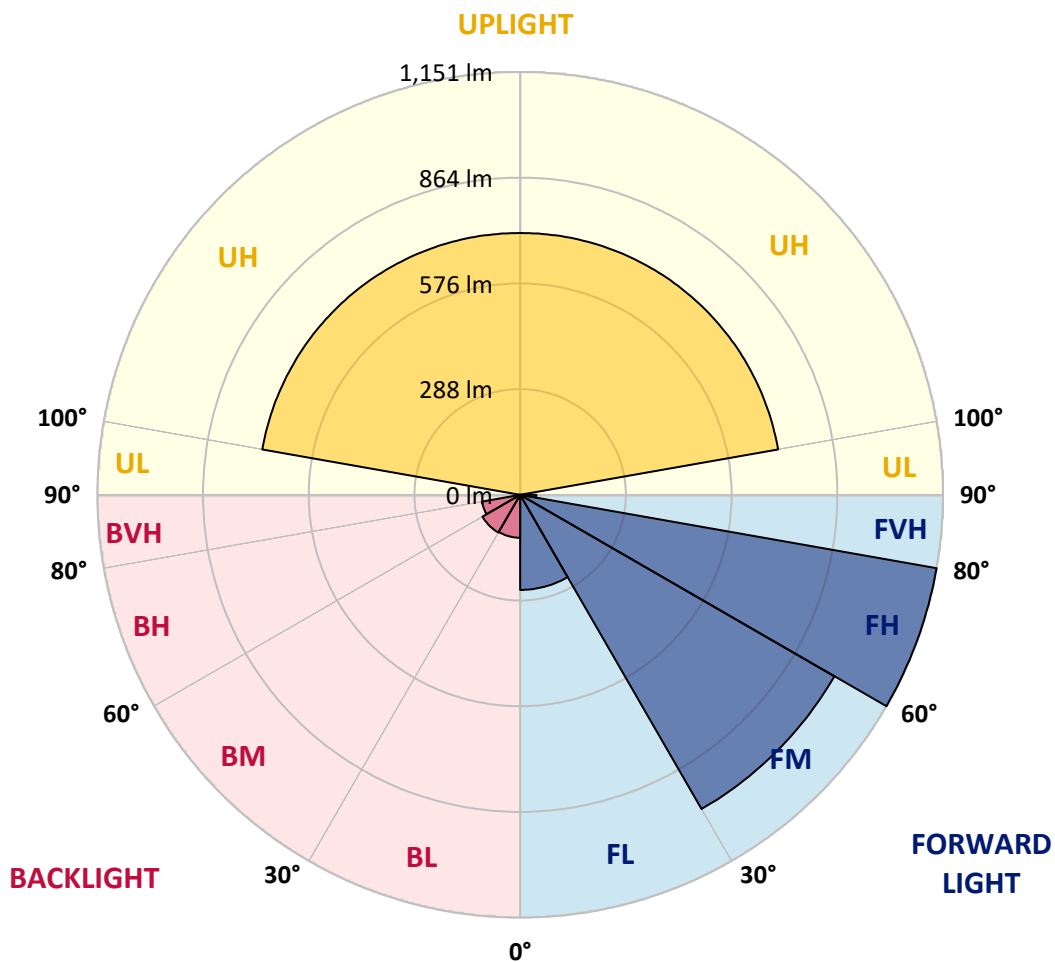
CATALOG NUMBER: ISS-AF-450-LED-E1-SL3-7050-ULG

**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	258.8	6.1			
FM	(30°-60°)	987.9	23.4			
FH	(60°-80°)	1151.5	27.3			G1/1800
FVH	(80°-90°)	43.9	1.0			G1/100
BL	(0°-30°)	116.9	2.8	B1/500		
BM	(30°-60°)	118.6	2.8	B0/220		
BH	(60°-80°)	105.6	2.5	B0/110		G0/110
BVH	(80°-90°)	3.8	0.1			G0/10
UL	(90°-100°)	4.7	0.1		U1/10	
UH	(100°-180°)	713.1	16.9		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°	737.7	737.7	737.7	737.7	737.7	737.7	737.7	737.7	737.7	737.7	737.7
2.5°	774.3	773.3	771.3	767.3	765.4	767.3	765.4	762.4	758.4	761.4	759.4
5°	772.3	774.3	770.3	767.3	772.3	774.3	770.3	770.3	766.3	770.3	768.3
7.5°	733.7	734.7	735.7	734.7	747.6	747.6	745.6	747.6	748.5	750.5	751.5
10°	685.3	686.3	688.2	691.2	707.0	709.0	710.0	712.0	714.9	716.9	722.8
12.5°	636.8	638.8	642.7	652.6	669.4	671.4	674.4	677.4	682.3	685.3	696.1
15°	596.3	597.3	601.2	612.1	636.8	641.8	643.7	647.7	657.6	657.6	669.4
17.5°	558.7	560.7	563.6	576.5	601.2	609.1	615.1	617.0	629.9	632.9	646.7
20°	530.0	531.0	532.0	543.9	566.6	578.5	583.4	591.3	601.2	609.1	621.0
22.5°	514.2	515.2	513.2	518.1	537.9	552.8	558.7	566.6	570.6	584.4	591.3
25°	515.2	516.2	511.2	508.3	518.1	534.0	538.9	546.8	544.8	564.6	564.6
27.5°	525.1	527.0	522.1	513.2	514.2	527.0	530.0	533.0	527.0	546.8	542.9
30°	544.8	546.8	540.9	534.0	523.1	531.0	531.0	531.0	520.1	536.9	530.0
32.5°	565.6	567.6	565.6	560.7	546.8	548.8	544.8	542.9	528.0	541.9	531.0
35°	596.3	597.3	598.2	598.2	578.5	582.4	571.5	565.6	551.8	562.6	547.8
37.5°	632.9	632.9	639.8	642.7	621.0	621.0	609.1	601.2	588.4	592.3	577.5
40°	665.5	668.5	684.3	693.2	673.4	665.5	655.6	648.7	638.8	638.8	624.0
42.5°	703.1	709.0	727.8	744.6	733.7	721.9	712.0	705.0	700.1	699.1	683.3
45°	749.5	756.5	777.2	793.0	796.0	787.1	779.2	772.3	768.3	766.3	752.5
47.5°	801.9	808.9	827.7	846.4	860.3	858.3	849.4	842.5	845.5	843.5	834.6
50°	860.3	864.2	876.1	897.9	929.5	936.4	934.4	929.5	935.4	935.4	927.5
52.5°	906.8	909.7	918.6	944.3	996.7	1012.6	1025.4	1035.3	1045.2	1051.1	1046.2
55°	949.3	949.3	950.3	982.9	1061.0	1086.7	1115.4	1136.2	1149.0	1172.8	1182.6
57.5°	1018.5	1013.6	1012.6	1047.2	1138.1	1164.8	1206.4	1236.0	1253.8	1302.3	1301.3
60°	998.7	1000.7	1036.3	1138.1	1296.4	1320.1	1357.7	1389.3	1422.9	1458.5	1461.5
62.5°	861.3	866.2	919.6	1071.9	1397.2	1520.8	1636.5	1724.5	1774.0	1805.6	1762.1
65°	603.2	615.1	687.2	873.1	1286.5	1477.3	1660.3	1864.0	2020.2	2262.5	2332.7
67.5°	300.6	309.5	321.4	457.8	961.1	1229.1	1481.3	1759.1	1966.8	2322.8	2521.5
70°	215.6	219.5	228.4	257.1	430.1	643.7	940.4	1337.9	1582.1	2119.1	2399.9
72.5°	167.1	171.1	182.9	223.5	284.8	314.4	373.8	611.1	908.7	1463.5	1843.2
75°	129.5	135.5	152.3	201.7	273.9	290.7	293.7	315.4	359.9	649.7	1033.3
77.5°	91.0	92.0	108.8	174.0	266.0	298.6	293.7	293.7	299.6	331.3	442.0
80°	60.3	61.3	72.2	120.6	233.4	271.9	300.6	286.8	287.8	292.7	300.6
82.5°	31.6	33.6	42.5	73.2	136.5	183.9	250.2	261.1	257.1	262.0	260.1
85°	8.9	8.9	14.8	27.7	67.2	71.2	110.7	151.3	154.3	175.0	186.9
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	4.0	8.9	9.9
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
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°	737.7	737.7	737.7	737.7	737.7	737.7	737.7	737.7	737.7	737.7	737.7
2.5°	761.4	757.4	756.5	754.5	755.5	752.5	751.5	747.6	747.6	745.6	743.6
5°	766.3	762.4	766.3	759.4	760.4	757.4	752.5	752.5	748.5	745.6	739.6
7.5°	752.5	752.5	753.5	749.5	750.5	749.5	743.6	742.6	736.7	736.7	729.8
10°	726.8	726.8	730.7	727.8	728.8	727.8	724.8	723.8	721.9	721.9	711.0
12.5°	697.1	703.1	709.0	706.0	706.0	708.0	708.0	709.0	708.0	707.0	698.1
15°	672.4	681.3	687.2	686.3	687.2	692.2	694.2	695.2	698.1	697.1	689.2
17.5°	649.7	659.6	664.5	668.5	671.4	675.4	681.3	684.3	688.2	687.2	679.3
20°	628.9	637.8	646.7	651.6	652.6	660.5	667.5	676.4	678.3	680.3	670.4
22.5°	607.1	615.1	632.9	629.9	636.8	651.6	655.6	668.5	668.5	675.4	661.5
25°	588.4	589.3	617.0	612.1	618.0	644.7	647.7	670.4	664.5	674.4	658.6
27.5°	569.6	568.6	602.2	596.3	603.2	639.8	641.8	673.4	667.5	679.3	658.6
30°	555.7	552.8	591.3	579.5	589.3	634.8	635.8	676.4	671.4	687.2	665.5
32.5°	552.8	547.8	581.4	572.5	582.4	629.9	635.8	687.2	681.3	701.1	673.4
35°	565.6	557.7	586.4	578.5	586.4	631.9	640.8	704.1	697.1	719.9	692.2
37.5°	589.3	583.4	607.1	599.2	605.2	645.7	653.6	725.8	724.8	752.5	720.9
40°	630.9	624.9	643.7	632.9	637.8	675.4	679.3	756.5	759.4	793.0	761.4
42.5°	687.2	677.4	692.2	679.3	686.3	719.9	715.9	794.0	802.9	849.4	812.8
45°	759.4	746.6	755.5	741.6	746.6	775.2	764.4	844.5	853.4	910.7	878.1
47.5°	838.5	822.7	833.6	815.8	818.8	849.4	829.6	904.8	918.6	990.8	959.2
50°	933.5	912.7	916.7	899.8	901.8	932.5	910.7	978.9	995.8	1075.9	1048.2
52.5°	1055.1	1025.4	1025.4	1002.7	1003.7	1034.3	1007.6	1067.0	1085.7	1166.8	1148.0
55°	1215.3	1191.5	1186.6	1162.9	1155.0	1160.9	1123.3	1164.8	1185.6	1261.8	1246.9
57.5°	1342.8	1339.9	1354.7	1321.1	1313.2	1315.2	1267.7	1270.7	1294.4	1353.7	1358.7
60°	1498.1	1503.0	1505.0	1477.3	1474.4	1446.7	1398.2	1390.3	1420.0	1460.5	1476.3
62.5°	1745.3	1740.4	1715.6	1694.9	1676.1	1601.9	1575.2	1531.7	1573.2	1596.0	1628.6
65°	2276.3	2224.9	2066.7	2080.5	2031.1	1869.9	1847.1	1759.1	1824.4	1825.4	1886.7
67.5°	2802.4	2903.2	2806.3	2808.3	2696.6	2404.8	2334.6	2159.6	2196.2	2153.7	2185.3
70°	2892.3	3033.7	3298.8	3251.3	3245.4	3020.9	2784.6	2492.9	2383.1	2292.1	2218.9
72.5°	2488.9	2630.3	3018.9	2911.1	2951.7	3019.9	2773.7	2555.2	2309.9	2194.2	2036.0
75°	1751.2	1954.9	2349.5	2293.1	2322.8	2435.5	2223.9	2198.2	1914.4	1837.3	1594.0
77.5°	938.4	1190.6	1632.6	1563.3	1576.2	1640.5	1420.0	1374.5	1100.6	1024.4	748.5
80°	422.2	585.4	916.7	839.5	816.8	780.2	574.5	452.9	276.9	183.9	127.6
82.5°	279.8	290.7	406.4	352.0	329.3	271.9	176.0	103.8	82.1	69.2	66.3
85°	187.9	172.1	171.1	151.3	140.4	110.7	82.1	51.4	42.5	35.6	32.6
87.5°	10.9	6.9	9.9	10.9	7.9	6.9	4.9	0.0	1.0	0.0	1.0
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°	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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**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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**CANDELA DISTRIBUTION (continued):**

	77.5°	80°	85°	90°	95°	100°	102.5°	105°	107.5°	110°	112.5°
0°	737.7	737.7	737.7	737.7	737.7	737.7	737.7	737.7	737.7	737.7	737.7
2.5°	738.7	738.7	737.7	730.7	726.8	724.8	717.9	716.9	713.9	713.0	713.0
5°	737.7	733.7	728.8	718.9	709.0	700.1	697.1	690.2	685.3	679.3	679.3
7.5°	723.8	719.9	709.0	694.2	681.3	668.5	661.5	651.6	643.7	635.8	633.8
10°	708.0	702.1	687.2	667.5	650.7	627.9	619.0	606.2	597.3	585.4	573.5
12.5°	691.2	687.2	669.4	646.7	621.0	592.3	578.5	560.7	548.8	535.0	517.2
15°	684.3	676.4	653.6	624.9	593.3	558.7	538.9	520.1	502.3	486.5	462.8
17.5°	675.4	665.5	639.8	606.2	566.6	525.1	499.4	478.6	454.9	438.1	411.4
20°	665.5	650.7	623.0	582.4	537.9	488.5	455.9	435.1	403.4	386.6	355.0
22.5°	657.6	638.8	605.2	559.7	506.3	450.9	412.3	388.6	353.0	333.2	293.7
25°	655.6	632.9	592.3	540.9	479.6	414.3	367.8	344.1	299.6	276.9	230.4
27.5°	656.6	629.9	584.4	525.1	455.9	381.7	326.3	298.6	242.3	218.5	165.1
30°	657.6	630.9	576.5	511.2	434.1	348.1	282.8	250.2	182.9	162.2	114.7
32.5°	667.5	634.8	574.5	500.4	414.3	314.4	233.4	203.7	129.5	117.7	85.0
35°	679.3	647.7	578.5	498.4	399.5	280.8	182.9	152.3	93.0	90.0	69.2
37.5°	704.1	667.5	594.3	503.3	390.6	246.2	136.5	116.7	73.2	75.2	60.3
40°	741.6	701.1	620.0	518.1	389.6	211.6	100.9	91.0	63.3	65.3	55.4
42.5°	792.1	747.6	659.6	549.8	394.5	179.0	81.1	78.1	58.3	60.3	53.4
45°	858.3	812.8	714.9	590.3	408.4	152.3	71.2	71.2	56.4	58.3	52.4
47.5°	942.4	891.9	783.2	644.7	430.1	137.4	67.2	68.2	55.4	58.3	52.4
50°	1037.3	981.9	870.2	714.9	463.8	133.5	68.2	68.2	56.4	58.3	52.4
52.5°	1136.2	1084.8	964.1	795.0	510.2	142.4	70.2	69.2	56.4	58.3	51.4
55°	1237.0	1190.6	1067.9	889.0	574.5	174.0	75.2	72.2	56.4	58.3	52.4
57.5°	1337.9	1305.3	1176.7	989.8	654.6	231.4	94.9	84.1	62.3	63.3	53.4
60°	1451.6	1427.9	1299.3	1122.3	768.3	320.4	139.4	105.8	74.2	70.2	57.4
62.5°	1598.9	1593.0	1491.2	1313.2	951.3	448.9	197.8	128.5	80.1	73.2	61.3
65°	1859.0	1874.8	1777.9	1536.7	1072.9	451.9	192.8	112.7	75.2	69.2	60.3
67.5°	2120.1	2073.6	1824.4	1503.0	968.1	300.6	122.6	88.0	66.3	64.3	56.4
70°	2110.2	1983.6	1654.3	1314.2	764.4	163.2	89.0	73.2	59.3	59.3	53.4
72.5°	1892.6	1704.8	1352.7	1040.3	510.2	103.8	75.2	64.3	54.4	53.4	49.4
75°	1424.9	1203.4	869.2	599.2	227.4	67.2	57.4	52.4	47.5	47.5	43.5
77.5°	670.4	377.7	209.6	139.4	76.1	45.5	39.6	39.6	38.6	39.6	35.6
80°	91.0	82.1	70.2	61.3	46.5	31.6	28.7	29.7	28.7	29.7	26.7
82.5°	55.4	49.4	40.5	38.6	28.7	21.8	20.8	21.8	19.8	20.8	15.8
85°	26.7	23.7	18.8	17.8	14.8	12.9	10.9	12.9	9.9	10.9	6.9
87.5°	0.0	2.0	1.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	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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 CATALOG NUMBER:

**DISTRIBUTION (continued):**

**CANDELA DISTRIBUTION**

115°	117.5°	120°	122.5°	125°	127.5°	130°	135°	145°	155°	165°	115°	115°
737.7	737.7	737.7	737.7	737.7	737.7	737.7	737.7	737.7	737.7	737.7	112.5°	136.0
708.0	705.0	704.1	700.1	699.1	695.2	694.2	690.2	683.3	680.3	675.4	115°	158.0
670.4	665.5	661.5	659.6	651.6	647.7	641.8	633.8	619.0	612.1	600.2	117.5°	181.0
618.0	617.0	605.2	601.2	591.3	584.4	575.5	562.6	540.9	528.0	509.3	120°	204.0
560.7	556.7	542.9	535.0	522.1	512.2	500.4	481.6	447.9	421.2	392.6	122.5°	228.0
507.3	495.4	479.6	467.7	451.9	438.1	424.2	395.5	342.1	298.6	259.1	125°	254.0
451.9	434.1	417.3	397.5	380.7	358.9	343.1	305.6	235.3	181.9	157.2	127.5°	277.0
395.5	370.8	352.0	325.3	306.5	276.9	260.1	214.6	154.3	130.5	122.6	130°	301.0
336.2	303.6	282.8	250.2	231.4	193.8	181.0	148.3	118.7	109.8	107.8	132.5°	325.0
272.9	233.4	210.6	175.0	162.2	139.4	129.5	113.7	99.9	95.9	97.9	135°	348.0
206.7	164.1	149.3	123.6	118.7	106.8	102.8	94.9	88.0	88.0	91.0	137.5°	369.0
147.3	114.7	110.7	94.9	93.9	88.0	85.0	81.1	79.1	81.1	85.0	140°	390.0
107.8	87.0	87.0	78.1	78.1	74.2	73.2	71.2	71.2	75.2	79.1	142.5°	412.0
85.0	71.2	73.2	66.3	67.2	64.3	65.3	64.3	65.3	68.2	71.2	145°	433.0
71.2	61.3	64.3	58.3	60.3	57.4	59.3	59.3	61.3	62.3	63.3	147.5°	452.0
63.3	56.4	58.3	54.4	56.4	53.4	56.4	56.4	57.4	57.4	57.4	150°	469.0
58.3	52.4	55.4	51.4	54.4	51.4	54.4	54.4	53.4	52.4	53.4	152.5°	486.0
55.4	51.4	54.4	50.4	53.4	50.4	52.4	51.4	49.4	49.4	49.4	155°	503.0
54.4	50.4	52.4	49.4	51.4	48.5	50.4	49.4	46.5	45.5	47.5	157.5°	517.0
54.4	49.4	52.4	48.5	50.4	47.5	49.4	46.5	43.5	43.5	46.5	160°	530.0
54.4	49.4	52.4	48.5	50.4	46.5	47.5	44.5	40.5	41.5	45.5	162.5°	540.0
55.4	51.4	53.4	49.4	50.4	44.5	46.5	42.5	39.6	40.5	43.5	165°	550.0
56.4	51.4	53.4	47.5	48.5	44.5	44.5	42.5	39.6	39.6	42.5	167.5°	558.0
56.4	50.4	51.4	46.5	47.5	42.5	43.5	41.5	38.6	37.6	39.6	170°	564.0
58.3	52.4	52.4	45.5	46.5	41.5	42.5	40.5	37.6	35.6	36.6	172.5°	567.0
60.3	53.4	54.4	47.5	47.5	42.5	43.5	39.6	35.6	33.6	34.6	175°	570.0
60.3	53.4	54.4	48.5	48.5	43.5	43.5	39.6	33.6	31.6	31.6	177.5°	574.0
57.4	52.4	53.4	48.5	48.5	43.5	43.5	38.6	32.6	29.7	28.7	180°	576.0
55.4	50.4	51.4	46.5	47.5	42.5	43.5	41.5	38.6	37.6	39.6		
50.4	46.5	46.5	42.5	41.5	36.6	36.6	33.6	28.7	24.7	22.7		
43.5	39.6	38.6	34.6	34.6	31.6	30.7	27.7	23.7	20.8	19.8		
35.6	30.7	30.7	25.7	25.7	22.7	23.7	20.8	17.8	16.8	15.8		
25.7	20.8	20.8	16.8	16.8	13.8	14.8	13.8	12.9	12.9	11.9		
15.8	10.9	11.9	8.9	10.9	7.9	8.9	7.9	7.9	6.9	6.9		
7.9	4.0	5.9	3.0	4.9	1.0	3.0	2.0	2.0	2.0	2.0		
1.0	0.0	1.0	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	0.0		
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		

'228193  
 ISS-AF-450-LED-E1-SL3-7050-ULG

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**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°	737.7	737.7
158.0	158.0	158.0	158.0	157.5	157.0	156.0	154.0	151.0	149.0	2.5°	670.4	673.4
180.8	180.5	180.2	180.0	179.8	179.5	179.0	177.0	174.0	172.0	5°	596.3	597.3
204.0	204.0	204.0	204.0	203.5	203.0	202.0	201.0	198.0	196.0	7.5°	506.3	504.3
228.0	228.0	228.0	228.0	227.8	227.5	227.0	226.0	223.0	221.0	10°	386.6	381.7
253.8	253.5	253.2	253.0	252.8	252.5	252.0	251.0	248.0	247.0	12.5°	249.2	242.3
277.2	277.5	277.8	278.0	277.5	277.0	276.0	274.0	272.0	270.0	15°	150.3	148.3
301.0	301.0	301.0	301.0	300.5	300.0	299.0	298.0	294.0	293.0	17.5°	120.6	120.6
325.0	325.0	325.0	325.0	324.2	323.5	322.0	321.0	318.0	317.0	20°	107.8	107.8
348.0	348.0	348.0	348.0	347.2	346.5	345.0	345.0	341.0	339.0	22.5°	99.9	99.9
369.0	369.0	369.0	369.0	368.5	368.0	367.0	367.0	364.0	363.0	25°	93.9	94.9
390.0	390.0	390.0	390.0	389.8	389.5	389.0	388.0	386.0	385.0	27.5°	89.0	89.0
412.0	412.0	412.0	412.0	411.5	411.0	410.0	410.0	407.0	408.0	30°	83.1	83.1
433.2	433.5	433.8	434.0	433.5	433.0	432.0	431.0	428.0	428.0	32.5°	73.2	73.2
452.5	453.0	453.5	454.0	453.8	453.5	453.0	452.0	448.0	447.0	35°	65.3	64.3
469.5	470.0	470.5	471.0	470.8	470.5	470.0	469.0	465.0	464.0	37.5°	58.3	59.3
486.2	486.5	486.8	487.0	486.8	486.5	486.0	485.0	482.0	483.0	40°	53.4	54.4
503.2	503.5	503.8	504.0	503.8	503.5	503.0	503.0	501.0	502.0	42.5°	51.4	51.4
517.5	518.0	518.5	519.0	519.0	519.0	519.0	519.0	516.0	517.0	45°	49.4	49.4
530.5	531.0	531.5	532.0	532.0	532.0	532.0	532.0	529.0	529.0	47.5°	49.4	49.4
540.5	541.0	541.5	542.0	541.8	541.5	541.0	541.0	538.0	539.0	50°	48.5	49.4
550.8	551.5	552.2	553.0	552.8	552.5	552.0	552.0	548.0	549.0	52.5°	47.5	47.5
558.5	559.0	559.5	560.0	560.0	560.0	560.0	561.0	558.0	559.0	55°	44.5	45.5
564.2	564.5	564.8	565.0	565.2	565.5	566.0	567.0	565.0	566.0	57.5°	41.5	42.5
567.5	568.0	568.5	569.0	568.8	568.5	568.0	569.0	567.0	569.0	60°	38.6	38.6
570.8	571.5	572.2	573.0	572.8	572.5	572.0	572.0	569.0	570.0	62.5°	34.6	34.6
574.8	575.5	576.2	577.0	577.0	577.0	577.0	578.0	574.0	575.0	65°	31.6	31.6
576.0	576.0	576.0	576.0	576.0	576.0	576.0	576.0	576.0	576.0	67.5°	27.7	27.7
										70°	24.7	24.7
										72.5°	21.8	21.8
										75°	18.8	18.8
										77.5°	15.8	14.8
										80°	11.9	11.9
										82.5°	6.9	6.9
										85°	2.0	2.0
										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  
1121 Highway 74 South  
Peachtree City, GA 30269

Scaled Data Report

