

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: P227281

Luminaire Tested: **ISW-AF-450-LED-E1-SLR-8030-ULG**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P227281  
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: ISW-AF-450-LED-E1-SLR-8030-ULG  
Description: IMPACT ELITE LED WEDGE LUMINAIRE WITH UPLIGHT  
LIGHT SQUARE WITH ACCULED OPTICS-90° SPILL LIGHT ELIMINATOR RIGHT, WITH  
UPLIGHT GLOW  
Light Source: (16) 3000K CCT, 80 CRI LEDs and (1) UPLIGHT LED  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3943.6 lumens  
Efficiency: N/A  
Efficacy: 93.9 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

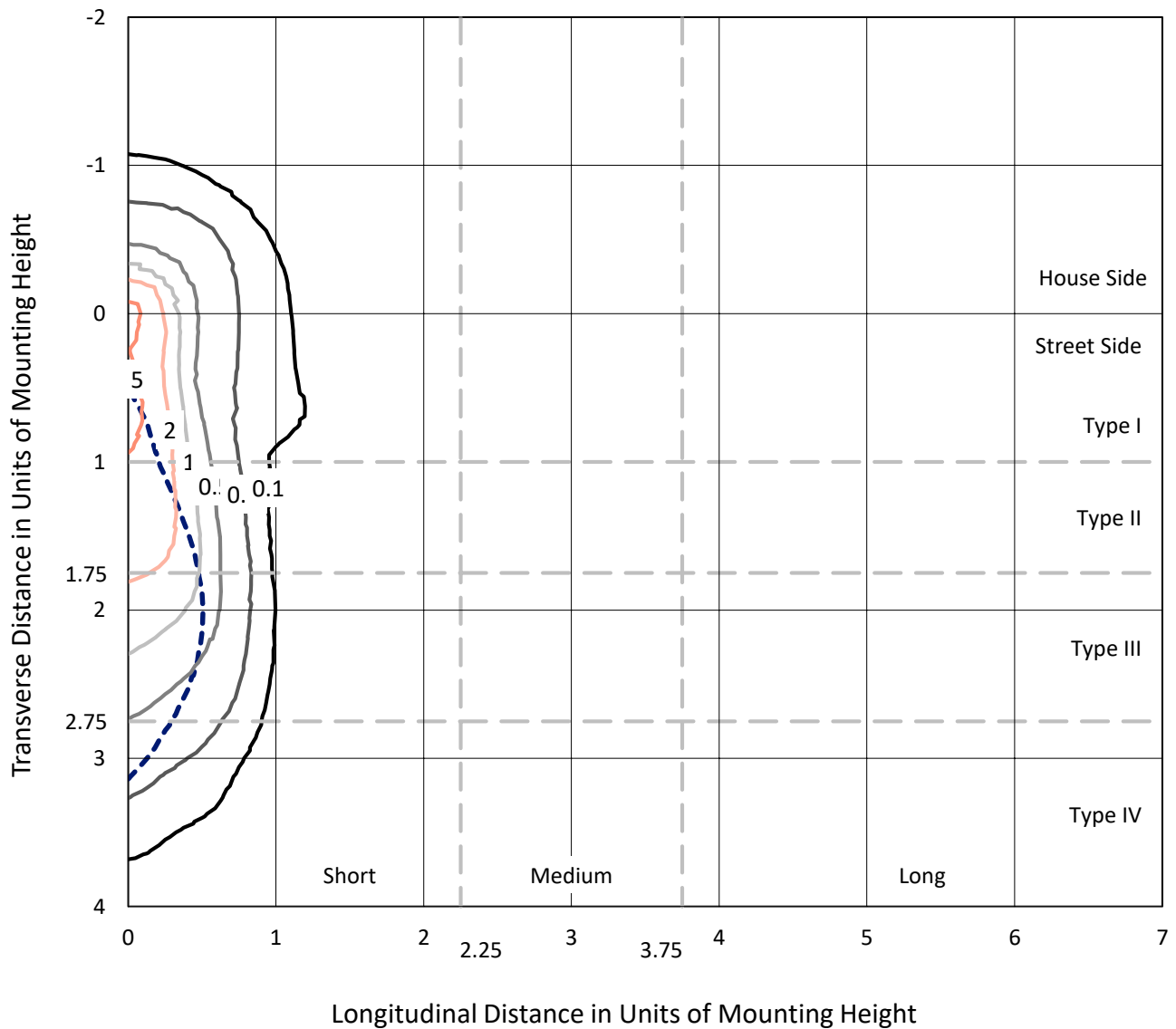


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### Iso-Footcandle Lines of Horizontal Illumination

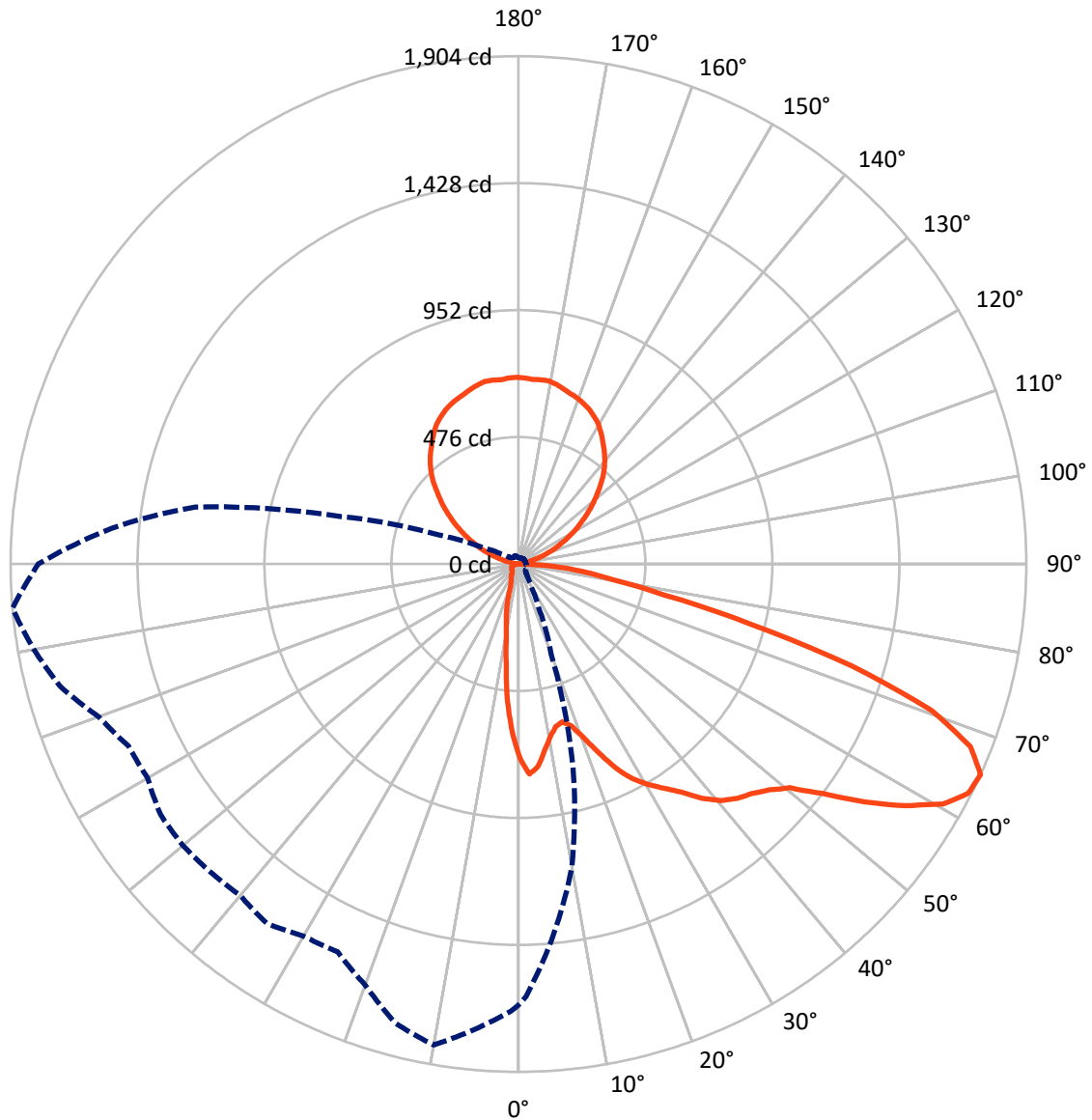
× Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 7.3 fc  
 Type IV - Short - Non-Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 275-Deg Lateral    - - - Horizontal Cone Through 65-Deg Vertical

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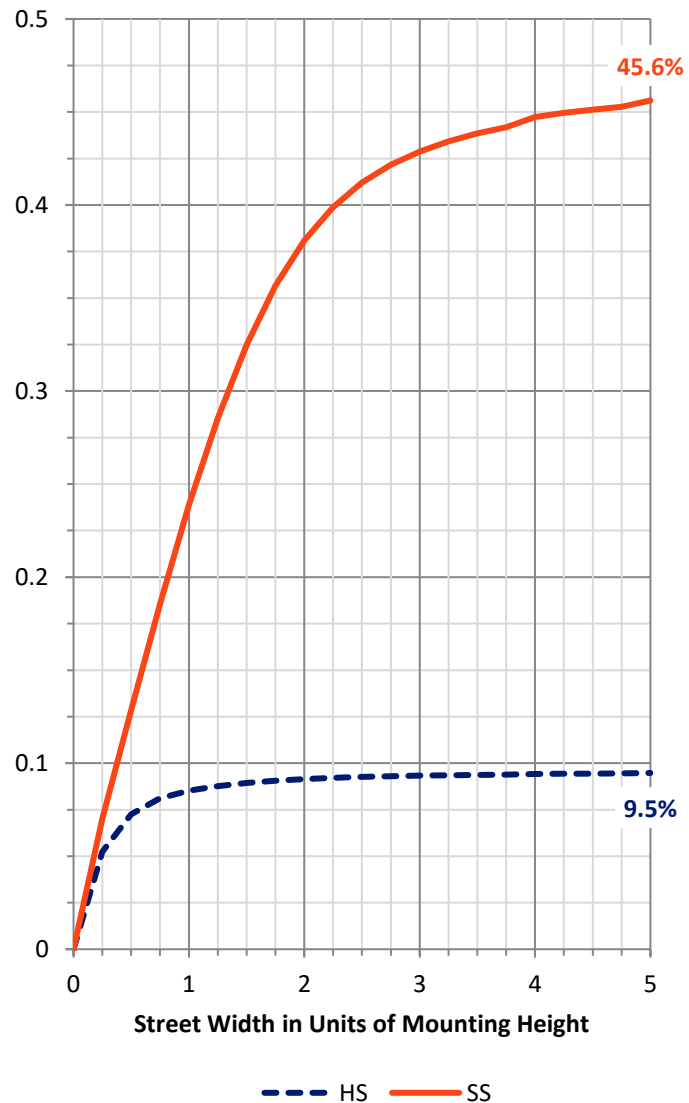
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	379.2	867.6	1246.7
	% Fixture	9.6	22.0	31.6
<b>Street Side</b>	Lumens	1829.3	867.7	2696.9
	% Fixture	46.4	22.0	68.4
<b>Total</b>	Lumens	2208.4	1735.2	3943.6
	% Fixture	56.0	44.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	54.0	1.4
10°-20°	104.0	2.6
20°-30°	148.2	3.8
30°-40°	215.1	5.5
40°-50°	307.6	7.8
50°-60°	472.3	12.0
60°-70°	546.7	13.9
70°-80°	278.9	7.1
80°-90°	81.5	2.1
90°-100°	9.4	0.2
100°-110°	57.4	1.5
110°-120°	166.1	4.2
120°-130°	273.2	6.9
130°-140°	336.8	8.5
140°-150°	344.6	8.7
150°-160°	290.3	7.4
160°-170°	191.2	4.8
170°-180°	66.3	1.7
0°-90°	2208.4	56.0
0°-180°	3943.6	100.0



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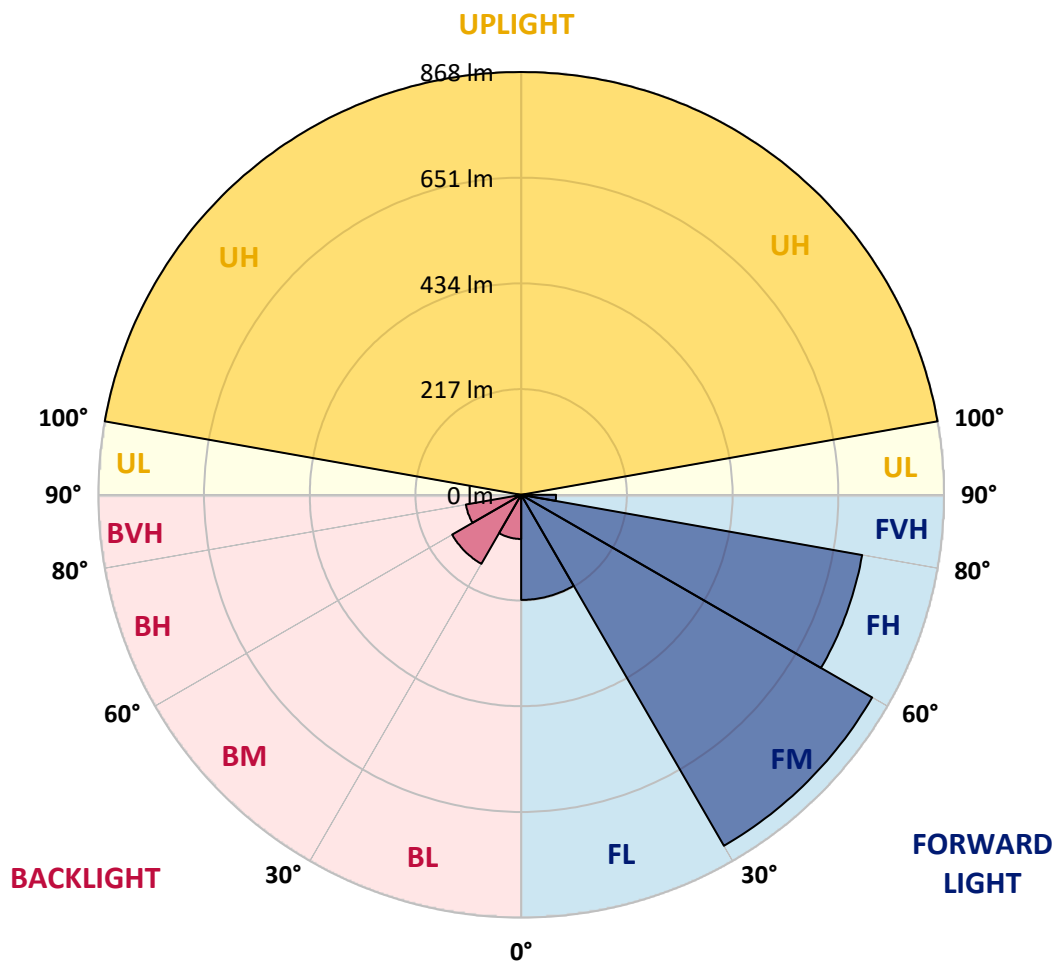
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	215.6	5.5			
FM	(30°-60°)	831.5	21.1			
FH	(60°-80°)	710.5	18.0			G1/1800
FVH	(80°-90°)	71.7	1.8			G1/100
BL	(0°-30°)	90.6	2.3	B0/110		
BM	(30°-60°)	163.5	4.1	B0/220		
BH	(60°-80°)	115.2	2.9	B1/500		G1/500
BVH	(80°-90°)	9.9	0.3			G0/10
UL	(90°-100°)	9.4	0.2		U1/10	
UH	(100°-180°)	867.6	22.0		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°	729.3	729.3	729.3	729.3	729.3	729.3	729.3	729.3	729.3	729.3	729.3
2.5°	754.9	750.4	744.9	735.2	726.7	714.4	711.4	696.2	686.5	688.8	671.3
5°	708.8	706.2	692.5	670.9	656.8	629.0	613.0	604.8	581.8	578.8	572.5
7.5°	644.2	636.4	614.1	587.4	563.2	542.8	517.1	497.4	480.0	469.2	450.3
10°	588.8	580.7	556.5	523.8	494.8	466.2	445.4	419.8	394.9	375.6	360.4
12.5°	562.1	553.2	524.9	487.0	454.7	419.1	389.7	364.4	350.7	341.0	328.4
15°	572.5	559.5	525.7	480.4	440.2	402.3	371.1	344.0	327.7	312.8	297.9
17.5°	614.5	598.5	559.9	505.2	449.5	400.5	355.9	325.1	299.1	276.8	256.7
20°	686.5	674.7	618.6	542.0	469.6	401.6	342.9	302.4	270.8	242.6	215.8
22.5°	770.9	753.0	698.1	591.8	495.2	408.3	334.7	283.5	245.9	208.0	179.1
25°	859.3	845.5	772.7	658.7	534.6	422.0	328.4	266.7	216.6	174.6	142.7
27.5°	930.6	918.4	846.3	723.0	570.6	433.9	319.1	250.8	193.2	142.7	107.4
30°	988.9	978.5	903.1	775.7	614.5	438.0	306.1	232.2	167.2	115.2	88.8
32.5°	1054.3	1042.8	957.7	812.5	634.2	434.3	291.3	214.7	146.4	101.8	76.2
35°	1126.0	1112.7	1018.7	852.2	650.5	421.3	278.6	202.1	136.3	92.5	67.6
37.5°	1189.9	1181.4	1073.7	891.6	669.1	399.7	266.4	188.4	129.7	85.8	60.9
40°	1239.7	1237.5	1134.6	924.3	683.6	384.1	256.3	177.6	121.1	83.2	58.7
42.5°	1279.8	1279.1	1184.4	953.7	687.3	370.4	248.5	167.9	113.3	76.9	59.8
45°	1318.5	1318.1	1232.7	994.5	689.9	371.1	242.6	162.0	106.6	72.8	56.5
47.5°	1355.3	1360.8	1283.2	1051.4	717.4	383.8	240.4	156.4	101.4	68.4	53.5
50°	1416.9	1411.4	1363.1	1128.3	761.6	408.3	236.6	151.6	96.6	64.3	50.5
52.5°	1533.9	1527.6	1484.5	1231.2	809.9	433.5	231.8	144.9	91.0	59.8	47.2
55°	1677.0	1685.5	1625.7	1356.4	875.6	454.7	226.6	136.0	83.6	54.6	45.0
57.5°	1760.9	1753.9	1685.5	1428.4	916.1	465.5	223.3	125.6	72.1	50.2	42.7
59°	1780.6	1768.7	1675.5	1440.7	926.9	460.3	221.4	115.5	66.1	47.9	41.6
60°	1778.8	1764.3	1659.5	1432.9	929.9	454.0	218.4	109.6	62.8	46.8	41.2
62.5°	1740.5	1717.8	1568.9	1338.5	888.3	422.4	206.2	95.5	58.3	45.3	39.0
65°	1653.6	1621.6	1416.6	1154.3	792.8	359.6	178.3	90.3	59.4	44.6	37.5
67.5°	1503.5	1477.9	1220.8	955.1	631.9	290.5	154.2	88.0	60.9	45.3	35.3
70°	1223.0	1201.1	952.5	715.1	473.3	231.1	140.1	86.9	59.8	43.5	33.4
72.5°	862.6	824.7	633.0	500.8	300.2	185.8	121.5	82.1	58.3	42.0	30.5
75°	524.9	532.0	402.3	364.8	189.5	127.4	95.5	69.1	51.6	37.5	27.5
77.5°	346.2	345.9	296.8	257.5	96.2	79.1	67.6	53.1	40.5	30.8	23.8
80°	234.8	237.4	215.5	175.7	53.5	47.6	44.2	38.6	29.7	23.4	19.7
82.5°	144.5	144.9	166.8	131.5	35.7	30.1	28.2	26.0	21.2	18.2	15.2
85°	50.2	51.3	58.3	92.9	24.1	19.7	19.7	18.2	16.0	12.3	10.0
87.5°	21.5	21.2	25.3	25.3	11.9	10.0	9.3	9.3	8.9	6.7	5.6
90°	6.5	6.1	6.1	7.5	8.9	10.1	10.2	10.6	10.6	9.7	8.5
92.5°	4.0	4.0	4.0	4.5	5.0	5.5	6.0	6.0	6.0	6.0	6.0
95°	5.0	5.0	5.0	5.5	6.0	6.5	7.0	7.0	7.0	7.0	7.0
97.5°	7.0	7.0	7.0	7.5	8.0	8.0	8.0	8.5	9.0	9.0	9.0
100°	8.0	8.0	8.0	8.5	9.0	9.5	10.0	11.0	12.0	16.5	21.0
102.5°	11.0	11.0	11.0	12.0	13.0	15.5	18.0	22.5	27.0	33.5	40.0
105°	21.0	21.2	22.0	24.5	27.0	31.5	36.0	42.0	48.0	55.5	63.0
107.5°	41.0	41.2	42.0	45.5	49.0	53.5	58.0	65.5	73.0	80.5	88.0



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**CANDELA DISTRIBUTION (continued):**

	0°	1°	5°	10°	15°	20°	25°	30°	35°	40°	45°
110°	66.0	66.4	68.0	71.0	74.0	80.5	87.0	94.5	102.0	108.0	114.0
112.5°	99.0	99.0	99.0	102.5	106.0	113.5	121.0	127.5	134.0	138.5	143.0
115°	140.0	139.8	139.0	143.0	147.0	153.0	159.0	163.5	168.0	171.0	174.0
117.5°	184.0	184.0	184.0	186.5	189.0	193.0	197.0	199.5	202.0	203.5	205.0
120°	225.0	224.6	223.0	224.5	226.0	229.5	233.0	235.0	237.0	240.0	243.0
122.5°	263.0	262.4	260.0	260.5	261.0	264.0	267.0	269.0	271.0	274.0	277.0
125°	298.0	297.2	294.0	295.0	296.0	297.5	299.0	302.0	305.0	307.5	310.0
127.5°	330.0	329.8	329.0	329.0	329.0	331.0	333.0	336.0	339.0	339.5	340.0
130°	363.0	362.6	361.0	361.5	362.0	364.0	366.0	368.0	370.0	371.0	372.0
132.5°	396.0	395.6	394.0	393.5	393.0	397.0	401.0	402.5	404.0	404.5	405.0
135°	429.0	428.4	426.0	426.0	426.0	429.0	432.0	433.5	435.0	436.0	437.0
137.5°	460.0	459.4	457.0	458.0	459.0	459.5	460.0	462.0	464.0	466.0	468.0
140°	488.0	487.4	485.0	486.0	487.0	488.0	489.0	490.0	491.0	494.0	497.0
142.5°	518.0	517.4	515.0	516.0	517.0	517.5	518.0	519.5	521.0	523.0	525.0
145°	550.0	549.2	546.0	545.0	544.0	545.5	547.0	548.5	550.0	550.5	551.0
147.5°	575.0	574.4	572.0	571.5	571.0	572.5	574.0	574.0	574.0	574.5	575.0
150°	595.0	594.4	592.0	592.5	593.0	593.0	593.0	593.0	593.0	593.0	593.0
152.5°	611.0	610.4	608.0	608.0	608.0	608.5	609.0	609.5	610.0	610.0	610.0
155°	629.0	628.2	625.0	625.0	625.0	626.0	627.0	628.5	630.0	629.0	628.0
157.5°	646.0	645.4	643.0	643.0	643.0	643.5	644.0	645.0	646.0	645.5	645.0
160°	663.0	662.4	660.0	659.5	659.0	657.5	656.0	655.5	655.0	655.0	655.0
162.5°	673.0	672.2	669.0	669.0	669.0	667.0	665.0	663.0	661.0	662.0	663.0
165°	681.0	680.4	678.0	677.0	676.0	676.0	676.0	674.5	673.0	673.0	673.0
167.5°	690.0	689.4	687.0	685.5	684.0	685.0	686.0	687.0	688.0	686.5	685.0
170°	698.0	697.4	695.0	693.5	692.0	692.0	692.0	692.5	693.0	692.0	691.0
172.5°	699.0	698.6	697.0	696.0	695.0	694.0	693.0	691.5	690.0	690.0	690.0
175°	700.0	699.6	698.0	697.5	697.0	696.0	695.0	693.0	691.0	690.5	690.0
177.5°	707.0	706.6	705.0	702.5	700.0	699.5	699.0	698.0	697.0	696.0	695.0
180°	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0





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**CANDELA DISTRIBUTION (continued):**

	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°
0°	729.3	729.3	729.3	729.3	729.3	729.3	729.3	729.3	729.3	729.3	729.3
2.5°	666.1	662.0	650.5	647.5	651.2	643.8	642.0	640.1	626.4	633.4	625.2
5°	556.9	555.8	532.4	537.2	532.4	524.2	520.9	528.7	514.9	517.9	519.7
7.5°	428.0	423.5	407.9	397.5	391.2	385.6	378.6	367.0	376.0	374.1	388.2
10°	347.4	337.7	328.0	313.6	305.4	297.6	289.4	284.9	274.5	273.4	268.6
12.5°	318.4	304.6	292.4	279.7	271.2	255.6	242.6	234.4	227.7	217.3	209.5
15°	279.7	268.2	252.3	240.0	226.6	212.5	199.9	189.5	184.6	175.0	170.5
17.5°	240.7	223.3	204.0	191.7	173.1	158.6	148.2	141.5	134.5	128.5	123.3
20°	193.9	171.3	150.5	134.9	120.4	106.3	101.4	93.2	90.3	88.0	89.9
22.5°	147.5	124.1	102.5	90.6	82.8	79.1	75.0	73.6	72.4	72.1	72.8
25°	108.1	88.4	78.0	73.6	70.6	68.4	66.9	65.8	65.0	64.6	65.0
27.5°	83.6	73.2	68.0	65.0	62.8	61.3	60.6	59.4	59.1	58.7	59.1
30°	72.4	66.9	63.2	60.2	57.6	55.0	53.9	53.5	53.9	54.2	53.9
32.5°	63.2	59.1	55.0	52.4	50.5	49.0	49.0	48.3	48.3	49.4	49.8
35°	57.2	53.1	50.2	46.8	44.6	43.1	42.0	41.2	41.6	41.6	42.7
37.5°	52.4	49.4	46.8	43.8	41.6	40.1	39.4	38.6	38.3	37.9	37.9
40°	49.0	47.2	45.0	42.0	39.8	38.3	37.5	36.8	36.4	36.0	36.0
42.5°	49.0	45.3	43.8	41.2	38.6	37.2	36.0	35.3	34.6	34.6	34.6
45°	53.9	46.4	43.8	40.9	38.3	36.4	35.3	34.2	33.4	33.4	33.1
47.5°	52.4	52.0	44.6	40.9	38.6	36.4	34.9	33.8	33.1	32.7	32.3
50°	49.8	54.2	49.8	42.0	38.6	36.0	34.6	33.4	32.3	31.9	31.9
52.5°	48.3	50.5	51.6	43.5	39.0	36.0	34.2	33.1	32.3	31.6	31.2
55°	44.6	47.6	49.4	42.7	39.0	35.3	33.4	32.3	31.2	30.8	30.5
57.5°	40.9	43.1	47.6	42.7	37.9	34.9	32.7	31.2	30.5	30.1	29.7
59°	39.8	39.8	42.4	43.8	37.2	34.6	32.3	30.8	30.1	29.7	29.0
60°	38.6	38.6	40.1	45.0	36.8	34.2	31.9	30.5	29.3	29.3	29.0
62.5°	37.2	36.0	36.8	42.0	35.7	33.4	31.2	29.7	28.6	28.6	28.2
65°	35.3	33.8	33.8	34.9	33.4	31.9	30.5	29.0	27.5	27.5	27.9
67.5°	33.4	31.9	31.6	31.6	30.8	30.5	29.0	27.5	26.7	26.7	26.7
70°	30.8	29.7	29.3	28.6	28.6	28.2	27.1	26.0	25.3	25.6	25.3
72.5°	27.9	27.1	26.4	26.4	26.0	25.6	24.5	23.8	23.4	23.8	23.8
75°	24.9	23.8	23.8	23.0	23.0	22.7	21.5	21.2	20.8	21.2	21.5
77.5°	21.2	20.4	20.1	20.1	20.1	20.1	18.6	18.2	18.2	18.9	18.9
80°	17.5	17.1	16.7	16.7	16.7	16.3	15.6	15.2	15.2	15.6	16.0
82.5°	13.4	12.6	12.6	13.0	13.4	13.4	12.3	11.5	11.5	12.3	13.0
85°	8.9	8.9	8.9	9.3	9.3	9.7	8.9	7.8	8.2	8.5	9.7
87.5°	4.8	5.2	4.8	4.5	5.2	4.8	4.8	4.5	4.8	5.2	5.6
90°	8.5	8.5	9.1	9.7	9.4	9.7	8.7	8.1	7.4	7.4	8.7
92.5°	6.5	7.0	7.0	7.0	6.5	6.0	6.0	6.0	6.0	6.0	6.0
95°	7.0	7.0	7.5	8.0	7.5	7.0	7.0	7.0	7.0	7.0	7.0
97.5°	10.5	12.0	11.0	10.0	9.5	9.0	8.5	8.0	8.0	8.0	8.5
100°	25.0	29.0	27.5	26.0	24.5	23.0	21.0	19.0	19.0	19.0	21.0
102.5°	45.0	50.0	48.5	47.0	44.5	42.0	40.5	39.0	38.0	39.0	40.5
105°	67.5	72.0	71.0	70.0	67.5	65.0	63.0	61.0	61.0	61.0	63.0
107.5°	91.5	95.0	94.5	94.0	92.0	90.0	88.5	87.0	86.0	87.0	88.5



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CATALOG NUMBER: ISW-AF-450-LED-E1-SLR-8030-ULG

**CANDELA DISTRIBUTION (continued):**

	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°
110°	117.0	120.0	120.5	121.0	120.0	119.0	117.5	116.0	117.0	116.0	117.5
112.5°	145.5	148.0	149.0	150.0	149.5	149.0	148.0	147.0	147.0	147.0	148.0
115°	176.5	179.0	180.5	182.0	180.5	179.0	178.0	177.0	178.0	177.0	178.0
117.5°	208.0	211.0	213.0	215.0	212.5	210.0	209.0	208.0	209.0	208.0	209.0
120°	244.5	246.0	248.0	250.0	247.5	245.0	244.0	243.0	243.0	243.0	244.0
122.5°	278.0	279.0	281.0	283.0	280.5	278.0	277.0	276.0	277.0	276.0	277.0
125°	311.5	313.0	314.0	315.0	312.5	310.0	310.0	310.0	310.0	310.0	310.0
127.5°	342.5	345.0	345.5	346.0	346.0	346.0	345.5	345.0	347.0	345.0	345.5
130°	374.5	377.0	379.0	381.0	381.0	381.0	380.0	379.0	380.0	379.0	380.0
132.5°	408.0	411.0	413.5	416.0	415.0	414.0	414.0	414.0	415.0	414.0	414.0
135°	440.0	443.0	445.5	448.0	447.5	447.0	448.5	450.0	451.0	450.0	448.5
137.5°	470.5	473.0	474.0	475.0	475.5	476.0	478.5	481.0	482.0	481.0	478.5
140°	498.5	500.0	501.0	502.0	503.0	504.0	506.5	509.0	511.0	509.0	506.5
142.5°	526.0	527.0	530.0	533.0	533.0	533.0	533.5	534.0	536.0	534.0	533.5
145°	553.5	556.0	559.0	562.0	561.5	561.0	559.5	558.0	560.0	558.0	559.5
147.5°	577.5	580.0	582.5	585.0	585.5	586.0	584.5	583.0	585.0	583.0	584.5
150°	595.0	597.0	598.5	600.0	601.5	603.0	604.5	606.0	610.0	606.0	604.5
152.5°	610.5	611.0	612.5	614.0	616.0	618.0	620.5	623.0	628.0	623.0	620.5
155°	627.0	626.0	628.5	631.0	633.5	636.0	637.0	638.0	641.0	638.0	637.0
157.5°	644.5	644.0	646.0	648.0	649.0	650.0	650.0	650.0	655.0	650.0	650.0
160°	656.5	658.0	661.0	664.0	662.5	661.0	660.5	660.0	666.0	660.0	660.5
162.5°	665.0	667.0	669.0	671.0	670.5	670.0	669.0	668.0	674.0	668.0	669.0
165°	672.5	672.0	674.5	677.0	678.5	680.0	679.0	678.0	682.0	678.0	679.0
167.5°	681.5	678.0	681.0	684.0	686.0	688.0	688.0	688.0	694.0	688.0	688.0
170°	688.5	686.0	687.5	689.0	691.5	694.0	695.0	696.0	701.0	696.0	695.0
172.5°	689.5	689.0	690.5	692.0	693.0	694.0	695.0	696.0	701.0	696.0	695.0
175°	690.0	690.0	692.5	695.0	695.5	696.0	695.0	694.0	699.0	694.0	695.0
177.5°	694.5	694.0	696.5	699.0	700.0	701.0	699.5	698.0	702.0	698.0	699.5
180°	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0



REPORT NUMBER: P227281

CATALOG NUMBER: ISW-AF-450-LED-E1-SLR-8030-ULG

**CANDELA DISTRIBUTION (continued):**

	105°	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°
0°	729.3	729.3	729.3	729.3	729.3	729.3	729.3	729.3	729.3	729.3	729.3
2.5°	632.7	626.4	623.0	636.0	634.9	623.8	623.8	631.6	631.9	625.2	633.0
5°	522.0	515.7	521.6	516.4	519.4	519.0	523.5	515.3	518.6	515.7	508.6
7.5°	387.1	399.7	406.4	397.9	408.7	414.2	406.4	414.2	402.0	391.9	401.6
10°	266.4	280.5	277.9	291.6	296.8	299.8	305.4	298.3	289.8	287.2	280.1
12.5°	206.6	203.6	202.5	208.0	211.4	206.6	210.6	206.2	201.7	193.9	193.6
15°	161.6	156.8	153.4	147.1	144.9	146.0	147.9	147.9	138.9	139.3	142.7
17.5°	122.6	121.5	118.9	113.7	110.3	111.5	111.1	109.2	108.1	108.9	112.9
20°	92.1	91.0	92.5	94.0	92.9	93.2	91.8	89.9	89.2	89.9	90.6
22.5°	72.8	74.3	76.2	78.4	78.8	80.6	80.2	80.6	79.1	78.4	76.5
25°	66.5	67.2	66.1	66.5	66.5	68.4	68.0	68.0	66.5	66.1	66.5
27.5°	58.7	58.3	58.3	59.1	59.1	60.2	60.9	60.2	58.7	58.3	58.7
30°	54.2	53.9	53.5	53.9	53.5	53.9	54.6	54.6	53.9	52.8	53.1
32.5°	49.8	49.8	49.4	49.8	49.4	49.4	50.2	49.0	49.0	48.7	48.7
35°	43.8	44.6	45.3	45.7	45.7	45.7	46.4	45.3	45.0	44.6	44.6
37.5°	37.9	38.6	40.9	42.0	42.4	43.1	43.5	42.7	42.0	41.2	40.5
40°	36.0	36.0	36.8	38.3	39.8	40.1	40.9	39.8	39.4	38.3	37.2
42.5°	34.6	34.9	34.9	35.3	35.7	36.4	37.5	36.4	35.7	34.9	33.8
45°	33.4	33.4	33.4	33.4	33.1	33.1	33.4	32.7	32.3	31.9	31.9
47.5°	32.7	32.3	31.9	31.6	31.2	30.8	30.8	30.1	30.1	30.1	30.1
50°	31.9	31.2	30.8	30.5	29.7	29.7	29.7	29.0	28.6	28.6	29.0
52.5°	30.8	30.5	30.1	29.7	29.3	29.0	29.0	28.2	27.9	27.9	27.9
55°	30.5	30.1	29.3	29.0	28.6	29.0	28.6	28.2	27.5	27.5	27.5
57.5°	29.3	29.7	29.3	28.6	28.6	28.6	28.6	27.9	27.5	26.7	27.1
59°	29.0	29.3	29.0	28.6	28.2	28.6	28.6	27.5	27.1	26.7	26.7
60°	28.6	29.0	28.6	28.2	28.2	28.6	28.2	27.9	27.1	26.0	26.4
62.5°	28.2	28.2	27.9	27.9	27.5	27.9	27.5	26.7	26.0	25.3	24.9
65°	27.5	27.5	27.1	27.1	26.7	26.7	26.7	26.0	25.3	24.5	24.5
67.5°	27.1	26.7	26.4	26.4	26.0	26.0	26.0	25.3	24.1	23.8	23.4
70°	25.6	25.3	25.3	24.9	24.5	24.9	25.3	24.1	23.0	22.3	21.9
72.5°	24.1	23.8	23.8	23.4	23.4	23.8	24.1	23.0	21.5	20.8	20.4
75°	21.9	21.5	21.5	21.5	21.5	22.3	22.3	21.2	20.1	18.9	18.2
77.5°	18.9	19.3	19.3	19.3	19.3	20.1	20.1	19.3	18.2	17.5	16.3
80°	16.3	16.3	16.7	16.7	17.1	17.1	16.7	16.3	16.0	15.2	13.7
82.5°	13.7	13.7	13.7	13.7	13.7	13.4	12.6	13.4	13.4	12.6	11.5
85°	10.8	10.8	10.8	11.1	11.1	10.0	8.9	8.9	10.0	9.7	8.9
87.5°	6.3	6.3	6.7	7.8	7.1	6.7	5.6	5.9	5.6	6.3	5.2
90°	10.5	10.1	10.1	8.4	7.7	7.0	7.0	7.5	8.0	8.0	8.0
92.5°	6.0	6.5	7.0	7.0	7.0	6.5	6.0	6.0	6.0	6.0	6.0
95°	7.0	7.5	8.0	7.5	7.0	7.0	7.0	7.0	7.0	7.0	7.0
97.5°	9.0	9.5	10.0	11.0	12.0	10.5	9.0	9.0	9.0	8.5	8.0
100°	23.0	24.5	26.0	27.5	29.0	25.0	21.0	16.5	12.0	11.0	10.0
102.5°	42.0	44.5	47.0	48.5	50.0	45.0	40.0	33.5	27.0	22.5	18.0
105°	65.0	67.5	70.0	71.0	72.0	67.5	63.0	55.5	48.0	42.0	36.0
107.5°	90.0	92.0	94.0	94.5	95.0	91.5	88.0	80.5	73.0	65.5	58.0



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REPORT N  
 CATALOG

**CANDELA DISTRIBUTION (continued):**

**CANDELA**

	105°	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	
110°	119.0	120.0	121.0	120.5	120.0	117.0	114.0	108.0	102.0	94.5	87.0	0°
112.5°	149.0	149.5	150.0	149.0	148.0	145.5	143.0	138.5	134.0	127.5	121.0	2.5°
115°	179.0	180.5	182.0	180.5	179.0	176.5	174.0	171.0	168.0	163.5	159.0	5°
117.5°	210.0	212.5	215.0	213.0	211.0	208.0	205.0	203.5	202.0	199.5	197.0	7.5°
120°	245.0	247.5	250.0	248.0	246.0	244.5	243.0	240.0	237.0	235.0	233.0	10°
122.5°	278.0	280.5	283.0	281.0	279.0	278.0	277.0	274.0	271.0	269.0	267.0	12.5°
125°	310.0	312.5	315.0	314.0	313.0	311.5	310.0	307.5	305.0	302.0	299.0	15°
127.5°	346.0	346.0	346.0	345.5	345.0	342.5	340.0	339.5	339.0	336.0	333.0	17.5°
130°	381.0	381.0	381.0	379.0	377.0	374.5	372.0	371.0	370.0	368.0	366.0	20°
132.5°	414.0	415.0	416.0	413.5	411.0	408.0	405.0	404.5	404.0	402.5	401.0	22.5°
135°	447.0	447.5	448.0	445.5	443.0	440.0	437.0	436.0	435.0	433.5	432.0	25°
137.5°	476.0	475.5	475.0	474.0	473.0	470.5	468.0	466.0	464.0	462.0	460.0	27.5°
140°	504.0	503.0	502.0	501.0	500.0	498.5	497.0	494.0	491.0	490.0	489.0	30°
142.5°	533.0	533.0	533.0	530.0	527.0	526.0	525.0	523.0	521.0	519.5	518.0	32.5°
145°	561.0	561.5	562.0	559.0	556.0	553.5	551.0	550.5	550.0	548.5	547.0	35°
147.5°	586.0	585.5	585.0	582.5	580.0	577.5	575.0	574.5	574.0	574.0	574.0	37.5°
150°	603.0	601.5	600.0	598.5	597.0	595.0	593.0	593.0	593.0	593.0	593.0	40°
152.5°	618.0	616.0	614.0	612.5	611.0	610.5	610.0	610.0	610.0	609.5	609.0	42.5°
155°	636.0	633.5	631.0	628.5	626.0	627.0	628.0	629.0	630.0	628.5	627.0	45°
157.5°	650.0	649.0	648.0	646.0	644.0	644.5	645.0	645.5	646.0	645.0	644.0	47.5°
160°	661.0	662.5	664.0	661.0	658.0	656.5	655.0	655.0	655.0	655.5	656.0	50°
162.5°	670.0	670.5	671.0	669.0	667.0	665.0	663.0	662.0	661.0	663.0	665.0	52.5°
165°	680.0	678.5	677.0	674.5	672.0	672.5	673.0	673.0	673.0	674.5	676.0	55°
167.5°	688.0	686.0	684.0	681.0	678.0	681.5	685.0	686.5	688.0	687.0	686.0	57.5°
170°	694.0	691.5	689.0	687.5	686.0	688.5	691.0	692.0	693.0	692.5	692.0	59°
172.5°	694.0	693.0	692.0	690.5	689.0	689.5	690.0	690.0	690.0	691.5	693.0	60°
175°	696.0	695.5	695.0	692.5	690.0	690.0	690.0	690.5	691.0	693.0	695.0	62.5°
177.5°	701.0	700.0	699.0	696.5	694.0	694.5	695.0	696.0	697.0	698.0	699.0	65°
180°	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	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°
729.3	729.3	729.3	729.3	729.3	729.3	729.3	729.3	729.3	729.3	729.3	110°	80.5
633.8	635.3	638.6	637.5	649.8	646.0	654.6	666.1	676.9	671.7	673.2	112.5°	113.5
521.2	523.1	509.0	517.5	530.1	524.9	523.1	540.2	536.1	555.4	539.4	115°	153.0
386.0	381.5	374.8	371.5	362.2	362.2	379.7	387.5	386.4	399.7	413.5	117.5°	193.0
271.2	266.0	257.8	255.6	264.9	269.3	277.1	284.9	295.3	310.6	319.5	120°	229.5
199.1	197.3	199.1	204.7	213.2	219.6	231.4	245.2	256.7	269.0	280.9	122.5°	264.0
150.5	154.2	159.0	162.7	169.4	181.3	187.6	202.8	213.2	224.0	237.8	125°	297.5
117.0	119.3	120.4	121.9	127.4	136.0	136.0	151.6	165.3	179.4	191.0	127.5°	331.0
89.2	89.2	85.4	87.7	88.4	87.7	92.1	101.0	110.0	119.3	137.5	130°	364.0
74.7	72.4	71.3	71.0	71.3	72.8	75.4	78.8	80.2	84.3	91.4	132.5°	397.0
66.1	65.8	64.6	64.6	65.4	65.8	68.4	71.3	72.1	73.2	75.8	135°	429.0
58.3	59.1	60.2	59.8	60.2	60.9	62.8	65.4	66.9	67.2	69.1	137.5°	459.5
52.8	53.5	53.9	55.0	55.0	55.4	56.8	59.4	60.6	62.4	64.3	140°	488.0
49.0	49.4	49.8	49.4	49.8	49.8	51.6	54.2	55.7	56.8	58.0	142.5°	517.5
45.0	44.6	44.6	44.6	43.5	43.1	43.8	46.4	46.8	47.9	50.5	145°	545.5
40.1	39.0	38.3	38.3	38.3	38.6	40.5	43.1	43.5	44.6	46.8	147.5°	572.5
35.7	35.3	35.3	35.7	36.0	36.8	38.3	40.9	41.2	42.4	44.2	150°	593.0
33.4	33.4	33.4	33.8	34.2	34.6	36.4	39.0	39.8	40.9	43.1	152.5°	608.5
31.9	32.3	31.9	31.9	32.3	33.1	34.9	37.9	39.0	40.1	42.4	155°	626.0
30.8	30.8	30.8	31.2	31.2	31.9	34.2	37.2	37.9	39.4	42.7	157.5°	643.5
29.3	30.1	29.7	30.1	30.5	31.2	33.4	36.4	37.5	39.8	43.5	160°	657.5
28.6	28.6	28.6	29.0	29.7	30.1	31.9	35.3	36.8	39.8	45.7	162.5°	667.0
28.2	27.5	27.5	27.9	28.6	29.3	31.2	34.6	36.4	39.4	45.3	165°	676.0
27.9	26.7	26.4	26.7	27.5	27.9	30.1	33.4	36.0	38.3	43.8	167.5°	685.0
26.7	26.0	25.6	26.0	26.7	27.5	29.3	32.7	34.6	37.5	42.0	170°	692.0
26.4	25.3	25.3	25.6	26.4	26.7	28.6	31.9	33.8	37.9	43.1	172.5°	694.0
24.9	24.5	24.5	24.9	24.9	25.6	27.9	31.2	32.7	38.6	36.0	175°	696.0
23.8	23.8	23.8	23.8	24.1	24.5	27.1	30.5	31.2	33.4	30.8	177.5°	699.5
23.0	23.0	23.0	23.0	23.0	23.8	26.0	29.3	29.7	29.3	28.2	180°	700.0
21.5	21.5	21.5	21.5	21.9	22.3	24.5	27.5	27.5	26.7	26.7		
20.4	20.1	20.1	20.1	20.1	20.4	22.7	25.6	25.3	24.9	24.9		
18.2	18.2	18.2	18.2	18.2	18.2	20.4	23.4	23.0	22.7	22.3		
16.0	16.0	16.3	16.0	15.6	15.2	17.5	20.8	20.8	20.4	20.1		
13.7	13.4	13.7	13.4	12.6	12.6	14.5	17.5	17.8	17.5	16.7		
11.1	10.8	10.8	10.8	9.3	9.3	11.1	14.1	14.1	13.7	13.0		
8.5	8.2	7.8	7.4	6.3	6.3	7.8	10.4	10.8	9.3	8.9		
4.5	4.5	4.5	3.3	3.0	2.6	4.1	6.3	6.3	5.2	4.5		
7.5	7.0	6.0	5.0	5.0	5.0	6.0	7.4	7.5	8.0	8.0		
5.5	5.0	4.5	4.0	4.0	4.0	4.5	5.0	5.5	6.0	6.0		
6.5	6.0	5.5	5.0	5.0	5.0	5.5	6.0	6.5	7.0	7.0		
8.0	8.0	7.5	7.0	7.0	7.0	7.5	8.0	8.0	8.0	8.5		
9.5	9.0	8.5	8.0	8.0	8.0	8.5	9.0	9.5	10.0	11.0		
15.5	13.0	12.0	11.0	11.0	11.0	12.0	13.0	15.5	18.0	22.5		
31.5	27.0	24.5	22.0	21.0	22.0	24.5	27.0	31.5	36.0	42.0		
53.5	49.0	45.5	42.0	41.0	42.0	45.5	49.0	53.5	58.0	65.5		

'227281  
 ISW-AF-450-LED-E1-SLR-8030-ULG

REPORT NUMBER: P227281  
 CATALOG NUMBER: ISW-AF-4!

**TION (continued):**

**CANDELA DISTRIBUTION (con**

165°	170°	175°	180°	185°	190°	195°	200°	205°	210°		215°	220°
74.0	71.0	68.0	66.0	68.0	71.0	74.0	80.5	87.0	94.5	0°	729.3	729.3
106.0	102.5	99.0	99.0	99.0	102.5	106.0	113.5	121.0	127.5	2.5°	682.5	685.8
147.0	143.0	139.0	140.0	139.0	143.0	147.0	153.0	159.0	163.5	5°	551.3	564.3
189.0	186.5	184.0	184.0	184.0	186.5	189.0	193.0	197.0	199.5	7.5°	416.8	434.3
226.0	224.5	223.0	225.0	223.0	224.5	226.0	229.5	233.0	235.0	10°	334.0	345.9
261.0	260.5	260.0	263.0	260.0	260.5	261.0	264.0	267.0	269.0	12.5°	293.1	310.2
296.0	295.0	294.0	298.0	294.0	295.0	296.0	297.5	299.0	302.0	15°	251.5	270.1
329.0	329.0	329.0	330.0	329.0	329.0	329.0	331.0	333.0	336.0	17.5°	206.2	228.8
362.0	361.5	361.0	363.0	361.0	361.5	362.0	364.0	366.0	368.0	20°	157.5	179.8
393.0	393.5	394.0	396.0	394.0	393.5	393.0	397.0	401.0	402.5	22.5°	110.7	129.7
426.0	426.0	426.0	429.0	426.0	426.0	426.0	429.0	432.0	433.5	25°	80.6	89.2
459.0	458.0	457.0	460.0	457.0	458.0	459.0	459.5	460.0	462.0	27.5°	71.7	75.0
487.0	486.0	485.0	488.0	485.0	486.0	487.0	488.0	489.0	490.0	30°	67.2	69.5
517.0	516.0	515.0	518.0	515.0	516.0	517.0	517.5	518.0	519.5	32.5°	60.6	62.8
544.0	545.0	546.0	550.0	546.0	545.0	544.0	545.5	547.0	548.5	35°	53.1	56.1
571.0	571.5	572.0	575.0	572.0	571.5	571.0	572.5	574.0	574.0	37.5°	49.4	51.6
593.0	592.5	592.0	595.0	592.0	592.5	593.0	593.0	593.0	593.0	40°	47.2	47.6
608.0	608.0	608.0	611.0	608.0	608.0	608.0	608.5	609.0	609.5	42.5°	45.3	45.3
625.0	625.0	625.0	629.0	625.0	625.0	625.0	626.0	627.0	628.5	45°	44.2	45.3
643.0	643.0	643.0	646.0	643.0	643.0	643.0	643.5	644.0	645.0	47.5°	45.0	49.8
659.0	659.5	660.0	663.0	660.0	659.5	659.0	657.5	656.0	655.5	50°	50.5	49.0
669.0	669.0	669.0	673.0	669.0	669.0	669.0	667.0	665.0	663.0	52.5°	51.6	46.1
676.0	677.0	678.0	681.0	678.0	677.0	676.0	676.0	676.0	674.5	55°	47.2	44.2
684.0	685.5	687.0	690.0	687.0	685.5	684.0	685.0	686.0	687.0	57.5°	42.4	38.6
692.0	693.5	695.0	698.0	695.0	693.5	692.0	692.0	692.0	692.5	59°	37.9	35.7
695.0	696.0	697.0	699.0	697.0	696.0	695.0	694.0	693.0	691.5	60°	35.3	34.6
697.0	697.5	698.0	700.0	698.0	697.5	697.0	696.0	695.0	693.0	62.5°	32.3	33.1
700.0	702.5	705.0	707.0	705.0	702.5	700.0	699.5	699.0	698.0	65°	30.1	31.6
700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	67.5°	29.0	30.1
										70°	27.1	27.9
										72.5°	25.3	25.6
										75°	22.7	23.0
										77.5°	20.1	20.1
										80°	16.3	16.3
										82.5°	12.6	12.3
										85°	8.2	7.8
										87.5°	3.7	3.0
										90°	8.0	7.5
										92.5°	6.0	6.0
										95°	7.0	7.0
										97.5°	9.0	9.0
										100°	12.0	16.5
										102.5°	27.0	33.5
										105°	48.0	55.5
										107.5°	73.0	80.5



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**tinued):**

**CANDELA DISTRIBUTION (continued):**

225°	230°	235°	240°	245°	250°	255°	260°	265°		215°	220°	225°
729.3	729.3	729.3	729.3	729.3	729.3	729.3	729.3	729.3	110°	102.0	108.0	114.0
702.5	712.9	721.1	719.6	737.1	747.5	749.0	759.7	770.1	112.5°	134.0	138.5	143.0
574.7	589.2	603.3	613.7	641.2	663.9	681.3	699.9	721.8	115°	168.0	171.0	174.0
458.1	470.3	493.4	510.1	539.1	565.4	591.1	620.4	645.3	117.5°	202.0	203.5	205.0
358.9	374.5	396.0	427.2	453.2	483.3	515.7	543.5	585.1	120°	237.0	240.0	243.0
322.5	332.1	350.0	364.8	397.1	429.1	465.5	503.8	542.0	122.5°	271.0	274.0	277.0
284.9	302.0	318.8	340.3	368.5	403.5	442.8	484.1	527.2	125°	305.0	307.5	310.0
248.5	271.2	289.4	312.8	344.4	388.6	439.9	491.1	541.7	127.5°	339.0	339.5	340.0
204.0	225.1	257.1	280.9	322.1	377.4	443.2	514.2	582.5	130°	370.0	371.0	372.0
160.5	183.2	219.6	254.9	300.2	371.5	456.6	552.1	643.4	132.5°	404.0	404.5	405.0
114.8	145.6	181.7	226.2	281.2	367.8	474.8	598.9	721.8	135°	435.0	436.0	437.0
85.8	107.4	151.2	199.9	260.1	361.1	494.1	642.3	775.3	137.5°	464.0	466.0	468.0
76.5	91.8	120.4	171.6	234.0	348.1	508.6	683.6	824.0	140°	491.0	494.0	497.0
66.9	78.8	101.4	144.9	210.6	328.0	514.9	705.5	857.8	142.5°	521.0	523.0	525.0
58.7	69.8	92.9	134.5	198.8	305.4	513.8	727.4	900.2	145°	550.0	550.5	551.0
53.5	63.2	89.2	131.9	189.5	284.6	514.9	762.7	962.9	147.5°	574.0	574.5	575.0
49.4	60.6	86.2	126.3	185.0	273.1	519.4	793.9	1016.8	150°	593.0	593.0	593.0
49.4	59.8	78.8	118.5	182.8	274.2	521.2	818.1	1056.9	152.5°	610.0	610.0	610.0
52.0	56.1	73.2	114.1	184.3	282.3	519.0	842.6	1095.9	155°	630.0	629.0	628.0
49.4	52.4	69.5	113.3	184.3	288.3	525.7	873.0	1147.2	157.5°	646.0	645.5	645.0
46.8	48.7	68.4	112.2	180.6	293.9	553.2	929.9	1214.1	160°	655.0	655.0	655.0
43.5	45.7	66.9	110.3	176.5	300.9	601.8	1025.4	1324.8	162.5°	661.0	662.0	663.0
39.4	43.8	64.6	107.4	173.9	313.6	651.6	1121.9	1456.7	165°	673.0	673.0	673.0
37.9	42.0	59.4	100.3	171.3	327.3	704.7	1214.5	1575.2	167.5°	688.0	686.5	685.0
36.8	40.5	55.0	95.1	169.0	334.0	720.7	1249.7	1620.9	170°	693.0	692.0	691.0
36.0	39.8	52.4	90.6	166.4	334.4	732.2	1263.1	1627.6	172.5°	690.0	690.0	690.0
34.9	38.3	47.2	81.4	158.3	334.0	733.4	1271.7	1608.2	175°	691.0	690.5	690.0
33.1	36.8	47.6	76.5	143.4	318.4	687.3	1230.4	1531.3	177.5°	697.0	696.0	695.0
31.6	35.7	50.2	77.6	127.8	278.3	601.1	1102.3	1366.8	180°	700.0	700.0	700.0
29.3	34.9	52.4	80.2	123.3	231.1	454.7	900.2	1144.6				
27.1	34.6	54.2	82.1	118.5	190.2	315.0	638.2	856.7				
24.5	31.6	49.4	69.8	98.1	138.2	202.8	417.6	590.7				
21.2	25.3	36.0	49.0	72.1	96.6	120.0	252.3	386.4				
17.5	18.9	25.6	31.6	47.9	57.2	66.5	142.3	270.1				
13.0	13.4	17.5	20.1	27.1	31.6	39.8	87.3	218.8				
7.4	8.5	11.9	13.4	16.3	20.1	26.0	55.7	171.6				
3.0	3.7	7.1	7.8	8.9	11.1	14.5	32.3	53.5				
7.0	7.0	7.0	8.0	9.0	9.0	9.0	8.0	7.0				
6.0	6.5	7.0	7.0	7.0	6.5	6.0	6.0	6.0				
7.0	7.0	7.0	7.5	8.0	7.5	7.0	7.0	7.0				
9.0	10.5	12.0	11.0	10.0	9.5	9.0	8.5	8.0				
21.0	25.0	29.0	27.5	26.0	24.5	23.0	21.0	19.0				
40.0	45.0	50.0	48.5	47.0	44.5	42.0	40.5	39.0				
63.0	67.5	72.0	71.0	70.0	67.5	65.0	63.0	61.0				
88.0	91.5	95.0	94.5	94.0	92.0	90.0	88.5	87.0				



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**CANDELA DISTRIBUTION (continued):**

230°	235°	240°	245°	250°	255°	260°	265°		270°	275°	280°	285°
117.0	120.0	120.5	121.0	120.0	119.0	117.5	116.0	0°	729.3	729.3	729.3	729.3
145.5	148.0	149.0	150.0	149.5	149.0	148.0	147.0	2.5°	780.5	788.3	795.0	800.2
176.5	179.0	180.5	182.0	180.5	179.0	178.0	177.0	5°	745.2	763.4	785.4	803.9
208.0	211.0	213.0	215.0	212.5	210.0	209.0	208.0	7.5°	682.5	705.5	741.2	763.1
244.5	246.0	248.0	250.0	247.5	245.0	244.0	243.0	10°	623.0	656.8	695.8	727.4
278.0	279.0	281.0	283.0	280.5	278.0	277.0	276.0	12.5°	582.5	624.5	661.7	696.9
311.5	313.0	314.0	315.0	312.5	310.0	310.0	310.0	15°	571.4	614.1	647.5	679.9
342.5	345.0	345.5	346.0	346.0	346.0	345.5	345.0	17.5°	593.7	636.4	665.0	684.7
374.5	377.0	379.0	381.0	381.0	381.0	380.0	379.0	20°	646.0	691.7	709.9	708.5
408.0	411.0	413.5	416.0	415.0	414.0	414.0	414.0	22.5°	717.7	765.7	765.7	750.8
440.0	443.0	445.5	448.0	447.5	447.0	448.5	450.0	25°	812.5	847.0	828.1	799.9
470.5	473.0	474.0	475.0	475.5	476.0	478.5	481.0	27.5°	879.7	912.0	879.0	832.5
498.5	500.0	501.0	502.0	503.0	504.0	506.5	509.0	30°	935.5	959.2	917.2	861.2
526.0	527.0	530.0	533.0	533.0	533.0	533.5	534.0	32.5°	984.5	1002.0	946.6	891.2
553.5	556.0	559.0	562.0	561.5	561.0	559.5	558.0	35°	1043.2	1049.5	977.1	918.0
577.5	580.0	582.5	585.0	585.5	586.0	584.5	583.0	37.5°	1108.2	1113.4	1020.9	947.3
595.0	597.0	598.5	600.0	601.5	603.0	604.5	606.0	40°	1184.7	1166.2	1053.2	974.5
610.5	611.0	612.5	614.0	616.0	618.0	620.5	623.0	42.5°	1231.9	1201.4	1076.6	988.6
627.0	626.0	628.5	631.0	633.5	636.0	637.0	638.0	45°	1269.1	1227.5	1087.4	996.8
644.5	644.0	646.0	648.0	649.0	650.0	650.0	650.0	47.5°	1314.8	1265.7	1106.3	1011.6
656.5	658.0	661.0	664.0	662.5	661.0	660.5	660.0	50°	1374.9	1318.8	1154.3	1053.6
665.0	667.0	669.0	671.0	670.5	670.0	669.0	668.0	52.5°	1498.3	1428.8	1240.5	1126.8
672.5	672.0	674.5	677.0	678.5	680.0	679.0	678.0	55°	1640.2	1574.4	1378.3	1247.5
681.5	678.0	681.0	684.0	686.0	688.0	688.0	688.0	57.5°	1753.9	1709.7	1501.3	1356.7
688.5	686.0	687.5	689.0	691.5	694.0	695.0	696.0	59°	1795.9	1776.9	1588.2	1449.2
689.5	689.0	690.5	692.0	693.0	694.0	695.0	696.0	60°	1811.5	1827.8	1634.3	1505.7
690.0	690.0	692.5	695.0	695.5	696.0	695.0	694.0	62.5°	1822.2	1893.2	1784.0	1674.4
694.5	694.0	696.5	699.0	700.0	701.0	699.5	698.0	65°	1799.9	1904.0	1844.5	1777.3
700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	67.5°	1703.0	1827.4	1815.9	1756.9
								70°	1504.6	1643.2	1683.3	1599.3
								72.5°	1132.0	1304.0	1522.8	1391.3
								75°	737.4	896.4	1300.3	1191.8
								77.5°	461.8	559.5	927.7	834.8
								80°	307.2	359.6	588.8	536.1
								82.5°	231.1	254.9	404.9	380.8
								85°	121.9	155.3	315.0	399.4
								87.5°	45.7	50.9	237.0	357.0
								90°	7.0	7.0	8.4	9.0
								92.5°	6.0	6.0	6.0	6.0
								95°	7.0	7.0	7.0	7.0
								97.5°	8.0	8.0	8.5	9.0
								100°	19.0	19.0	21.0	23.0
								102.5°	38.0	39.0	40.5	42.0
								105°	61.0	61.0	63.0	65.0
								107.5°	86.0	87.0	88.5	90.0



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CATALOG NUMBER: ISW-AF-450-LED-E1-SLR-8030-ULG

ULG

**CANDELA DISTRIBUTION (continued):**

290°	295°	300°	305°	310°	315°	320°		270°	275°	280°	285°	290°
729.3	729.3	729.3	729.3	729.3	729.3	729.3	110°	117.0	116.0	117.5	119.0	120.0
804.7	811.4	815.5	812.5	817.3	818.4	813.2	112.5°	147.0	147.0	148.0	149.0	149.5
819.5	838.1	851.5	860.8	864.5	867.8	866.4	115°	178.0	177.0	178.0	179.0	180.5
792.1	820.7	845.5	862.6	868.6	873.0	869.0	117.5°	209.0	208.0	209.0	210.0	212.5
761.6	791.3	814.7	831.8	831.4	835.9	828.1	120°	243.0	243.0	244.0	245.0	247.5
733.0	762.0	782.8	782.0	776.8	763.8	761.6	122.5°	277.0	276.0	277.0	278.0	280.5
710.3	725.6	730.8	729.6	714.8	707.3	706.2	125°	310.0	310.0	310.0	310.0	312.5
699.2	698.4	686.5	673.5	659.4	658.7	649.0	127.5°	347.0	345.0	345.5	346.0	346.0
701.0	676.9	655.0	632.7	617.4	614.1	615.2	130°	380.0	379.0	380.0	381.0	381.0
724.4	681.7	640.5	617.8	600.0	594.8	597.0	132.5°	415.0	414.0	414.0	414.0	415.0
753.8	696.6	645.3	610.8	596.3	590.0	591.1	135°	451.0	450.0	448.5	447.0	447.5
773.5	713.7	661.3	618.6	598.9	592.9	596.6	137.5°	482.0	481.0	478.5	476.0	475.5
798.7	737.1	682.8	638.6	609.3	601.5	604.1	140°	511.0	509.0	506.5	504.0	503.0
823.6	762.3	713.3	663.1	627.5	613.0	617.1	142.5°	536.0	534.0	533.5	533.0	533.0
850.4	791.7	742.3	696.6	654.6	631.9	637.1	145°	560.0	558.0	559.5	561.0	561.5
881.6	825.9	783.5	741.5	698.4	679.5	681.7	147.5°	585.0	583.0	584.5	586.0	585.5
911.7	859.3	832.2	801.0	775.7	746.7	746.7	150°	610.0	606.0	604.5	603.0	601.5
929.5	902.8	895.3	886.4	871.6	850.7	846.3	152.5°	628.0	623.0	620.5	618.0	616.0
951.4	954.4	971.5	989.3	993.8	973.3	967.0	155°	641.0	638.0	637.0	636.0	633.5
992.7	1023.9	1080.0	1128.6	1138.3	1155.0	1135.7	157.5°	655.0	650.0	650.0	650.0	649.0
1050.6	1108.2	1202.9	1282.4	1305.1	1306.6	1308.1	160°	666.0	660.0	660.5	661.0	662.5
1116.7	1199.2	1324.4	1419.2	1459.6	1470.4	1462.6	162.5°	674.0	668.0	669.0	670.0	670.5
1230.1	1304.7	1441.8	1544.0	1596.0	1621.3	1614.6	165°	682.0	678.0	679.0	680.0	678.5
1342.3	1435.1	1555.9	1656.5	1711.9	1740.1	1746.1	167.5°	694.0	688.0	688.0	688.0	686.0
1418.8	1505.7	1617.2	1710.0	1764.7	1798.5	1801.4	170°	701.0	696.0	695.0	694.0	691.5
1465.6	1545.1	1653.9	1735.7	1790.3	1818.9	1829.3	172.5°	701.0	696.0	695.0	694.0	693.0
1607.5	1622.0	1696.3	1750.2	1788.4	1801.4	1809.2	175°	699.0	694.0	695.0	696.0	695.5
1674.0	1613.4	1604.9	1638.3	1641.7	1633.1	1622.4	177.5°	702.0	698.0	699.5	701.0	700.0
1581.5	1440.0	1387.6	1383.1	1369.4	1363.8	1329.6	180°	700.0	700.0	700.0	700.0	700.0
1373.5	1169.5	1077.0	1026.8	1057.3	1056.2	1021.3						
1157.2	949.6	829.6	757.5	748.6	747.1	716.6						
939.9	745.2	640.1	605.2	563.2	550.6	555.8						
677.6	532.0	509.7	536.5	539.8	530.1	523.5						
426.9	400.1	421.7	470.3	498.9	486.3	491.1						
355.9	315.0	316.5	367.8	387.1	390.1	380.1						
394.9	315.4	258.6	252.3	245.6	154.5	215.1						
355.9	244.1	143.8	118.5	72.8	42.0	43.5						
9.0	9.0	8.0	7.0	7.0	7.0	7.5						
6.5	7.0	7.0	7.0	6.5	6.0	6.0						
7.5	8.0	7.5	7.0	7.0	7.0	7.0						
9.5	10.0	11.0	12.0	10.5	9.0	9.0						
24.5	26.0	27.5	29.0	25.0	21.0	16.5						
44.5	47.0	48.5	50.0	45.0	40.0	33.5						
67.5	70.0	71.0	72.0	67.5	63.0	55.5						
92.0	94.0	94.5	95.0	91.5	88.0	80.5						



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**CANDELA DISTRIBUTION (continued):**

295°	300°	305°	310°	315°	320°		325°	330°	335°	340°	345°	350°
121.0	120.5	120.0	117.0	114.0	108.0	0°	729.3	729.3	729.3	729.3	729.3	729.3
150.0	149.0	148.0	145.5	143.0	138.5	2.5°	812.1	805.1	797.3	786.8	788.7	776.1
182.0	180.5	179.0	176.5	174.0	171.0	5°	854.8	842.6	825.9	804.7	785.0	759.7
215.0	213.0	211.0	208.0	205.0	203.5	7.5°	850.4	830.7	802.8	770.9	744.9	708.5
250.0	248.0	246.0	244.5	243.0	240.0	10°	812.1	786.5	763.8	730.8	696.9	665.0
283.0	281.0	279.0	278.0	277.0	274.0	12.5°	758.6	744.1	724.4	699.5	666.9	634.2
315.0	314.0	313.0	311.5	310.0	307.5	15°	700.3	701.4	689.5	682.8	666.5	640.5
346.0	345.5	345.0	342.5	340.0	339.5	17.5°	652.4	663.5	669.8	680.2	682.1	669.5
381.0	379.0	377.0	374.5	372.0	371.0	20°	620.4	636.0	655.7	684.3	714.4	727.4
416.0	413.5	411.0	408.0	405.0	404.5	22.5°	602.6	621.9	653.5	705.5	760.5	793.5
448.0	445.5	443.0	440.0	437.0	436.0	25°	599.2	624.9	669.1	732.6	803.9	850.4
475.0	474.0	473.0	470.5	468.0	466.0	27.5°	604.8	638.2	690.6	763.1	833.3	900.5
502.0	501.0	500.0	498.5	497.0	494.0	30°	622.6	661.7	718.9	796.9	869.7	936.6
533.0	530.0	527.0	526.0	525.0	523.0	32.5°	639.7	688.0	751.2	827.3	900.5	967.0
562.0	559.0	556.0	553.5	551.0	550.5	35°	667.2	715.9	780.5	850.7	921.7	997.1
585.0	582.5	580.0	577.5	575.0	574.5	37.5°	709.2	751.9	803.6	869.0	942.9	1020.9
600.0	598.5	597.0	595.0	593.0	593.0	40°	769.0	797.3	830.7	882.3	953.3	1036.9
614.0	612.5	611.0	610.5	610.0	610.0	42.5°	858.6	864.5	876.0	902.8	962.6	1055.4
631.0	628.5	626.0	627.0	628.0	629.0	45°	974.1	956.3	946.2	942.5	983.4	1067.3
648.0	646.0	644.0	644.5	645.0	645.5	47.5°	1108.2	1073.3	1033.2	1013.8	1023.5	1086.3
664.0	661.0	658.0	656.5	655.0	655.0	50°	1282.8	1226.0	1147.2	1091.5	1086.7	1142.0
671.0	669.0	667.0	665.0	663.0	662.0	52.5°	1442.9	1368.6	1269.4	1203.7	1176.9	1246.0
677.0	674.5	672.0	672.5	673.0	673.0	55°	1594.1	1536.9	1424.7	1343.0	1333.7	1383.9
684.0	681.0	678.0	681.5	685.0	686.5	57.5°	1726.8	1677.3	1585.6	1479.0	1482.7	1531.3
689.0	687.5	686.0	688.5	691.0	692.0	59°	1795.5	1754.3	1669.2	1560.7	1568.9	1635.7
692.0	690.5	689.0	689.5	690.0	690.0	60°	1820.0	1785.5	1704.5	1613.1	1623.5	1693.0
695.0	692.5	690.0	690.0	690.0	690.5	62.5°	1818.1	1795.9	1737.2	1694.1	1747.2	1798.1
699.0	696.5	694.0	694.5	695.0	696.0	65°	1644.7	1610.8	1604.2	1679.6	1782.1	1831.2
700.0	700.0	700.0	700.0	700.0	700.0	67.5°	1308.1	1324.0	1387.6	1517.2	1689.2	1760.6
						70°	971.5	999.7	1084.4	1247.1	1483.4	1606.8
						72.5°	714.4	742.6	820.7	999.0	1220.4	1329.6
						75°	560.6	569.1	625.2	765.3	961.8	1051.4
						77.5°	517.9	492.2	469.2	544.3	648.6	725.6
						80°	482.2	433.5	379.3	402.0	427.2	509.0
						82.5°	374.5	342.2	299.8	328.8	340.7	343.3
						85°	219.2	195.0	247.1	350.0	346.2	303.1
						87.5°	77.3	100.3	112.9	193.9	234.4	202.8
						90°	8.0	9.1	11.3	11.2	12.6	7.9
						92.5°	6.0	6.0	6.0	5.5	5.0	4.5
						95°	7.0	7.0	7.0	6.5	6.0	5.5
						97.5°	9.0	8.5	8.0	8.0	8.0	7.5
						100°	12.0	11.0	10.0	9.5	9.0	8.5
						102.5°	27.0	22.5	18.0	15.5	13.0	12.0
						105°	48.0	42.0	36.0	31.5	27.0	24.5
						107.5°	73.0	65.5	58.0	53.5	49.0	45.5



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**CANDELA DISTRIBUTION (continued):**

355°	359°	360°		325°	330°	335°	340°	345°	350°	355°
729.3	729.3	729.3	110°	102.0	94.5	87.0	80.5	74.0	71.0	68.0
766.0	755.6	754.9	112.5°	134.0	127.5	121.0	113.5	106.0	102.5	99.0
739.7	716.3	708.8	115°	168.0	163.5	159.0	153.0	147.0	143.0	139.0
676.9	649.8	644.2	117.5°	202.0	199.5	197.0	193.0	189.0	186.5	184.0
624.1	594.0	588.8	120°	237.0	235.0	233.0	229.5	226.0	224.5	223.0
597.0	568.4	562.1	122.5°	271.0	269.0	267.0	264.0	261.0	260.5	260.0
607.4	575.8	572.5	125°	305.0	302.0	299.0	297.5	296.0	295.0	294.0
646.4	613.0	614.5	127.5°	339.0	336.0	333.0	331.0	329.0	329.0	329.0
713.3	691.7	686.5	130°	370.0	368.0	366.0	364.0	362.0	361.5	361.0
801.0	777.6	770.9	132.5°	404.0	402.5	401.0	397.0	393.0	393.5	394.0
875.6	863.8	859.3	135°	435.0	433.5	432.0	429.0	426.0	426.0	426.0
929.5	935.1	930.6	137.5°	464.0	462.0	460.0	459.5	459.0	458.0	457.0
972.6	991.2	988.9	140°	491.0	490.0	489.0	488.0	487.0	486.0	485.0
1016.8	1052.8	1054.3	142.5°	521.0	519.5	518.0	517.5	517.0	516.0	515.0
1049.5	1113.0	1126.0	145°	550.0	548.5	547.0	545.5	544.0	545.0	546.0
1091.5	1176.6	1189.9	147.5°	574.0	574.0	574.0	572.5	571.0	571.5	572.0
1123.4	1223.4	1239.7	150°	593.0	593.0	593.0	593.0	593.0	592.5	592.0
1154.6	1262.0	1279.8	152.5°	610.0	609.5	609.0	608.5	608.0	608.0	608.0
1180.3	1300.3	1318.5	155°	630.0	628.5	627.0	626.0	625.0	625.0	625.0
1209.3	1337.4	1355.3	157.5°	646.0	645.0	644.0	643.5	643.0	643.0	643.0
1261.3	1395.7	1416.9	160°	655.0	655.5	656.0	657.5	659.0	659.5	660.0
1373.1	1503.9	1533.9	162.5°	661.0	663.0	665.0	667.0	669.0	669.0	669.0
1534.7	1653.2	1677.0	165°	673.0	674.5	676.0	676.0	676.0	677.0	678.0
1680.3	1754.6	1760.9	167.5°	688.0	687.0	686.0	685.0	684.0	685.5	687.0
1740.1	1782.5	1780.6	170°	693.0	692.5	692.0	692.0	692.0	693.5	695.0
1784.0	1789.2	1778.8	172.5°	690.0	691.5	693.0	694.0	695.0	696.0	697.0
1807.7	1758.3	1740.5	175°	691.0	693.0	695.0	696.0	697.0	697.5	698.0
1745.7	1677.0	1653.6	177.5°	697.0	698.0	699.0	699.5	700.0	702.5	705.0
1566.6	1530.2	1503.5	180°	700.0	700.0	700.0	700.0	700.0	700.0	700.0
1332.6	1240.5	1223.0								
1010.1	888.6	862.6								
705.9	560.2	524.9								
464.0	359.6	346.2								
300.9	238.9	234.8								
209.9	156.8	144.5								
128.9	52.4	50.2								
40.1	24.1	21.5								
6.1	6.5	6.5								
4.0	4.0	4.0								
5.0	5.0	5.0								
7.0	7.0	7.0								
8.0	8.0	8.0								
11.0	11.0	11.0								
22.0	21.2	21.0								
42.0	41.2	41.0								



359°	360°
66.4	66.0
99.0	99.0
139.8	140.0
184.0	184.0
224.6	225.0
262.4	263.0
297.2	298.0
329.8	330.0
362.6	363.0
395.6	396.0
428.4	429.0
459.4	460.0
487.4	488.0
517.4	518.0
549.2	550.0
574.4	575.0
594.4	595.0
610.4	611.0
628.2	629.0
645.4	646.0
662.4	663.0
672.2	673.0
680.4	681.0
689.4	690.0
697.4	698.0
698.6	699.0
699.6	700.0
706.6	707.0
700.0	700.0

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