

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: P227283

Luminaire Tested: **ISW-AF-450-LED-E1-SLR-7050-ULG**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P227283
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-7050-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) 5000K CCT, 70 CRI LEDs and (1) UPLIGHT LED
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4441.4 lumens
Efficiency: N/A
Efficacy: 105.7 lumens/watt
Luminous Opening: Rectangular w/ Sides (W: 0.5' x L: 0.5' x H: 0.54')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B1 - U5 - G1

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

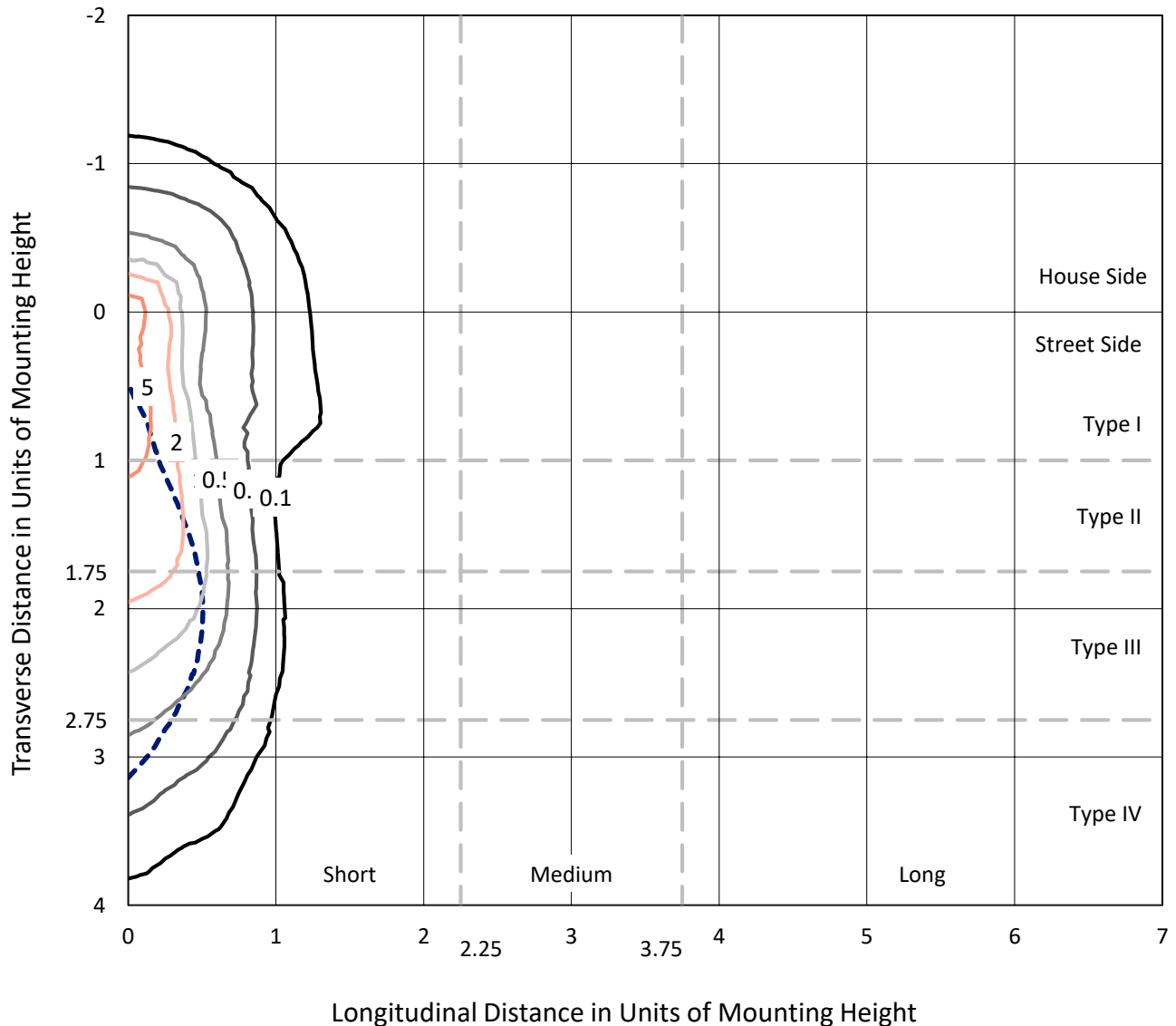


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Iso-Footcandle Lines of Horizontal Illumination

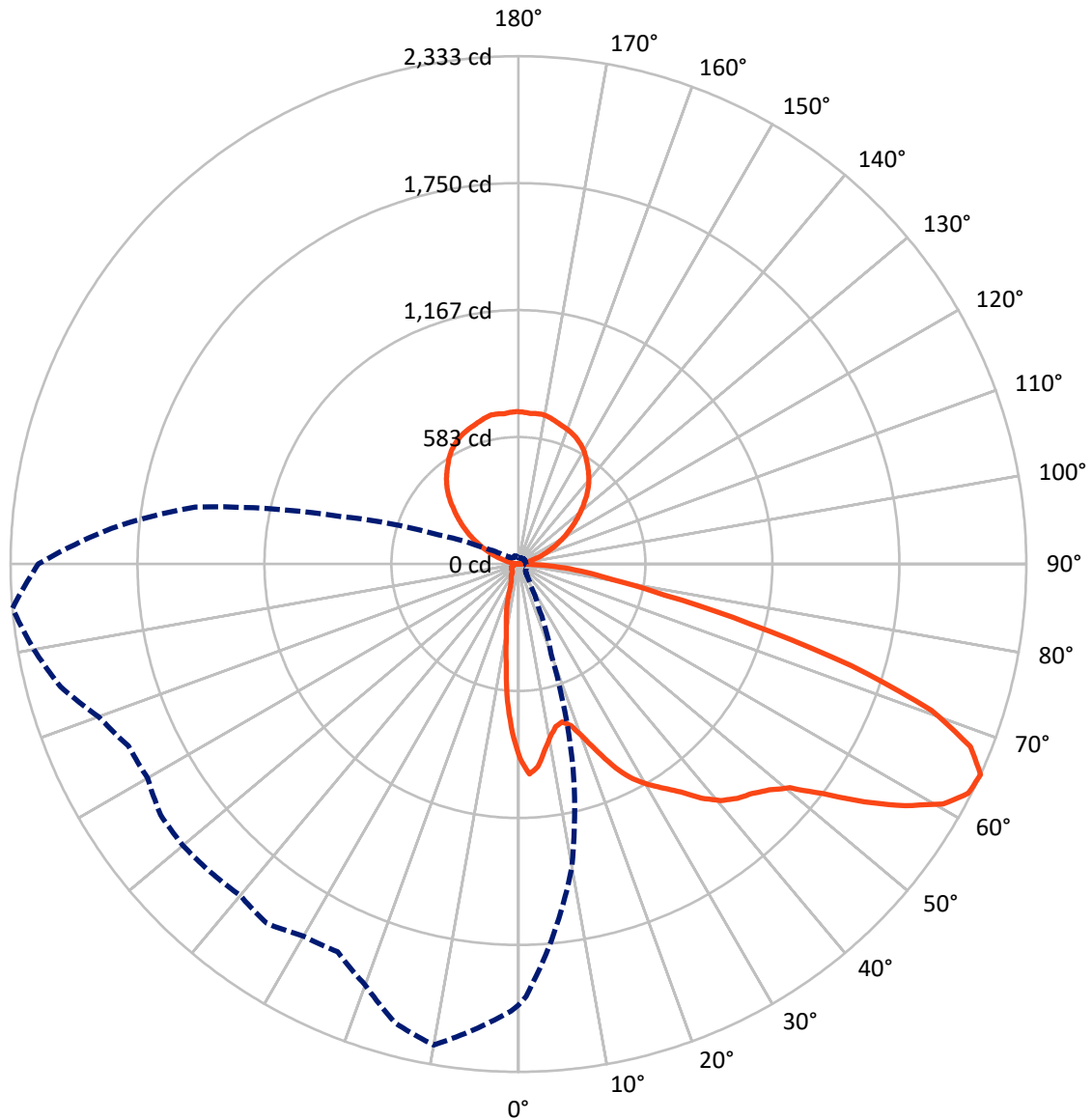
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 8.9 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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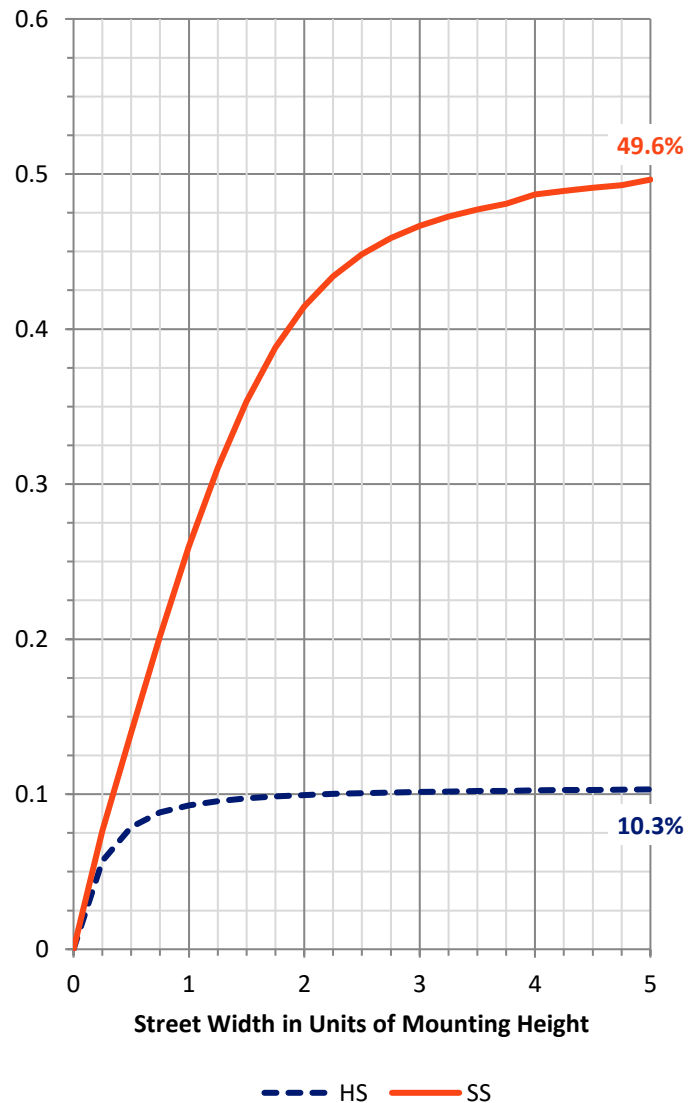
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	464.5	867.6	1332.1
	% Fixture	10.5	19.5	30.0
Street Side	Lumens	2241.6	867.7	3109.3
	% Fixture	50.5	19.5	70.0
Total	Lumens	2706.2	1735.3	4441.4
	% Fixture	60.9	39.1	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	66.2	1.5
10°-20°	127.4	2.9
20°-30°	181.7	4.1
30°-40°	263.5	5.9
40°-50°	377.0	8.5
50°-60°	578.9	13.0
60°-70°	670.0	15.1
70°-80°	341.8	7.7
80°-90°	99.7	2.2
90°-100°	9.4	0.2
100°-110°	57.4	1.3
110°-120°	166.1	3.7
120°-130°	273.2	6.2
130°-140°	336.8	7.6
140°-150°	344.6	7.8
150°-160°	290.3	6.5
160°-170°	191.2	4.3
170°-180°	66.3	1.5
0°-90°	2706.2	60.9
0°-180°	4441.4	100.0



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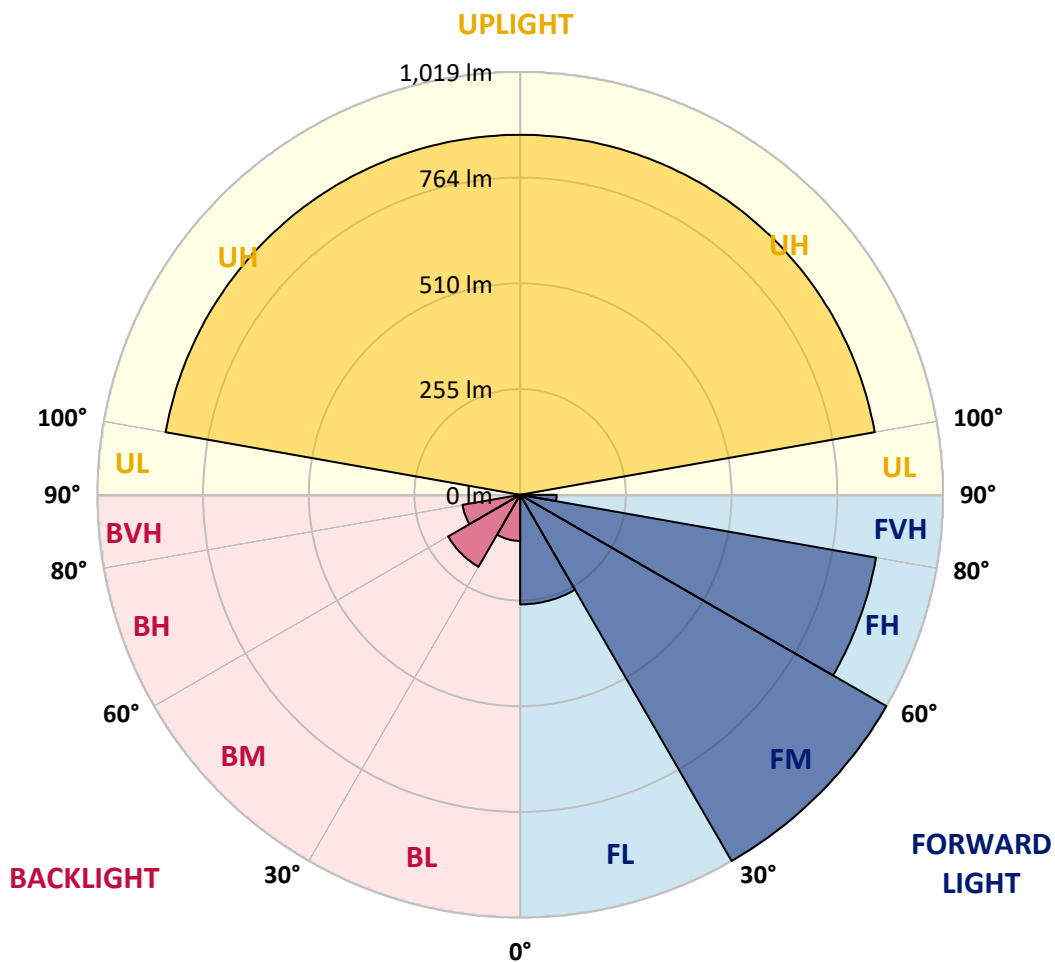
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	264.2	5.9			
FM	(30°-60°)	1019.0	22.9			
FH	(60°-80°)	870.7	19.6			G1/1800
FVH	(80°-90°)	87.7	2.0			G1/100
BL	(0°-30°)	111.1	2.5	B1/500		
BM	(30°-60°)	200.4	4.5	B0/220		
BH	(60°-80°)	141.1	3.2	B1/500		G1/500
BVH	(80°-90°)	12.0	0.3			G1/100
UL	(90°-100°)	9.4	0.2		U1/10	
UH	(100°-180°)	867.6	19.5		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°	893.7	893.7	893.7	893.7	893.7	893.7	893.7	893.7	893.7	893.7	893.7
2.5°	925.1	919.7	912.8	901.0	890.5	875.5	871.9	853.2	841.4	844.1	822.7
5°	868.7	865.5	848.6	822.2	804.9	770.8	751.2	741.2	713.0	709.3	701.6
7.5°	789.4	779.9	752.6	719.8	690.2	665.2	633.7	609.6	588.2	575.0	551.8
10°	721.6	711.6	682.0	641.9	606.4	571.4	545.9	514.5	484.0	460.3	441.6
12.5°	688.8	677.9	643.3	596.9	557.3	513.6	477.6	446.6	429.8	417.9	402.5
15°	701.6	685.6	644.2	588.7	539.5	493.1	454.8	421.6	401.6	383.3	365.1
17.5°	753.0	733.5	686.1	619.2	550.9	490.8	436.2	398.4	366.5	339.2	314.6
20°	841.4	826.8	758.0	664.2	575.5	492.2	420.2	370.6	331.9	297.3	264.5
22.5°	944.7	922.8	855.5	725.3	606.9	500.3	410.2	347.4	301.4	255.0	219.4
25°	1053.1	1036.2	947.0	807.2	655.1	517.2	402.5	326.9	265.4	214.0	174.8
27.5°	1140.5	1125.4	1037.1	886.0	699.3	531.8	391.1	307.3	236.7	174.8	131.6
30°	1211.9	1199.2	1106.8	950.6	753.0	536.8	375.1	284.5	204.9	141.1	108.8
32.5°	1292.1	1278.0	1173.7	995.7	777.2	532.2	356.9	263.1	179.4	124.7	93.3
35°	1379.9	1363.6	1248.4	1044.4	797.2	516.3	341.5	247.7	167.1	113.4	82.9
37.5°	1458.3	1447.8	1315.7	1092.7	820.0	489.9	326.4	230.8	158.9	105.2	74.7
40°	1519.3	1516.5	1390.4	1132.7	837.7	470.8	314.1	217.6	148.4	102.0	71.9
42.5°	1568.4	1567.5	1451.4	1168.7	842.3	453.9	304.6	205.8	138.9	94.2	73.3
45°	1615.8	1615.3	1510.6	1218.8	845.4	454.8	297.3	198.5	130.7	89.2	69.2
47.5°	1660.8	1667.7	1572.5	1288.4	879.1	470.3	294.6	191.7	124.3	83.8	65.6
50°	1736.4	1729.6	1670.4	1382.7	933.3	500.3	290.0	185.8	118.4	78.8	61.9
52.5°	1879.8	1872.1	1819.3	1508.8	992.5	531.3	284.1	177.6	111.5	73.3	57.8
55°	2055.1	2065.6	1992.3	1662.2	1073.1	557.3	277.7	166.6	102.4	66.9	55.1
57.5°	2158.0	2149.4	2065.6	1750.5	1122.7	570.5	273.6	153.9	88.3	61.5	52.4
59°	2182.1	2167.6	2053.3	1765.6	1135.9	564.1	271.3	141.6	81.0	58.7	51.0
60°	2179.9	2162.1	2033.7	1756.0	1139.6	556.3	267.7	134.3	76.9	57.4	50.5
62.5°	2133.0	2105.2	1922.6	1640.4	1088.6	517.6	252.7	117.0	71.5	55.5	47.8
65°	2026.4	1987.3	1736.0	1414.5	971.6	440.7	218.5	110.6	72.8	54.6	46.0
67.5°	1842.5	1811.1	1496.0	1170.5	774.4	356.0	188.9	107.9	74.7	55.5	43.3
70°	1498.8	1471.9	1167.3	876.4	580.0	283.2	171.6	106.5	73.3	53.3	41.0
72.5°	1057.2	1010.7	775.8	613.7	367.9	227.6	148.9	100.6	71.5	51.4	37.3
75°	643.3	652.0	493.1	447.1	232.2	156.2	117.0	84.7	63.3	46.0	33.7
77.5°	424.3	423.9	363.8	315.5	117.9	97.0	82.9	65.1	49.6	37.8	29.1
80°	287.7	290.9	264.1	215.3	65.6	58.3	54.2	47.3	36.4	28.7	24.1
82.5°	177.1	177.6	204.4	161.2	43.7	36.9	34.6	31.9	26.0	22.3	18.7
85°	61.5	62.8	71.5	113.8	29.6	24.1	24.1	22.3	19.6	15.0	12.3
87.5°	26.4	26.0	31.0	31.0	14.6	12.3	11.4	11.4	10.9	8.2	6.8
90°	6.8	6.4	6.4	7.8	9.3	10.7	10.7	11.2	11.2	10.2	8.8
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°	893.7	893.7	893.7	893.7	893.7	893.7	893.7	893.7	893.7	893.7	893.7
2.5°	816.3	811.3	797.2	793.5	798.1	789.0	786.7	784.4	767.6	776.2	766.2
5°	682.5	681.1	652.4	658.3	652.4	642.4	638.3	647.9	631.0	634.7	636.9
7.5°	524.5	519.0	499.9	487.1	479.4	472.6	463.9	449.8	460.7	458.5	475.8
10°	425.7	413.8	402.0	384.3	374.2	364.7	354.7	349.2	336.4	335.1	329.2
12.5°	390.2	373.3	358.3	342.8	332.4	313.2	297.3	287.3	279.1	266.3	256.8
15°	342.8	328.7	309.1	294.1	277.7	260.4	244.9	232.2	226.3	214.4	209.0
17.5°	295.0	273.6	249.9	234.9	212.2	194.4	181.7	173.5	164.8	157.5	151.2
20°	237.7	209.9	184.4	165.3	147.5	130.2	124.3	114.3	110.6	107.9	110.2
22.5°	180.7	152.1	125.7	111.1	101.5	97.0	92.0	90.1	88.8	88.3	89.2
25°	132.5	108.4	95.6	90.1	86.5	83.8	81.9	80.6	79.7	79.2	79.7
27.5°	102.4	89.7	83.3	79.7	76.9	75.1	74.2	72.8	72.4	71.9	72.4
30°	88.8	81.9	77.4	73.8	70.6	67.4	66.0	65.6	66.0	66.5	66.0
32.5°	77.4	72.4	67.4	64.2	61.9	60.1	60.1	59.2	59.2	60.6	61.0
35°	70.1	65.1	61.5	57.4	54.6	52.8	51.4	50.5	51.0	51.0	52.4
37.5°	64.2	60.6	57.4	53.7	51.0	49.2	48.3	47.3	46.9	46.4	46.4
40°	60.1	57.8	55.1	51.4	48.7	46.9	46.0	45.1	44.6	44.2	44.2
42.5°	60.1	55.5	53.7	50.5	47.3	45.5	44.2	43.3	42.3	42.3	42.3
45°	66.0	56.9	53.7	50.1	46.9	44.6	43.3	41.9	41.0	41.0	40.5
47.5°	64.2	63.7	54.6	50.1	47.3	44.6	42.8	41.4	40.5	40.1	39.6
50°	61.0	66.5	61.0	51.4	47.3	44.2	42.3	41.0	39.6	39.2	39.2
52.5°	59.2	61.9	63.3	53.3	47.8	44.2	41.9	40.5	39.6	38.7	38.2
55°	54.6	58.3	60.6	52.4	47.8	43.3	41.0	39.6	38.2	37.8	37.3
57.5°	50.1	52.8	58.3	52.4	46.4	42.8	40.1	38.2	37.3	36.9	36.4
59°	48.7	48.7	51.9	53.7	45.5	42.3	39.6	37.8	36.9	36.4	35.5
60°	47.3	47.3	49.2	55.1	45.1	41.9	39.2	37.3	36.0	36.0	35.5
62.5°	45.5	44.2	45.1	51.4	43.7	41.0	38.2	36.4	35.1	35.1	34.6
65°	43.3	41.4	41.4	42.8	41.0	39.2	37.3	35.5	33.7	33.7	34.1
67.5°	41.0	39.2	38.7	38.7	37.8	37.3	35.5	33.7	32.8	32.8	32.8
70°	37.8	36.4	36.0	35.1	35.1	34.6	33.2	31.9	31.0	31.4	31.0
72.5°	34.1	33.2	32.3	32.3	31.9	31.4	30.0	29.1	28.7	29.1	29.1
75°	30.5	29.1	29.1	28.2	28.2	27.8	26.4	26.0	25.5	26.0	26.4
77.5°	26.0	25.0	24.6	24.6	24.6	24.6	22.8	22.3	22.3	23.2	23.2
80°	21.4	20.9	20.5	20.5	20.5	20.0	19.1	18.7	18.7	19.1	19.6
82.5°	16.4	15.5	15.5	15.9	16.4	16.4	15.0	14.1	14.1	15.0	15.9
85°	10.9	10.9	10.9	11.4	11.4	11.8	10.9	9.6	10.0	10.5	11.8
87.5°	5.9	6.4	5.9	5.5	6.4	5.9	5.9	5.5	5.9	6.4	6.8
90°	8.8	8.8	9.4	9.9	9.5	9.9	8.9	8.4	7.5	7.5	8.9
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-7050-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: P227283

CATALOG NUMBER: ISW-AF-450-LED-E1-SLR-7050-ULG

CANDELA DISTRIBUTION (continued):

	105°	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°
0°	893.7	893.7	893.7	893.7	893.7	893.7	893.7	893.7	893.7	893.7	893.7
2.5°	775.3	767.6	763.5	779.4	778.1	764.4	764.4	774.0	774.4	766.2	775.8
5°	639.7	631.9	639.2	632.8	636.5	636.0	641.5	631.5	635.6	631.9	623.3
7.5°	474.4	489.9	498.1	487.6	500.8	507.6	498.1	507.6	492.6	480.3	492.2
10°	326.4	343.7	340.5	357.4	363.8	367.4	374.2	365.6	355.1	351.9	343.3
12.5°	253.1	249.5	248.1	255.0	259.1	253.1	258.1	252.7	247.2	237.7	237.2
15°	198.0	192.1	188.0	180.3	177.6	178.9	181.2	181.2	170.3	170.7	174.8
17.5°	150.2	148.9	145.7	139.3	135.2	136.6	136.1	133.9	132.5	133.4	138.4
20°	112.9	111.5	113.4	115.2	113.8	114.3	112.5	110.2	109.3	110.2	111.1
22.5°	89.2	91.1	93.3	96.1	96.5	98.8	98.3	98.8	97.0	96.1	93.8
25°	81.5	82.4	81.0	81.5	81.5	83.8	83.3	83.3	81.5	81.0	81.5
27.5°	71.9	71.5	71.5	72.4	72.4	73.8	74.7	73.8	71.9	71.5	71.9
30°	66.5	66.0	65.6	66.0	65.6	66.0	66.9	66.9	66.0	64.6	65.1
32.5°	61.0	61.0	60.6	61.0	60.6	60.6	61.5	60.1	60.1	59.6	59.6
35°	53.7	54.6	55.5	56.0	56.0	56.0	56.9	55.5	55.1	54.6	54.6
37.5°	46.4	47.3	50.1	51.4	51.9	52.8	53.3	52.4	51.4	50.5	49.6
40°	44.2	44.2	45.1	46.9	48.7	49.2	50.1	48.7	48.3	46.9	45.5
42.5°	42.3	42.8	42.8	43.3	43.7	44.6	46.0	44.6	43.7	42.8	41.4
45°	41.0	41.0	41.0	41.0	40.5	40.5	41.0	40.1	39.6	39.2	39.2
47.5°	40.1	39.6	39.2	38.7	38.2	37.8	37.8	36.9	36.9	36.9	36.9
50°	39.2	38.2	37.8	37.3	36.4	36.4	36.4	35.5	35.1	35.1	35.5
52.5°	37.8	37.3	36.9	36.4	36.0	35.5	35.5	34.6	34.1	34.1	34.1
55°	37.3	36.9	36.0	35.5	35.1	35.5	35.1	34.6	33.7	33.7	33.7
57.5°	36.0	36.4	36.0	35.1	35.1	35.1	35.1	34.1	33.7	32.8	33.2
59°	35.5	36.0	35.5	35.1	34.6	35.1	35.1	33.7	33.2	32.8	32.8
60°	35.1	35.5	35.1	34.6	34.6	35.1	34.6	34.1	33.2	31.9	32.3
62.5°	34.6	34.6	34.1	34.1	33.7	34.1	33.7	32.8	31.9	31.0	30.5
65°	33.7	33.7	33.2	33.2	32.8	32.8	32.8	31.9	31.0	30.0	30.0
67.5°	33.2	32.8	32.3	32.3	31.9	31.9	31.9	31.0	29.6	29.1	28.7
70°	31.4	31.0	31.0	30.5	30.0	30.5	31.0	29.6	28.2	27.3	26.9
72.5°	29.6	29.1	29.1	28.7	28.7	29.1	29.6	28.2	26.4	25.5	25.0
75°	26.9	26.4	26.4	26.4	26.4	27.3	27.3	26.0	24.6	23.2	22.3
77.5°	23.2	23.7	23.7	23.7	23.7	24.6	24.6	23.7	22.3	21.4	20.0
80°	20.0	20.0	20.5	20.5	20.9	20.9	20.5	20.0	19.6	18.7	16.8
82.5°	16.8	16.8	16.8	16.8	16.8	16.4	15.5	16.4	16.4	15.5	14.1
85°	13.2	13.2	13.2	13.7	13.7	12.3	10.9	10.9	12.3	11.8	10.9
87.5°	7.7	7.7	8.2	9.6	8.7	8.2	6.8	7.3	6.8	7.7	6.4
90°	10.8	10.4	10.4	8.5	7.9	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°
893.7	893.7	893.7	893.7	893.7	893.7	893.7	893.7	893.7	893.7	893.7	110°	80.5
776.7	778.5	782.6	781.3	796.3	791.7	802.2	816.3	829.5	823.1	825.0	112.5°	113.5
638.8	641.0	623.7	634.2	649.7	643.3	641.0	662.0	657.0	680.6	661.1	115°	153.0
473.0	467.6	459.4	455.3	443.9	443.9	465.3	474.9	473.5	489.9	506.7	117.5°	193.0
332.4	326.0	316.0	313.2	324.6	330.1	339.6	349.2	361.9	380.6	391.5	120°	229.5
244.0	241.8	244.0	250.9	261.3	269.1	283.6	300.5	314.6	329.6	344.2	122.5°	264.0
184.4	188.9	194.9	199.4	207.6	222.2	229.9	248.6	261.3	274.5	291.4	125°	297.5
143.4	146.1	147.5	149.3	156.2	166.6	166.6	185.8	202.6	219.9	234.0	127.5°	331.0
109.3	109.3	104.7	107.4	108.4	107.4	112.9	123.8	134.8	146.1	168.5	130°	364.0
91.5	88.8	87.4	87.0	87.4	89.2	92.4	96.5	98.3	103.3	112.0	132.5°	397.0
81.0	80.6	79.2	79.2	80.1	80.6	83.8	87.4	88.3	89.7	92.9	135°	429.0
71.5	72.4	73.8	73.3	73.8	74.7	76.9	80.1	81.9	82.4	84.7	137.5°	459.5
64.6	65.6	66.0	67.4	67.4	67.8	69.7	72.8	74.2	76.5	78.8	140°	488.0
60.1	60.6	61.0	60.6	61.0	61.0	63.3	66.5	68.3	69.7	71.0	142.5°	517.5
55.1	54.6	54.6	54.6	53.3	52.8	53.7	56.9	57.4	58.7	61.9	145°	545.5
49.2	47.8	46.9	46.9	46.9	47.3	49.6	52.8	53.3	54.6	57.4	147.5°	572.5
43.7	43.3	43.3	43.7	44.2	45.1	46.9	50.1	50.5	51.9	54.2	150°	593.0
41.0	41.0	41.0	41.4	41.9	42.3	44.6	47.8	48.7	50.1	52.8	152.5°	608.5
39.2	39.6	39.2	39.2	39.6	40.5	42.8	46.4	47.8	49.2	51.9	155°	626.0
37.8	37.8	37.8	38.2	38.2	39.2	41.9	45.5	46.4	48.3	52.4	157.5°	643.5
36.0	36.9	36.4	36.9	37.3	38.2	41.0	44.6	46.0	48.7	53.3	160°	657.5
35.1	35.1	35.1	35.5	36.4	36.9	39.2	43.3	45.1	48.7	56.0	162.5°	667.0
34.6	33.7	33.7	34.1	35.1	36.0	38.2	42.3	44.6	48.3	55.5	165°	676.0
34.1	32.8	32.3	32.8	33.7	34.1	36.9	41.0	44.2	46.9	53.7	167.5°	685.0
32.8	31.9	31.4	31.9	32.8	33.7	36.0	40.1	42.3	46.0	51.4	170°	692.0
32.3	31.0	31.0	31.4	32.3	32.8	35.1	39.2	41.4	46.4	52.8	172.5°	694.0
30.5	30.0	30.0	30.5	30.5	31.4	34.1	38.2	40.1	47.3	44.2	175°	696.0
29.1	29.1	29.1	29.1	29.6	30.0	33.2	37.3	38.2	41.0	37.8	177.5°	699.5
28.2	28.2	28.2	28.2	28.2	29.1	31.9	36.0	36.4	36.0	34.6	180°	700.0
26.4	26.4	26.4	26.4	26.9	27.3	30.0	33.7	33.7	32.8	32.8		
25.0	24.6	24.6	24.6	24.6	25.0	27.8	31.4	31.0	30.5	30.5		
22.3	22.3	22.3	22.3	22.3	22.3	25.0	28.7	28.2	27.8	27.3		
19.6	19.6	20.0	19.6	19.1	18.7	21.4	25.5	25.5	25.0	24.6		
16.8	16.4	16.8	16.4	15.5	15.5	17.8	21.4	21.9	21.4	20.5		
13.7	13.2	13.2	13.2	11.4	11.4	13.7	17.3	17.3	16.8	15.9		
10.5	10.0	9.6	9.1	7.7	7.7	9.6	12.7	13.2	11.4	10.9		
5.5	5.5	5.5	4.1	3.6	3.2	5.0	7.7	7.7	6.4	5.5		
7.5	7.0	6.0	5.0	5.0	5.0	6.0	7.5	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		

'227283
 ISW-AF-450-LED-E1-SLR-7050-ULG

REPORT NUMBER: P227283
 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°	893.7	893.7
106.0	102.5	99.0	99.0	99.0	102.5	106.0	113.5	121.0	127.5	2.5°	836.3	840.4
147.0	143.0	139.0	140.0	139.0	143.0	147.0	153.0	159.0	163.5	5°	675.6	691.6
189.0	186.5	184.0	184.0	184.0	186.5	189.0	193.0	197.0	199.5	7.5°	510.8	532.2
226.0	224.5	223.0	225.0	223.0	224.5	226.0	229.5	233.0	235.0	10°	409.3	423.9
261.0	260.5	260.0	263.0	260.0	260.5	261.0	264.0	267.0	269.0	12.5°	359.2	380.2
296.0	295.0	294.0	298.0	294.0	295.0	296.0	297.5	299.0	302.0	15°	308.2	331.0
329.0	329.0	329.0	330.0	329.0	329.0	329.0	331.0	333.0	336.0	17.5°	252.7	280.5
362.0	361.5	361.0	363.0	361.0	361.5	362.0	364.0	366.0	368.0	20°	193.0	220.4
393.0	393.5	394.0	396.0	394.0	393.5	393.0	397.0	401.0	402.5	22.5°	135.7	158.9
426.0	426.0	426.0	429.0	426.0	426.0	426.0	429.0	432.0	433.5	25°	98.8	109.3
459.0	458.0	457.0	460.0	457.0	458.0	459.0	459.5	460.0	462.0	27.5°	87.9	92.0
487.0	486.0	485.0	488.0	485.0	486.0	487.0	488.0	489.0	490.0	30°	82.4	85.1
517.0	516.0	515.0	518.0	515.0	516.0	517.0	517.5	518.0	519.5	32.5°	74.2	76.9
544.0	545.0	546.0	550.0	546.0	545.0	544.0	545.5	547.0	548.5	35°	65.1	68.7
571.0	571.5	572.0	575.0	572.0	571.5	571.0	572.5	574.0	574.0	37.5°	60.6	63.3
593.0	592.5	592.0	595.0	592.0	592.5	593.0	593.0	593.0	593.0	40°	57.8	58.3
608.0	608.0	608.0	611.0	608.0	608.0	608.0	608.5	609.0	609.5	42.5°	55.5	55.5
625.0	625.0	625.0	629.0	625.0	625.0	625.0	626.0	627.0	628.5	45°	54.2	55.5
643.0	643.0	643.0	646.0	643.0	643.0	643.0	643.5	644.0	645.0	47.5°	55.1	61.0
659.0	659.5	660.0	663.0	660.0	659.5	659.0	657.5	656.0	655.5	50°	61.9	60.1
669.0	669.0	669.0	673.0	669.0	669.0	669.0	667.0	665.0	663.0	52.5°	63.3	56.5
676.0	677.0	678.0	681.0	678.0	677.0	676.0	676.0	676.0	674.5	55°	57.8	54.2
684.0	685.5	687.0	690.0	687.0	685.5	684.0	685.0	686.0	687.0	57.5°	51.9	47.3
692.0	693.5	695.0	698.0	695.0	693.5	692.0	692.0	692.0	692.5	59°	46.4	43.7
695.0	696.0	697.0	699.0	697.0	696.0	695.0	694.0	693.0	691.5	60°	43.3	42.3
697.0	697.5	698.0	700.0	698.0	697.5	697.0	696.0	695.0	693.0	62.5°	39.6	40.5
700.0	702.5	705.0	707.0	705.0	702.5	700.0	699.5	699.0	698.0	65°	36.9	38.7
700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	67.5°	35.5	36.9
										70°	33.2	34.1
										72.5°	31.0	31.4
										75°	27.8	28.2
										77.5°	24.6	24.6
										80°	20.0	20.0
										82.5°	15.5	15.0
										85°	10.0	9.6
										87.5°	4.6	3.6
										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°
893.7	893.7	893.7	893.7	893.7	893.7	893.7	893.7	893.7	110°	102.0	108.0	114.0
860.9	873.7	883.7	881.9	903.3	916.0	917.8	931.0	943.8	112.5°	134.0	138.5	143.0
704.3	722.1	739.4	752.1	785.8	813.6	835.0	857.7	884.6	115°	168.0	171.0	174.0
561.4	576.4	604.6	625.1	660.6	692.9	724.3	760.3	790.8	117.5°	202.0	203.5	205.0
439.8	458.9	485.3	523.6	555.4	592.3	631.9	666.1	717.1	120°	237.0	240.0	243.0
395.2	407.0	428.9	447.1	486.7	525.8	570.5	617.4	664.2	122.5°	271.0	274.0	277.0
349.2	370.1	390.6	417.0	451.6	494.4	542.7	593.2	646.0	125°	305.0	307.5	310.0
304.6	332.4	354.7	383.3	422.0	476.2	539.0	601.9	663.8	127.5°	339.0	339.5	340.0
249.9	275.9	315.1	344.2	394.7	462.6	543.1	630.1	713.9	130°	370.0	371.0	372.0
196.7	224.5	269.1	312.3	367.9	455.3	559.5	676.5	788.5	132.5°	404.0	404.5	405.0
140.7	178.5	222.6	277.3	344.6	450.7	581.8	733.9	884.6	135°	435.0	436.0	437.0
105.2	131.6	185.3	244.9	318.7	442.5	605.5	787.2	950.2	137.5°	464.0	466.0	468.0
93.8	112.5	147.5	210.3	286.8	426.6	623.3	837.7	1009.8	140°	491.0	494.0	497.0
81.9	96.5	124.3	177.6	258.1	402.0	631.0	864.6	1051.2	142.5°	521.0	523.0	525.0
71.9	85.6	113.8	164.8	243.6	374.2	629.6	891.4	1103.1	145°	550.0	550.5	551.0
65.6	77.4	109.3	161.6	232.2	348.7	631.0	934.7	1180.1	147.5°	574.0	574.5	575.0
60.6	74.2	105.6	154.8	226.7	334.6	636.5	972.9	1246.1	150°	593.0	593.0	593.0
60.6	73.3	96.5	145.2	224.0	336.0	638.8	1002.5	1295.3	152.5°	610.0	610.0	610.0
63.7	68.7	89.7	139.8	225.8	346.0	636.0	1032.6	1343.1	155°	630.0	629.0	628.0
60.6	64.2	85.1	138.9	225.8	353.3	644.2	1069.9	1405.9	157.5°	646.0	645.5	645.0
57.4	59.6	83.8	137.5	221.3	360.1	677.9	1139.6	1487.8	160°	655.0	655.0	655.0
53.3	56.0	81.9	135.2	216.3	368.8	737.5	1256.6	1623.5	162.5°	661.0	662.0	663.0
48.3	53.7	79.2	131.6	213.1	384.3	798.6	1374.9	1785.1	165°	673.0	673.0	673.0
46.4	51.4	72.8	122.9	209.9	401.1	863.7	1488.3	1930.4	167.5°	688.0	686.5	685.0
45.1	49.6	67.4	116.6	207.2	409.3	883.2	1531.6	1986.4	170°	693.0	692.0	691.0
44.2	48.7	64.2	111.1	204.0	409.7	897.4	1547.9	1994.6	172.5°	690.0	690.0	690.0
42.8	46.9	57.8	99.7	193.9	409.3	898.7	1558.4	1970.9	175°	691.0	690.5	690.0
40.5	45.1	58.3	93.8	175.7	390.2	842.3	1507.9	1876.7	177.5°	697.0	696.0	695.0
38.7	43.7	61.5	95.2	156.6	341.0	736.6	1350.8	1675.0	180°	700.0	700.0	700.0
36.0	42.8	64.2	98.3	151.2	283.2	557.3	1103.1	1402.7				
33.2	42.3	66.5	100.6	145.2	233.1	386.1	782.2	1049.9				
30.0	38.7	60.6	85.6	120.2	169.4	248.6	511.7	723.9				
26.0	31.0	44.2	60.1	88.3	118.4	147.1	309.1	473.5				
21.4	23.2	31.4	38.7	58.7	70.1	81.5	174.4	331.0				
15.9	16.4	21.4	24.6	33.2	38.7	48.7	107.0	268.2				
9.1	10.5	14.6	16.4	20.0	24.6	31.9	68.3	210.3				
3.6	4.6	8.7	9.6	10.9	13.7	17.8	39.6	65.6				
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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SLR-7050-ULG

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°	893.7	893.7	893.7	893.7
145.5	148.0	149.0	150.0	149.5	149.0	148.0	147.0	2.5°	956.5	966.1	974.3	980.7
176.5	179.0	180.5	182.0	180.5	179.0	178.0	177.0	5°	913.3	935.6	962.5	985.2
208.0	211.0	213.0	215.0	212.5	210.0	209.0	208.0	7.5°	836.3	864.6	908.3	935.1
244.5	246.0	248.0	250.0	247.5	245.0	244.0	243.0	10°	763.5	804.9	852.7	891.4
278.0	279.0	281.0	283.0	280.5	278.0	277.0	276.0	12.5°	713.9	765.3	810.8	854.1
311.5	313.0	314.0	315.0	312.5	310.0	310.0	310.0	15°	700.2	752.6	793.5	833.2
342.5	345.0	345.5	346.0	346.0	346.0	345.5	345.0	17.5°	727.5	779.9	814.9	839.1
374.5	377.0	379.0	381.0	381.0	381.0	380.0	379.0	20°	791.7	847.7	870.0	868.2
408.0	411.0	413.5	416.0	415.0	414.0	414.0	414.0	22.5°	879.6	938.3	938.3	920.1
440.0	443.0	445.5	448.0	447.5	447.0	448.5	450.0	25°	995.7	1038.0	1014.8	980.2
470.5	473.0	474.0	475.0	475.5	476.0	478.5	481.0	27.5°	1078.1	1117.7	1077.2	1020.3
498.5	500.0	501.0	502.0	503.0	504.0	506.5	509.0	30°	1146.4	1175.5	1124.1	1055.3
526.0	527.0	530.0	533.0	533.0	533.0	533.5	534.0	32.5°	1206.5	1227.9	1160.0	1092.2
553.5	556.0	559.0	562.0	561.5	561.0	559.5	558.0	35°	1278.4	1286.2	1197.4	1125.0
577.5	580.0	582.5	585.0	585.5	586.0	584.5	583.0	37.5°	1358.1	1364.5	1251.1	1161.0
595.0	597.0	598.5	600.0	601.5	603.0	604.5	606.0	40°	1451.9	1429.1	1290.7	1194.2
610.5	611.0	612.5	614.0	616.0	618.0	620.5	623.0	42.5°	1509.7	1472.4	1319.4	1211.5
627.0	626.0	628.5	631.0	633.5	636.0	637.0	638.0	45°	1555.2	1504.2	1332.6	1221.5
644.5	644.0	646.0	648.0	649.0	650.0	650.0	650.0	47.5°	1611.2	1551.1	1355.8	1239.7
656.5	658.0	661.0	664.0	662.5	661.0	660.5	660.0	50°	1685.0	1616.2	1414.5	1291.2
665.0	667.0	669.0	671.0	670.5	670.0	669.0	668.0	52.5°	1836.1	1751.0	1520.2	1380.9
672.5	672.0	674.5	677.0	678.5	680.0	679.0	678.0	55°	2010.0	1929.5	1689.1	1528.8
681.5	678.0	681.0	684.0	686.0	688.0	688.0	688.0	57.5°	2149.4	2095.2	1839.8	1662.7
688.5	686.0	687.5	689.0	691.5	694.0	695.0	696.0	59°	2200.8	2177.6	1946.3	1776.0
689.5	689.0	690.5	692.0	693.0	694.0	695.0	696.0	60°	2219.9	2240.0	2002.8	1845.2
690.0	690.0	692.5	695.0	695.5	696.0	695.0	694.0	62.5°	2233.1	2320.1	2186.2	2051.9
694.5	694.0	696.5	699.0	700.0	701.0	699.5	698.0	65°	2205.8	2333.3	2260.4	2178.0
700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	67.5°	2087.0	2239.5	2225.4	2153.0
								70°	1843.9	2013.7	2062.9	1960.0
								72.5°	1387.2	1598.0	1866.2	1705.0
								75°	903.7	1098.6	1593.5	1460.5
								77.5°	565.9	685.6	1136.8	1023.0
								80°	376.5	440.7	721.6	657.0
								82.5°	283.2	312.3	496.3	466.7
								85°	149.3	190.3	386.1	489.4
								87.5°	56.0	62.4	290.5	437.5
								90°	7.0	7.0	8.5	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-7050-ULG

ULG

CANDELA DISTRIBUTION (continued):

290°	295°	300°	305°	310°	315°	320°		270°	275°	280°	285°	290°
893.7	893.7	893.7	893.7	893.7	893.7	893.7	110°	117.0	116.0	117.5	119.0	120.0
986.1	994.3	999.3	995.7	1001.6	1003.0	996.6	112.5°	147.0	147.0	148.0	149.0	149.5
1004.3	1027.1	1043.5	1054.9	1059.4	1063.5	1061.7	115°	178.0	177.0	178.0	179.0	180.5
970.7	1005.7	1036.2	1057.2	1064.4	1069.9	1064.9	117.5°	209.0	208.0	209.0	210.0	212.5
933.3	969.7	998.4	1019.4	1018.9	1024.4	1014.8	120°	243.0	243.0	244.0	245.0	247.5
898.3	933.8	959.3	958.4	952.0	936.0	933.3	122.5°	277.0	276.0	277.0	278.0	280.5
870.5	889.2	895.5	894.2	876.0	866.8	865.5	125°	310.0	310.0	310.0	310.0	312.5
856.8	855.9	841.4	825.4	808.1	807.2	795.4	127.5°	347.0	345.0	345.5	346.0	346.0
859.1	829.5	802.7	775.3	756.7	752.6	753.9	130°	380.0	379.0	380.0	381.0	381.0
887.8	835.4	784.9	757.1	735.3	728.9	731.6	132.5°	415.0	414.0	414.0	414.0	415.0
923.8	853.6	790.8	748.5	730.7	723.0	724.3	135°	451.0	450.0	448.5	447.0	447.5
947.9	874.6	810.4	758.0	733.9	726.6	731.2	137.5°	482.0	481.0	478.5	476.0	475.5
978.8	903.3	836.8	782.6	746.7	737.1	740.3	140°	511.0	509.0	506.5	504.0	503.0
1009.3	934.2	874.1	812.7	769.0	751.2	756.2	142.5°	536.0	534.0	533.5	533.0	533.0
1042.1	970.2	909.6	853.6	802.2	774.4	780.8	145°	560.0	558.0	559.5	561.0	561.5
1080.4	1012.1	960.2	908.7	855.9	832.7	835.4	147.5°	585.0	583.0	584.5	586.0	585.5
1117.2	1053.1	1019.8	981.6	950.6	915.1	915.1	150°	610.0	606.0	604.5	603.0	601.5
1139.1	1106.3	1097.2	1086.3	1068.1	1042.6	1037.1	152.5°	628.0	623.0	620.5	618.0	616.0
1166.0	1169.6	1190.5	1212.4	1217.9	1192.8	1185.1	155°	641.0	638.0	637.0	636.0	633.5
1216.5	1254.7	1323.5	1383.1	1395.0	1415.5	1391.8	157.5°	655.0	650.0	650.0	650.0	649.0
1287.5	1358.1	1474.2	1571.6	1599.4	1601.2	1603.0	160°	666.0	660.0	660.5	661.0	662.5
1368.6	1469.6	1623.1	1739.2	1788.8	1802.0	1792.4	162.5°	674.0	668.0	669.0	670.0	670.5
1507.4	1598.9	1766.9	1892.1	1955.9	1986.8	1978.6	165°	682.0	678.0	679.0	680.0	678.5
1644.9	1758.7	1906.7	2030.1	2097.9	2132.5	2139.8	167.5°	694.0	688.0	688.0	688.0	686.0
1738.7	1845.2	1981.8	2095.6	2162.6	2204.0	2207.6	170°	701.0	696.0	695.0	694.0	691.5
1796.1	1893.5	2026.9	2127.1	2194.0	2229.0	2241.8	172.5°	701.0	696.0	695.0	694.0	693.0
1970.0	1987.7	2078.8	2144.8	2191.7	2207.6	2217.2	175°	699.0	694.0	695.0	696.0	695.5
2051.5	1977.3	1966.8	2007.8	2011.9	2001.4	1988.2	177.5°	702.0	698.0	699.5	701.0	700.0
1938.1	1764.7	1700.5	1695.0	1678.2	1671.3	1629.4	180°	700.0	700.0	700.0	700.0	700.0
1683.2	1433.2	1319.8	1258.4	1295.7	1294.4	1251.6						
1418.2	1163.7	1016.6	928.3	917.4	915.6	878.2						
1151.9	913.3	784.4	741.6	690.2	674.7	681.1						
830.4	652.0	624.6	657.4	661.5	649.7	641.5						
523.1	490.3	516.7	576.4	611.4	596.0	601.9						
436.2	386.1	387.9	450.7	474.4	478.0	465.7						
484.0	386.5	316.9	309.1	300.9	189.4	263.6						
436.2	299.1	176.2	145.2	89.2	51.4	53.3						
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°	893.7	893.7	893.7	893.7	893.7	893.7
150.0	149.0	148.0	145.5	143.0	138.5	2.5°	995.2	986.6	977.0	964.3	966.6	951.1
182.0	180.5	179.0	176.5	174.0	171.0	5°	1047.6	1032.6	1012.1	986.1	962.0	931.0
215.0	213.0	211.0	208.0	205.0	203.5	7.5°	1042.1	1018.0	983.9	944.7	912.8	868.2
250.0	248.0	246.0	244.5	243.0	240.0	10°	995.2	963.8	936.0	895.5	854.1	814.9
283.0	281.0	279.0	278.0	277.0	274.0	12.5°	929.7	911.9	887.8	857.3	817.2	777.2
315.0	314.0	313.0	311.5	310.0	307.5	15°	858.2	859.6	845.0	836.8	816.8	784.9
346.0	345.5	345.0	342.5	340.0	339.5	17.5°	799.5	813.1	820.9	833.6	835.9	820.4
381.0	379.0	377.0	374.5	372.0	371.0	20°	760.3	779.4	803.6	838.6	875.5	891.4
416.0	413.5	411.0	408.0	405.0	404.5	22.5°	738.5	762.1	800.8	864.6	932.0	972.5
448.0	445.5	443.0	440.0	437.0	436.0	25°	734.4	765.8	820.0	897.8	985.2	1042.1
475.0	474.0	473.0	470.5	468.0	466.0	27.5°	741.2	782.2	846.4	935.1	1021.2	1103.6
502.0	501.0	500.0	498.5	497.0	494.0	30°	763.0	810.8	881.0	976.6	1065.8	1147.8
533.0	530.0	527.0	526.0	525.0	523.0	32.5°	784.0	843.2	920.6	1013.9	1103.6	1185.1
562.0	559.0	556.0	553.5	551.0	550.5	35°	817.7	877.3	956.5	1042.6	1129.5	1222.0
585.0	582.5	580.0	577.5	575.0	574.5	37.5°	869.1	921.5	984.8	1064.9	1155.5	1251.1
600.0	598.5	597.0	595.0	593.0	593.0	40°	942.4	977.0	1018.0	1081.3	1168.2	1270.7
614.0	612.5	611.0	610.5	610.0	610.0	42.5°	1052.1	1059.4	1073.5	1106.3	1179.6	1293.4
631.0	628.5	626.0	627.0	628.0	629.0	45°	1193.7	1171.9	1159.6	1155.0	1205.1	1308.0
648.0	646.0	644.0	644.5	645.0	645.5	47.5°	1358.1	1315.3	1266.1	1242.5	1254.3	1331.2
664.0	661.0	658.0	656.5	655.0	655.0	50°	1572.1	1502.4	1405.9	1337.6	1331.7	1399.5
671.0	669.0	667.0	665.0	663.0	662.0	52.5°	1768.3	1677.2	1555.7	1475.1	1442.3	1527.0
677.0	674.5	672.0	672.5	673.0	673.0	55°	1953.6	1883.5	1746.0	1645.8	1634.4	1695.9
684.0	681.0	678.0	681.5	685.0	686.5	57.5°	2116.1	2055.6	1943.1	1812.5	1817.0	1876.7
689.0	687.5	686.0	688.5	691.0	692.0	59°	2200.4	2149.8	2045.6	1912.6	1922.6	2004.6
692.0	690.5	689.0	689.5	690.0	690.0	60°	2230.4	2188.1	2088.8	1976.8	1989.6	2074.7
695.0	692.5	690.0	690.0	690.0	690.5	62.5°	2228.1	2200.8	2128.9	2076.1	2141.2	2203.5
699.0	696.5	694.0	694.5	695.0	696.0	65°	2015.5	1974.1	1965.9	2058.3	2184.0	2244.1
700.0	700.0	700.0	700.0	700.0	700.0	67.5°	1603.0	1622.6	1700.5	1859.4	2070.1	2157.6
						70°	1190.5	1225.1	1329.0	1528.4	1817.9	1969.1
						72.5°	875.5	910.1	1005.7	1224.2	1495.6	1629.4
						75°	687.0	697.5	766.2	937.9	1178.7	1288.4
						77.5°	634.7	603.2	575.0	667.0	794.9	889.2
						80°	590.9	531.3	464.8	492.6	523.6	623.7
						82.5°	458.9	419.3	367.4	402.9	417.5	420.7
						85°	268.6	239.0	302.8	428.9	424.3	371.5
						87.5°	94.7	122.9	138.4	237.7	287.3	248.6
						90°	8.0	9.4	12.1	12.1	13.8	8.3
						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°
893.7	893.7	893.7	110°	102.0	94.5	87.0	80.5	74.0	71.0	68.0
938.8	926.0	925.1	112.5°	134.0	127.5	121.0	113.5	106.0	102.5	99.0
906.5	877.8	868.7	115°	168.0	163.5	159.0	153.0	147.0	143.0	139.0
829.5	796.3	789.4	117.5°	202.0	199.5	197.0	193.0	189.0	186.5	184.0
764.9	728.0	721.6	120°	237.0	235.0	233.0	229.5	226.0	224.5	223.0
731.6	696.6	688.8	122.5°	271.0	269.0	267.0	264.0	261.0	260.5	260.0
744.4	705.7	701.6	125°	305.0	302.0	299.0	297.5	296.0	295.0	294.0
792.2	751.2	753.0	127.5°	339.0	336.0	333.0	331.0	329.0	329.0	329.0
874.1	847.7	841.4	130°	370.0	368.0	366.0	364.0	362.0	361.5	361.0
981.6	952.9	944.7	132.5°	404.0	402.5	401.0	397.0	393.0	393.5	394.0
1073.1	1058.5	1053.1	135°	435.0	433.5	432.0	429.0	426.0	426.0	426.0
1139.1	1145.9	1140.5	137.5°	464.0	462.0	460.0	459.5	459.0	458.0	457.0
1191.9	1214.7	1211.9	140°	491.0	490.0	489.0	488.0	487.0	486.0	485.0
1246.1	1290.3	1292.1	142.5°	521.0	519.5	518.0	517.5	517.0	516.0	515.0
1286.2	1364.0	1379.9	145°	550.0	548.5	547.0	545.5	544.0	545.0	546.0
1337.6	1441.9	1458.3	147.5°	574.0	574.0	574.0	572.5	571.0	571.5	572.0
1376.8	1499.2	1519.3	150°	593.0	593.0	593.0	593.0	593.0	592.5	592.0
1415.0	1546.6	1568.4	152.5°	610.0	609.5	609.0	608.5	608.0	608.0	608.0
1446.4	1593.5	1615.8	155°	630.0	628.5	627.0	626.0	625.0	625.0	625.0
1481.9	1639.0	1660.8	157.5°	646.0	645.0	644.0	643.5	643.0	643.0	643.0
1545.7	1710.5	1736.4	160°	655.0	655.5	656.0	657.5	659.0	659.5	660.0
1682.7	1843.0	1879.8	162.5°	661.0	663.0	665.0	667.0	669.0	669.0	669.0
1880.7	2026.0	2055.1	165°	673.0	674.5	676.0	676.0	676.0	677.0	678.0
2059.2	2150.3	2158.0	167.5°	688.0	687.0	686.0	685.0	684.0	685.5	687.0
2132.5	2184.4	2182.1	170°	693.0	692.5	692.0	692.0	692.0	693.5	695.0
2186.2	2192.6	2179.9	172.5°	690.0	691.5	693.0	694.0	695.0	696.0	697.0
2215.4	2154.8	2133.0	175°	691.0	693.0	695.0	696.0	697.0	697.5	698.0
2139.3	2055.1	2026.4	177.5°	697.0	698.0	699.0	699.5	700.0	702.5	705.0
1919.9	1875.3	1842.5	180°	700.0	700.0	700.0	700.0	700.0	700.0	700.0
1633.1	1520.2	1498.8								
1237.9	1089.0	1057.2								
865.0	686.6	643.3								
568.6	440.7	424.3								
368.8	292.7	287.7								
257.2	192.1	177.1								
158.0	64.2	61.5								
49.2	29.6	26.4								
6.4	6.8	6.8								
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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