

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: P227280

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

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P227280  
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-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) 4000K CCT, 70 CRI LEDs and (1) UPLIGHT LED  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

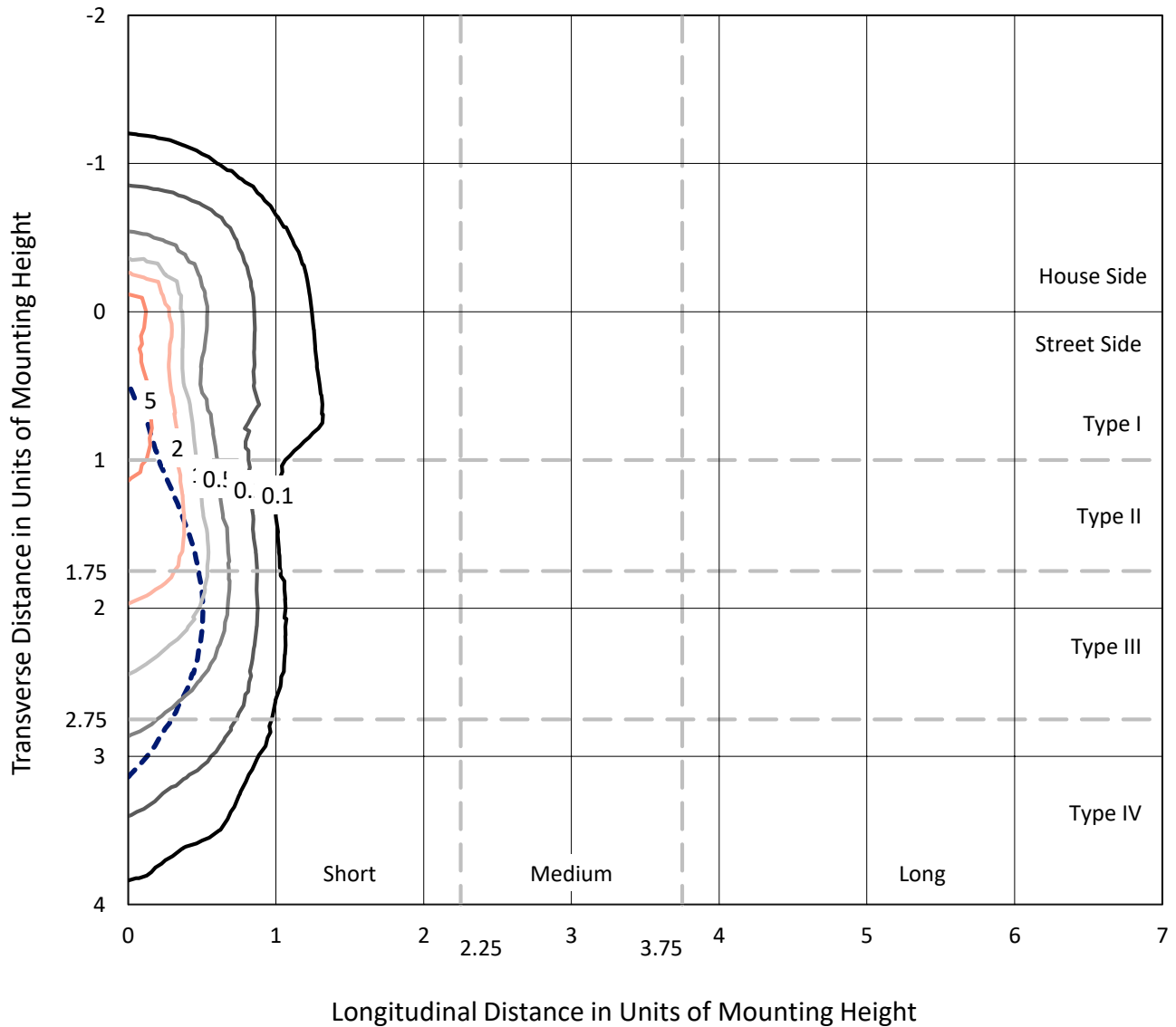
Lumens per Lamp: N/A  
Luminaire Lumens: 4543.4 lumens  
Efficiency: N/A  
Efficacy: 108.1 lumens/watt  
Luminous Opening: Rectangular w/ Sides (W: 0.5' x L: 0.5' x H: 0.54')  
IES Classification: Type IV - Short - Non-Cutoff  
BUG Rating: B1 - U5 - G1  
  
Input Watts (W): 42.01  
Input Voltage (V): 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

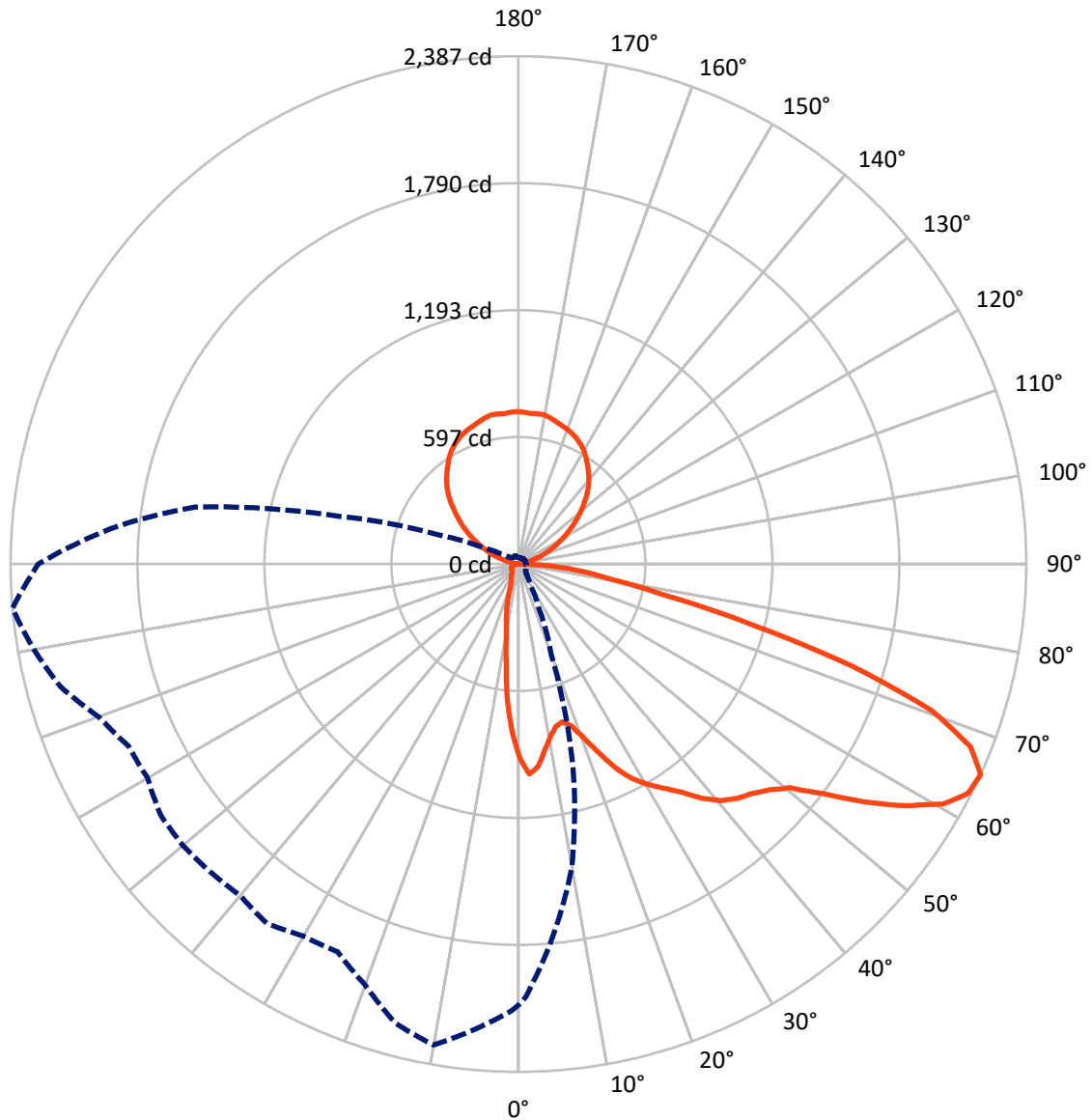
× Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 9.1 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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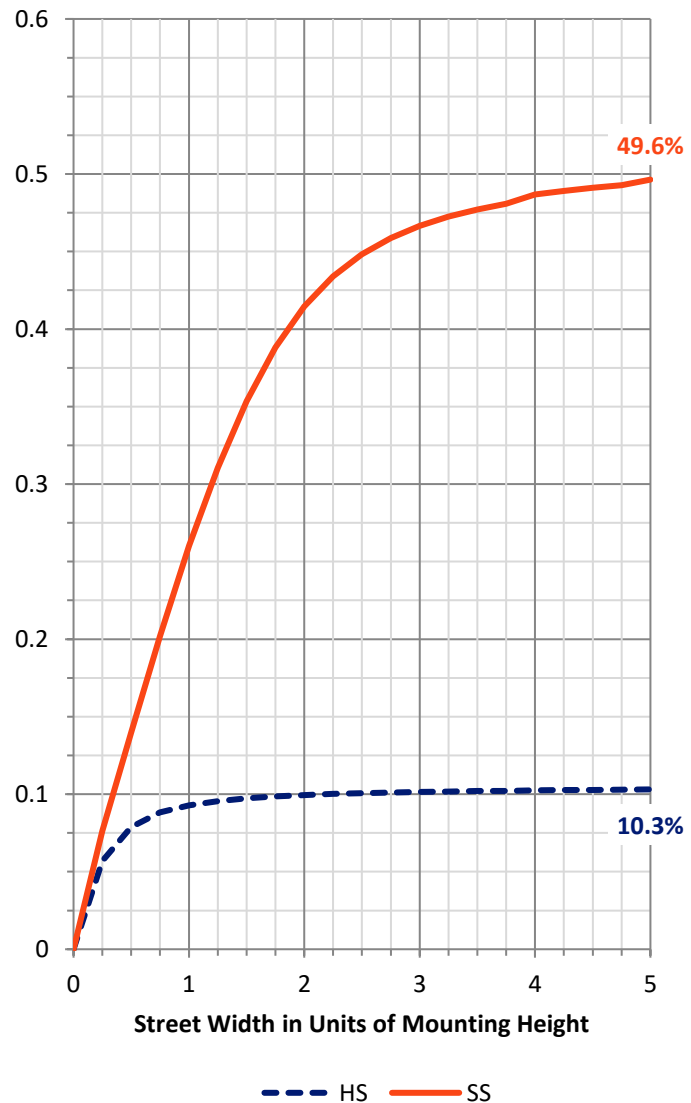
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	475.2	887.5	1362.7
	% Fixture	10.5	19.5	30.0
<b>Street Side</b>	Lumens	2293.1	887.6	3180.6
	% Fixture	50.5	19.5	70.0
<b>Total</b>	Lumens	2768.3	1775.1	4543.4
	% Fixture	60.9	39.1	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	67.7	1.5
10°-20°	130.3	2.9
20°-30°	185.8	4.1
30°-40°	269.6	5.9
40°-50°	385.7	8.5
50°-60°	592.1	13.0
60°-70°	685.4	15.1
70°-80°	349.7	7.7
80°-90°	102.0	2.2
90°-100°	9.6	0.2
100°-110°	58.7	1.3
110°-120°	169.9	3.7
120°-130°	279.4	6.2
130°-140°	344.6	7.6
140°-150°	352.5	7.8
150°-160°	297.0	6.5
160°-170°	195.5	4.3
170°-180°	67.8	1.5
0°-90°	2768.3	60.9
0°-180°	4543.4	100.0



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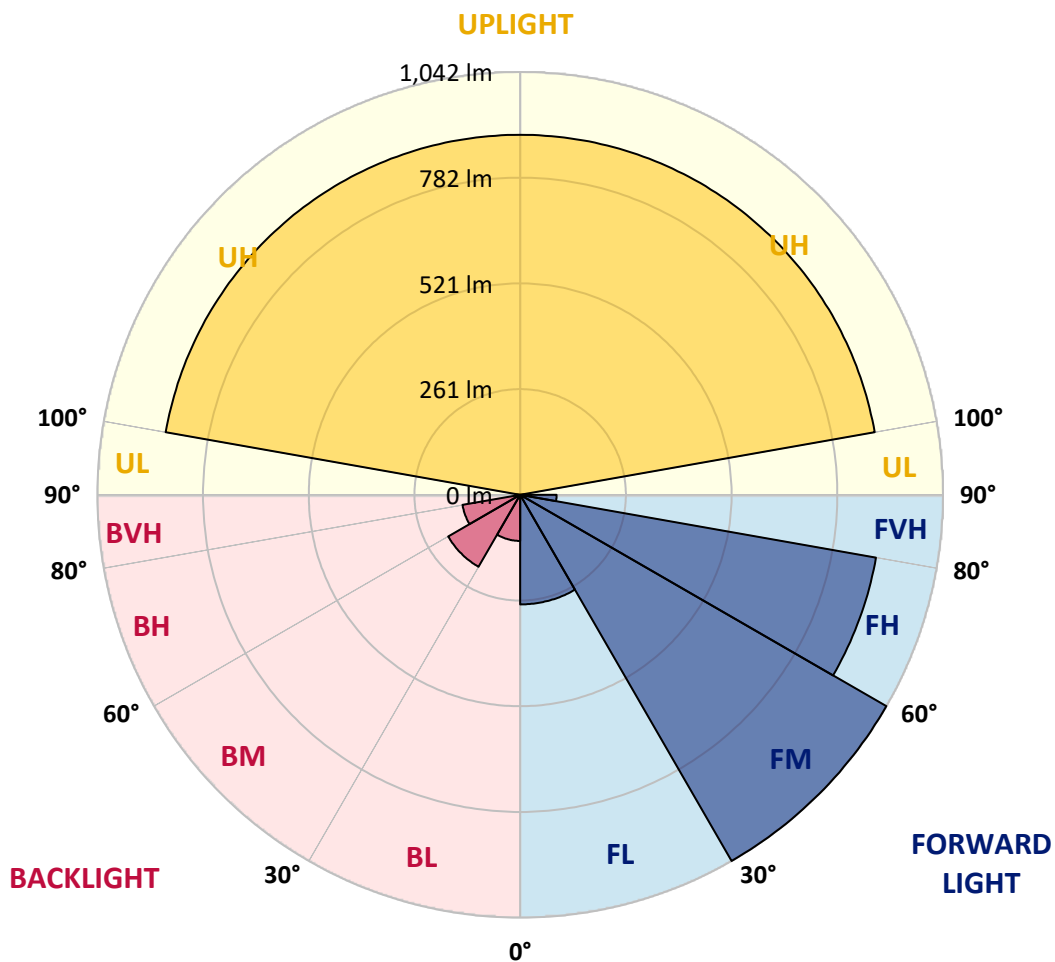
CATALOG NUMBER: ISW-AF-450-LED-E1-SLR-ULG

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

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	270.3	5.9			
FM	(30°-60°)	1042.4	22.9			
FH	(60°-80°)	890.7	19.6			G1/1800
FVH	(80°-90°)	89.7	2.0			G1/100
BL	(0°-30°)	113.6	2.5	B1/500		
BM	(30°-60°)	205.0	4.5	B0/220		
BH	(60°-80°)	144.4	3.2	B1/500		G1/500
BVH	(80°-90°)	12.3	0.3			G1/100
UL	(90°-100°)	9.6	0.2		U1/10	
UH	(100°-180°)	887.5	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°	914.2	914.2	914.2	914.2	914.2	914.2	914.2	914.2	914.2	914.2	914.2
2.5°	946.3	940.8	933.7	921.7	910.9	895.6	891.9	872.8	860.7	863.5	841.6
5°	888.6	885.4	868.1	841.1	823.4	788.5	768.4	758.2	729.4	725.6	717.7
7.5°	807.5	797.8	769.9	736.3	706.0	680.5	648.2	623.6	601.7	588.2	564.5
10°	738.2	727.9	697.7	656.6	620.3	584.5	558.4	526.3	495.1	470.9	451.7
12.5°	704.6	693.5	658.1	610.6	570.1	525.4	488.6	456.8	439.7	427.5	411.7
15°	717.7	701.3	659.0	602.2	551.9	504.4	465.2	431.3	410.8	392.1	373.5
17.5°	770.3	750.3	701.8	633.4	563.5	502.1	446.2	407.5	374.9	347.0	321.8
20°	860.7	845.8	775.4	679.4	588.7	503.5	429.8	379.1	339.5	304.1	270.6
22.5°	966.4	944.0	875.1	741.9	620.8	511.8	419.6	355.4	308.3	260.9	224.4
25°	1077.3	1060.0	968.7	825.7	670.1	529.1	411.7	334.4	271.5	218.9	178.8
27.5°	1166.7	1151.2	1060.9	906.3	715.3	544.0	400.1	314.4	242.1	178.8	134.6
30°	1239.7	1226.7	1132.2	972.4	770.3	549.1	383.7	291.0	209.6	144.3	111.3
32.5°	1321.8	1307.3	1200.6	1018.6	795.0	544.4	365.1	269.1	183.5	127.6	95.4
35°	1411.6	1394.9	1277.1	1068.4	815.5	528.1	349.3	253.4	170.9	116.0	84.8
37.5°	1491.8	1481.0	1345.9	1117.8	838.8	501.1	333.9	236.1	162.5	107.6	76.4
40°	1554.2	1551.3	1422.3	1158.7	856.9	481.6	321.3	222.6	151.8	104.3	73.6
42.5°	1604.4	1603.5	1484.7	1195.5	861.6	464.3	311.6	210.5	142.1	96.4	75.0
45°	1652.9	1652.4	1545.3	1246.8	864.8	465.2	304.1	203.1	133.7	91.2	70.8
47.5°	1698.9	1706.0	1608.6	1318.0	899.3	481.1	301.4	196.1	127.2	85.7	67.1
50°	1776.3	1769.3	1708.7	1414.4	954.7	511.8	296.7	190.1	121.1	80.6	63.3
52.5°	1922.9	1915.1	1861.1	1543.4	1015.3	543.5	290.6	181.7	114.1	75.0	59.1
55°	2102.3	2113.0	2038.0	1700.3	1097.7	570.1	284.1	170.4	104.8	68.4	56.4
57.5°	2207.5	2198.7	2113.0	1790.7	1148.5	583.6	279.9	157.4	90.3	62.9	53.6
59°	2232.2	2217.3	2100.4	1806.1	1162.0	577.0	277.5	144.8	82.9	60.0	52.2
60°	2229.9	2211.7	2080.4	1796.3	1165.8	569.1	273.8	137.4	78.7	58.7	51.7
62.5°	2182.0	2153.5	1966.7	1678.0	1113.6	529.5	258.5	119.7	73.1	56.8	48.9
65°	2072.9	2032.9	1775.8	1447.0	993.9	450.8	223.5	113.1	74.5	55.9	47.1
67.5°	1884.8	1852.7	1530.3	1197.4	792.2	364.2	193.2	110.4	76.4	56.8	44.3
70°	1533.2	1505.7	1194.1	896.5	593.3	289.7	175.5	108.9	75.0	54.5	41.9
72.5°	1081.5	1033.9	793.6	627.8	376.3	232.8	152.3	102.9	73.1	52.6	38.2
75°	658.1	667.0	504.4	457.4	237.5	159.8	119.7	86.6	64.8	47.1	34.5
77.5°	434.0	433.6	372.1	322.7	120.6	99.2	84.8	66.6	50.7	38.7	29.8
80°	294.3	297.6	270.2	220.2	67.1	59.6	55.4	48.4	37.2	29.4	24.7
82.5°	181.2	181.7	209.1	164.9	44.7	37.7	35.4	32.6	26.6	22.8	19.1
85°	62.9	64.2	73.1	116.4	30.3	24.7	24.7	22.8	20.0	15.3	12.6
87.5°	27.0	26.6	31.7	31.7	14.9	12.6	11.7	11.7	11.2	8.4	7.0
90°	7.0	6.5	6.5	8.0	9.5	10.9	10.9	11.5	11.5	10.4	9.0
92.5°	4.1	4.1	4.1	4.6	5.1	5.6	6.1	6.1	6.1	6.1	6.1
95°	5.1	5.1	5.1	5.6	6.1	6.6	7.2	7.2	7.2	7.2	7.2
97.5°	7.2	7.2	7.2	7.7	8.2	8.2	8.2	8.7	9.2	9.2	9.2
100°	8.2	8.2	8.2	8.7	9.2	9.7	10.2	11.3	12.3	16.9	21.5
102.5°	11.3	11.3	11.3	12.3	13.3	15.9	18.4	23.0	27.6	34.3	40.9
105°	21.5	21.7	22.5	25.1	27.6	32.2	36.8	43.0	49.1	56.8	64.4
107.5°	41.9	42.1	43.0	46.5	50.1	54.7	59.3	67.0	74.7	82.3	90.0



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**CANDELA DISTRIBUTION (continued):**

	0°	1°	5°	10°	15°	20°	25°	30°	35°	40°	45°
110°	67.5	67.9	69.6	72.6	75.7	82.3	89.0	96.7	104.3	110.5	116.6
112.5°	101.3	101.3	101.3	104.9	108.4	116.1	123.8	130.4	137.1	141.7	146.3
115°	143.2	143.0	142.2	146.3	150.4	156.5	162.6	167.3	171.9	174.9	178.0
117.5°	188.2	188.2	188.2	190.8	193.3	197.4	201.5	204.1	206.6	208.2	209.7
120°	230.2	229.8	228.1	229.7	231.2	234.8	238.3	240.4	242.4	245.5	248.6
122.5°	269.0	268.4	266.0	266.5	267.0	270.1	273.1	275.2	277.2	280.3	283.4
125°	304.8	304.0	300.7	301.8	302.8	304.3	305.9	308.9	312.0	314.6	317.1
127.5°	337.6	337.4	336.6	336.6	336.6	338.6	340.6	343.7	346.8	347.3	347.8
130°	371.3	370.9	369.3	369.8	370.3	372.4	374.4	376.4	378.5	379.5	380.5
132.5°	405.1	404.7	403.0	402.5	402.0	406.1	410.2	411.7	413.3	413.8	414.3
135°	438.8	438.2	435.8	435.8	435.8	438.8	441.9	443.4	445.0	446.0	447.0
137.5°	470.6	469.9	467.5	468.5	469.5	470.0	470.6	472.6	474.6	476.7	478.7
140°	499.2	498.6	496.1	497.2	498.2	499.2	500.2	501.2	502.3	505.3	508.4
142.5°	529.9	529.3	526.8	527.8	528.9	529.4	529.9	531.4	533.0	535.0	537.0
145°	562.6	561.8	558.5	557.5	556.5	558.0	559.6	561.1	562.6	563.1	563.6
147.5°	588.2	587.6	585.1	584.6	584.1	585.6	587.2	587.2	587.2	587.7	588.2
150°	608.7	608.0	605.6	606.1	606.6	606.6	606.6	606.6	606.6	606.6	606.6
152.5°	625.0	624.4	622.0	622.0	622.0	622.5	623.0	623.5	624.0	624.0	624.0
155°	643.4	642.6	639.3	639.3	639.3	640.4	641.4	642.9	644.5	643.4	642.4
157.5°	660.8	660.2	657.8	657.8	657.8	658.3	658.8	659.8	660.8	660.3	659.8
160°	678.2	677.6	675.1	674.6	674.1	672.6	671.1	670.5	670.0	670.0	670.0
162.5°	688.4	687.6	684.4	684.4	684.4	682.3	680.3	678.2	676.2	677.2	678.2
165°	696.6	696.0	693.6	692.5	691.5	691.5	691.5	690.0	688.4	688.4	688.4
167.5°	705.8	705.2	702.8	701.2	699.7	700.7	701.7	702.8	703.8	702.3	700.7
170°	714.0	713.4	711.0	709.4	707.9	707.9	707.9	708.4	708.9	707.9	706.9
172.5°	715.0	714.6	713.0	712.0	711.0	709.9	708.9	707.4	705.8	705.8	705.8
175°	716.1	715.7	714.0	713.5	713.0	712.0	711.0	708.9	706.9	706.3	705.8
177.5°	723.2	722.8	721.2	718.6	716.1	715.6	715.0	714.0	713.0	712.0	711.0
180°	716.1	716.1	716.1	716.1	716.1	716.1	716.1	716.1	716.1	716.1	716.1





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**CANDELA DISTRIBUTION (continued):**

	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°
0°	914.2	914.2	914.2	914.2	914.2	914.2	914.2	914.2	914.2	914.2	914.2
2.5°	835.0	829.9	815.5	811.7	816.4	807.1	804.8	802.4	785.2	794.0	783.8
5°	698.2	696.7	667.4	673.4	667.4	657.1	652.9	662.8	645.5	649.3	651.5
7.5°	536.5	530.9	511.4	498.3	490.4	483.4	474.5	460.1	471.3	469.0	486.7
10°	435.5	423.3	411.2	393.1	382.8	373.1	362.8	357.2	344.1	342.8	336.8
12.5°	399.2	381.9	366.5	350.7	340.0	320.4	304.1	293.9	285.5	272.4	262.7
15°	350.7	336.2	316.2	300.8	284.1	266.4	250.5	237.5	231.5	219.3	213.8
17.5°	301.8	279.9	255.6	240.3	217.1	198.9	185.9	177.5	168.6	161.1	154.7
20°	243.2	214.7	188.6	169.1	150.9	133.2	127.2	116.9	113.1	110.4	112.7
22.5°	184.8	155.6	128.6	113.6	103.8	99.2	94.1	92.2	90.8	90.3	91.2
25°	135.5	110.9	97.8	92.2	88.5	85.7	83.8	82.4	81.5	81.0	81.5
27.5°	104.8	91.8	85.2	81.5	78.7	76.8	75.9	74.5	74.1	73.6	74.1
30°	90.8	83.8	79.2	75.5	72.2	68.9	67.5	67.1	67.5	68.0	67.5
32.5°	79.2	74.1	68.9	65.7	63.3	61.5	61.5	60.6	60.6	62.0	62.4
35°	71.7	66.6	62.9	58.7	55.9	54.0	52.6	51.7	52.2	52.2	53.6
37.5°	65.7	62.0	58.7	54.9	52.2	50.3	49.4	48.4	48.0	47.5	47.5
40°	61.5	59.1	56.4	52.6	49.8	48.0	47.1	46.1	45.6	45.2	45.2
42.5°	61.5	56.8	54.9	51.7	48.4	46.5	45.2	44.3	43.3	43.3	43.3
45°	67.5	58.2	54.9	51.2	48.0	45.6	44.3	42.9	41.9	41.9	41.4
47.5°	65.7	65.2	55.9	51.2	48.4	45.6	43.8	42.4	41.4	41.0	40.5
50°	62.4	68.0	62.4	52.6	48.4	45.2	43.3	41.9	40.5	40.1	40.1
52.5°	60.6	63.3	64.8	54.5	48.9	45.2	42.9	41.4	40.5	39.6	39.1
55°	55.9	59.6	62.0	53.6	48.9	44.3	41.9	40.5	39.1	38.7	38.2
57.5°	51.2	54.0	59.6	53.6	47.5	43.8	41.0	39.1	38.2	37.7	37.2
59°	49.8	49.8	53.1	54.9	46.5	43.3	40.5	38.7	37.7	37.2	36.3
60°	48.4	48.4	50.3	56.4	46.1	42.9	40.1	38.2	36.8	36.8	36.3
62.5°	46.5	45.2	46.1	52.6	44.7	41.9	39.1	37.2	35.9	35.9	35.4
65°	44.3	42.4	42.4	43.8	41.9	40.1	38.2	36.3	34.5	34.5	34.9
67.5°	41.9	40.1	39.6	39.6	38.7	38.2	36.3	34.5	33.6	33.6	33.6
70°	38.7	37.2	36.8	35.9	35.9	35.4	34.0	32.6	31.7	32.1	31.7
72.5°	34.9	34.0	33.0	33.0	32.6	32.1	30.7	29.8	29.4	29.8	29.8
75°	31.2	29.8	29.8	28.8	28.8	28.4	27.0	26.6	26.1	26.6	27.0
77.5°	26.6	25.6	25.2	25.2	25.2	25.2	23.3	22.8	22.8	23.7	23.7
80°	21.9	21.4	21.0	21.0	21.0	20.5	19.5	19.1	19.1	19.5	20.0
82.5°	16.8	15.9	15.9	16.3	16.8	16.8	15.3	14.4	14.4	15.3	16.3
85°	11.2	11.2	11.2	11.7	11.7	12.1	11.2	9.8	10.2	10.7	12.1
87.5°	6.0	6.5	6.0	5.6	6.5	6.0	6.0	5.6	6.0	6.5	7.0
90°	9.0	9.0	9.6	10.1	9.7	10.1	9.1	8.6	7.7	7.7	9.1
92.5°	6.6	7.2	7.2	7.2	6.6	6.1	6.1	6.1	6.1	6.1	6.1
95°	7.2	7.2	7.7	8.2	7.7	7.2	7.2	7.2	7.2	7.2	7.2
97.5°	10.7	12.3	11.3	10.2	9.7	9.2	8.7	8.2	8.2	8.2	8.7
100°	25.6	29.7	28.1	26.6	25.1	23.5	21.5	19.4	19.4	19.4	21.5
102.5°	46.0	51.1	49.6	48.1	45.5	43.0	41.4	39.9	38.9	39.9	41.4
105°	69.0	73.7	72.6	71.6	69.0	66.5	64.4	62.4	62.4	62.4	64.4
107.5°	93.6	97.2	96.7	96.2	94.1	92.1	90.5	89.0	88.0	89.0	90.5



REPORT NUMBER: P227280

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

**CANDELA DISTRIBUTION (continued):**

	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°
110°	119.7	122.8	123.3	123.8	122.8	121.7	120.2	118.7	119.7	118.7	120.2
112.5°	148.8	151.4	152.4	153.4	152.9	152.4	151.4	150.4	150.4	150.4	151.4
115°	180.6	183.1	184.6	186.2	184.6	183.1	182.1	181.1	182.1	181.1	182.1
117.5°	212.8	215.8	217.9	219.9	217.4	214.8	213.8	212.8	213.8	212.8	213.8
120°	250.1	251.6	253.7	255.7	253.2	250.6	249.6	248.6	248.6	248.6	249.6
122.5°	284.4	285.4	287.4	289.5	286.9	284.4	283.4	282.3	283.4	282.3	283.4
125°	318.6	320.2	321.2	322.2	319.7	317.1	317.1	317.1	317.1	317.1	317.1
127.5°	350.4	352.9	353.4	353.9	353.9	353.9	353.4	352.9	355.0	352.9	353.4
130°	383.1	385.7	387.7	389.7	389.7	389.7	388.7	387.7	388.7	387.7	388.7
132.5°	417.4	420.4	423.0	425.5	424.5	423.5	423.5	423.5	424.5	423.5	423.5
135°	450.1	453.2	455.7	458.3	457.8	457.3	458.8	460.3	461.4	460.3	458.8
137.5°	481.3	483.9	484.9	485.9	486.4	486.9	489.5	492.0	493.1	492.0	489.5
140°	509.9	511.5	512.5	513.5	514.5	515.6	518.1	520.7	522.7	520.7	518.1
142.5°	538.1	539.1	542.2	545.2	545.2	545.2	545.7	546.3	548.3	546.3	545.7
145°	566.2	568.8	571.8	574.9	574.4	573.9	572.3	570.8	572.9	570.8	572.3
147.5°	590.8	593.3	595.9	598.4	598.9	599.4	597.9	596.4	598.4	596.4	597.9
150°	608.7	610.7	612.2	613.8	615.3	616.8	618.4	619.9	624.0	619.9	618.4
152.5°	624.5	625.0	626.6	628.1	630.1	632.2	634.7	637.3	642.4	637.3	634.7
155°	641.4	640.4	642.9	645.5	648.0	650.6	651.6	652.6	655.7	652.6	651.6
157.5°	659.3	658.8	660.8	662.9	663.9	664.9	664.9	664.9	670.0	664.9	664.9
160°	671.6	673.1	676.2	679.2	677.7	676.2	675.7	675.1	681.3	675.1	675.7
162.5°	680.3	682.3	684.4	686.4	685.9	685.4	684.4	683.3	689.5	683.3	684.4
165°	687.9	687.4	690.0	692.5	694.1	695.6	694.6	693.6	697.7	693.6	694.6
167.5°	697.1	693.6	696.6	699.7	701.7	703.8	703.8	703.8	709.9	703.8	703.8
170°	704.3	701.7	703.3	704.8	707.4	709.9	711.0	712.0	717.1	712.0	711.0
172.5°	705.3	704.8	706.3	707.9	708.9	709.9	711.0	712.0	717.1	712.0	711.0
175°	705.8	705.8	708.4	711.0	711.5	712.0	711.0	709.9	715.0	709.9	711.0
177.5°	710.4	709.9	712.5	715.0	716.1	717.1	715.6	714.0	718.1	714.0	715.6
180°	716.1	716.1	716.1	716.1	716.1	716.1	716.1	716.1	716.1	716.1	716.1



REPORT NUMBER: P227280

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

**CANDELA DISTRIBUTION (continued):**

	105°	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°
0°	914.2	914.2	914.2	914.2	914.2	914.2	914.2	914.2	914.2	914.2	914.2
2.5°	793.1	785.2	781.0	797.3	796.0	781.9	781.9	791.8	792.2	783.8	793.6
5°	654.4	646.4	653.9	647.3	651.1	650.6	656.2	646.0	650.2	646.4	637.6
7.5°	485.3	501.1	509.5	498.8	512.3	519.2	509.5	519.2	503.9	491.3	503.5
10°	333.9	351.6	348.3	365.6	372.1	375.8	382.8	374.0	363.2	360.0	351.2
12.5°	258.9	255.2	253.8	260.9	265.0	258.9	264.0	258.5	252.9	243.2	242.6
15°	202.5	196.5	192.3	184.4	181.7	183.0	185.4	185.4	174.2	174.6	178.8
17.5°	153.6	152.3	149.0	142.5	138.3	139.7	139.2	137.0	135.5	136.5	141.6
20°	115.5	114.1	116.0	117.8	116.4	116.9	115.1	112.7	111.8	112.7	113.6
22.5°	91.2	93.2	95.4	98.3	98.7	101.1	100.6	101.1	99.2	98.3	96.0
25°	83.4	84.3	82.9	83.4	83.4	85.7	85.2	85.2	83.4	82.9	83.4
27.5°	73.6	73.1	73.1	74.1	74.1	75.5	76.4	75.5	73.6	73.1	73.6
30°	68.0	67.5	67.1	67.5	67.1	67.5	68.4	68.4	67.5	66.1	66.6
32.5°	62.4	62.4	62.0	62.4	62.0	62.0	62.9	61.5	61.5	61.0	61.0
35°	54.9	55.9	56.8	57.3	57.3	57.3	58.2	56.8	56.4	55.9	55.9
37.5°	47.5	48.4	51.2	52.6	53.1	54.0	54.5	53.6	52.6	51.7	50.7
40°	45.2	45.2	46.1	48.0	49.8	50.3	51.2	49.8	49.4	48.0	46.5
42.5°	43.3	43.8	43.8	44.3	44.7	45.6	47.1	45.6	44.7	43.8	42.4
45°	41.9	41.9	41.9	41.9	41.4	41.4	41.9	41.0	40.5	40.1	40.1
47.5°	41.0	40.5	40.1	39.6	39.1	38.7	38.7	37.7	37.7	37.7	37.7
50°	40.1	39.1	38.7	38.2	37.2	37.2	37.2	36.3	35.9	35.9	36.3
52.5°	38.7	38.2	37.7	37.2	36.8	36.3	36.3	35.4	34.9	34.9	34.9
55°	38.2	37.7	36.8	36.3	35.9	36.3	35.9	35.4	34.5	34.5	34.5
57.5°	36.8	37.2	36.8	35.9	35.9	35.9	35.9	34.9	34.5	33.6	34.0
59°	36.3	36.8	36.3	35.9	35.4	35.9	35.9	34.5	34.0	33.6	33.6
60°	35.9	36.3	35.9	35.4	35.4	35.9	35.4	34.9	34.0	32.6	33.0
62.5°	35.4	35.4	34.9	34.9	34.5	34.9	34.5	33.6	32.6	31.7	31.2
65°	34.5	34.5	34.0	34.0	33.6	33.6	33.6	32.6	31.7	30.7	30.7
67.5°	34.0	33.6	33.0	33.0	32.6	32.6	32.6	31.7	30.3	29.8	29.4
70°	32.1	31.7	31.7	31.2	30.7	31.2	31.7	30.3	28.8	27.9	27.5
72.5°	30.3	29.8	29.8	29.4	29.4	29.8	30.3	28.8	27.0	26.1	25.6
75°	27.5	27.0	27.0	27.0	27.0	27.9	27.9	26.6	25.2	23.7	22.8
77.5°	23.7	24.2	24.2	24.2	24.2	25.2	25.2	24.2	22.8	21.9	20.5
80°	20.5	20.5	21.0	21.0	21.4	21.4	21.0	20.5	20.0	19.1	17.2
82.5°	17.2	17.2	17.2	17.2	17.2	16.8	15.9	16.8	16.8	15.9	14.4
85°	13.5	13.5	13.5	14.0	14.0	12.6	11.2	11.2	12.6	12.1	11.2
87.5°	7.9	7.9	8.4	9.8	8.9	8.4	7.0	7.5	7.0	7.9	6.5
90°	11.0	10.6	10.6	8.7	8.1	7.2	7.2	7.7	8.2	8.2	8.2
92.5°	6.1	6.6	7.2	7.2	7.2	6.6	6.1	6.1	6.1	6.1	6.1
95°	7.2	7.7	8.2	7.7	7.2	7.2	7.2	7.2	7.2	7.2	7.2
97.5°	9.2	9.7	10.2	11.3	12.3	10.7	9.2	9.2	9.2	8.7	8.2
100°	23.5	25.1	26.6	28.1	29.7	25.6	21.5	16.9	12.3	11.3	10.2
102.5°	43.0	45.5	48.1	49.6	51.1	46.0	40.9	34.3	27.6	23.0	18.4
105°	66.5	69.0	71.6	72.6	73.7	69.0	64.4	56.8	49.1	43.0	36.8
107.5°	92.1	94.1	96.2	96.7	97.2	93.6	90.0	82.3	74.7	67.0	59.3



REPORT NUMBER: P227280  
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REPORT N  
 CATALOG

**CANDELA DISTRIBUTION (continued):**

**CANDELA**

	105°	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	
110°	121.7	122.8	123.8	123.3	122.8	119.7	116.6	110.5	104.3	96.7	89.0	0°
112.5°	152.4	152.9	153.4	152.4	151.4	148.8	146.3	141.7	137.1	130.4	123.8	2.5°
115°	183.1	184.6	186.2	184.6	183.1	180.6	178.0	174.9	171.9	167.3	162.6	5°
117.5°	214.8	217.4	219.9	217.9	215.8	212.8	209.7	208.2	206.6	204.1	201.5	7.5°
120°	250.6	253.2	255.7	253.7	251.6	250.1	248.6	245.5	242.4	240.4	238.3	10°
122.5°	284.4	286.9	289.5	287.4	285.4	284.4	283.4	280.3	277.2	275.2	273.1	12.5°
125°	317.1	319.7	322.2	321.2	320.2	318.6	317.1	314.6	312.0	308.9	305.9	15°
127.5°	353.9	353.9	353.9	353.4	352.9	350.4	347.8	347.3	346.8	343.7	340.6	17.5°
130°	389.7	389.7	389.7	387.7	385.7	383.1	380.5	379.5	378.5	376.4	374.4	20°
132.5°	423.5	424.5	425.5	423.0	420.4	417.4	414.3	413.8	413.3	411.7	410.2	22.5°
135°	457.3	457.8	458.3	455.7	453.2	450.1	447.0	446.0	445.0	443.4	441.9	25°
137.5°	486.9	486.4	485.9	484.9	483.9	481.3	478.7	476.7	474.6	472.6	470.6	27.5°
140°	515.6	514.5	513.5	512.5	511.5	509.9	508.4	505.3	502.3	501.2	500.2	30°
142.5°	545.2	545.2	545.2	542.2	539.1	538.1	537.0	535.0	533.0	531.4	529.9	32.5°
145°	573.9	574.4	574.9	571.8	568.8	566.2	563.6	563.1	562.6	561.1	559.6	35°
147.5°	599.4	598.9	598.4	595.9	593.3	590.8	588.2	587.7	587.2	587.2	587.2	37.5°
150°	616.8	615.3	613.8	612.2	610.7	608.7	606.6	606.6	606.6	606.6	606.6	40°
152.5°	632.2	630.1	628.1	626.6	625.0	624.5	624.0	624.0	624.0	623.5	623.0	42.5°
155°	650.6	648.0	645.5	642.9	640.4	641.4	642.4	643.4	644.5	642.9	641.4	45°
157.5°	664.9	663.9	662.9	660.8	658.8	659.3	659.8	660.3	660.8	659.8	658.8	47.5°
160°	676.2	677.7	679.2	676.2	673.1	671.6	670.0	670.0	670.0	670.5	671.1	50°
162.5°	685.4	685.9	686.4	684.4	682.3	680.3	678.2	677.2	676.2	678.2	680.3	52.5°
165°	695.6	694.1	692.5	690.0	687.4	687.9	688.4	688.4	688.4	690.0	691.5	55°
167.5°	703.8	701.7	699.7	696.6	693.6	697.1	700.7	702.3	703.8	702.8	701.7	57.5°
170°	709.9	707.4	704.8	703.3	701.7	704.3	706.9	707.9	708.9	708.4	707.9	59°
172.5°	709.9	708.9	707.9	706.3	704.8	705.3	705.8	705.8	705.8	707.4	708.9	60°
175°	712.0	711.5	711.0	708.4	705.8	705.8	705.8	706.3	706.9	708.9	711.0	62.5°
177.5°	717.1	716.1	715.0	712.5	709.9	710.4	711.0	712.0	713.0	714.0	715.0	65°
180°	716.1	716.1	716.1	716.1	716.1	716.1	716.1	716.1	716.1	716.1	716.1	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°



NUMBER: P227280  
 NUMBER: ISW-AF-450-LED-E1-SLR-ULG

REPORT NUMBER: P  
 CATALOG NUMBER:

**DISTRIBUTION (continued):**

**CANDELA DISTRIBUTION**

160°	165°	170°	175°	180°	185°	190°	195°	200°	205°	210°	110°	160°
914.2	914.2	914.2	914.2	914.2	914.2	914.2	914.2	914.2	914.2	914.2	110°	82.3
794.5	796.4	800.6	799.2	814.6	809.9	820.6	835.0	848.5	842.0	843.9	112.5°	116.1
653.5	655.7	638.0	648.8	664.6	658.1	655.7	677.2	672.1	696.2	676.3	115°	156.5
483.9	478.3	469.9	465.7	454.1	454.1	476.0	485.8	484.4	501.1	518.3	117.5°	197.4
340.0	333.5	323.3	320.4	332.0	337.7	347.4	357.2	370.2	389.3	400.5	120°	234.8
249.6	247.3	249.6	256.7	267.3	275.3	290.1	307.4	321.8	337.2	352.1	122.5°	270.1
188.6	193.2	199.4	204.0	212.4	227.3	235.2	254.3	267.3	280.8	298.1	125°	304.3
146.7	149.5	150.9	152.7	159.8	170.4	170.4	190.1	207.2	224.9	239.4	127.5°	338.6
111.8	111.8	107.1	109.9	110.9	109.9	115.5	126.6	137.9	149.5	172.4	130°	372.4
93.6	90.8	89.4	89.0	89.4	91.2	94.5	98.7	100.6	105.7	114.6	132.5°	406.1
82.9	82.4	81.0	81.0	81.9	82.4	85.7	89.4	90.3	91.8	95.0	135°	438.8
73.1	74.1	75.5	75.0	75.5	76.4	78.7	81.9	83.8	84.3	86.6	137.5°	470.0
66.1	67.1	67.5	68.9	68.9	69.4	71.3	74.5	75.9	78.3	80.6	140°	499.2
61.5	62.0	62.4	62.0	62.4	62.4	64.8	68.0	69.9	71.3	72.6	142.5°	529.4
56.4	55.9	55.9	55.9	54.5	54.0	54.9	58.2	58.7	60.0	63.3	145°	558.0
50.3	48.9	48.0	48.0	48.0	48.4	50.7	54.0	54.5	55.9	58.7	147.5°	585.6
44.7	44.3	44.3	44.7	45.2	46.1	48.0	51.2	51.7	53.1	55.4	150°	606.6
41.9	41.9	41.9	42.4	42.9	43.3	45.6	48.9	49.8	51.2	54.0	152.5°	622.5
40.1	40.5	40.1	40.1	40.5	41.4	43.8	47.5	48.9	50.3	53.1	155°	640.4
38.7	38.7	38.7	39.1	39.1	40.1	42.9	46.5	47.5	49.4	53.6	157.5°	658.3
36.8	37.7	37.2	37.7	38.2	39.1	41.9	45.6	47.1	49.8	54.5	160°	672.6
35.9	35.9	35.9	36.3	37.2	37.7	40.1	44.3	46.1	49.8	57.3	162.5°	682.3
35.4	34.5	34.5	34.9	35.9	36.8	39.1	43.3	45.6	49.4	56.8	165°	691.5
34.9	33.6	33.0	33.6	34.5	34.9	37.7	41.9	45.2	48.0	54.9	167.5°	700.7
33.6	32.6	32.1	32.6	33.6	34.5	36.8	41.0	43.3	47.1	52.6	170°	707.9
33.0	31.7	31.7	32.1	33.0	33.6	35.9	40.1	42.4	47.5	54.0	172.5°	709.9
31.2	30.7	30.7	31.2	31.2	32.1	34.9	39.1	41.0	48.4	45.2	175°	712.0
29.8	29.8	29.8	29.8	30.3	30.7	34.0	38.2	39.1	41.9	38.7	177.5°	715.6
28.8	28.8	28.8	28.8	28.8	29.8	32.6	36.8	37.2	36.8	35.4	180°	716.1
27.0	27.0	27.0	27.0	27.5	27.9	30.7	34.5	34.5	33.6	33.6		
25.6	25.2	25.2	25.2	25.2	25.6	28.4	32.1	31.7	31.2	31.2		
22.8	22.8	22.8	22.8	22.8	22.8	25.6	29.4	28.8	28.4	27.9		
20.0	20.0	20.5	20.0	19.5	19.1	21.9	26.1	26.1	25.6	25.2		
17.2	16.8	17.2	16.8	15.9	15.9	18.2	21.9	22.4	21.9	21.0		
14.0	13.5	13.5	13.5	11.7	11.7	14.0	17.7	17.7	17.2	16.3		
10.7	10.2	9.8	9.3	7.9	7.9	9.8	13.0	13.5	11.7	11.2		
5.6	5.6	5.6	4.2	3.7	3.3	5.1	7.9	7.9	6.5	5.6		
7.7	7.2	6.1	5.1	5.1	5.1	6.1	7.7	7.7	8.2	8.2		
5.6	5.1	4.6	4.1	4.1	4.1	4.6	5.1	5.6	6.1	6.1		
6.6	6.1	5.6	5.1	5.1	5.1	5.6	6.1	6.6	7.2	7.2		
8.2	8.2	7.7	7.2	7.2	7.2	7.7	8.2	8.2	8.2	8.7		
9.7	9.2	8.7	8.2	8.2	8.2	8.7	9.2	9.7	10.2	11.3		
15.9	13.3	12.3	11.3	11.3	11.3	12.3	13.3	15.9	18.4	23.0		
32.2	27.6	25.1	22.5	21.5	22.5	25.1	27.6	32.2	36.8	43.0		
54.7	50.1	46.5	43.0	41.9	43.0	46.5	50.1	54.7	59.3	67.0		

'227280  
 ISW-AF-450-LED-E1-SLR-ULG

REPORT NUMBER: P227280  
 CATALOG NUMBER: ISW-AF-4!

**TION (continued):**

**CANDELA DISTRIBUTION (con**

165°	170°	175°	180°	185°	190°	195°	200°	205°	210°		215°	220°
75.7	72.6	69.6	67.5	69.6	72.6	75.7	82.3	89.0	96.7	0°	914.2	914.2
108.4	104.9	101.3	101.3	101.3	104.9	108.4	116.1	123.8	130.4	2.5°	855.5	859.7
150.4	146.3	142.2	143.2	142.2	146.3	150.4	156.5	162.6	167.3	5°	691.1	707.5
193.3	190.8	188.2	188.2	188.2	190.8	193.3	197.4	201.5	204.1	7.5°	522.5	544.4
231.2	229.7	228.1	230.2	228.1	229.7	231.2	234.8	238.3	240.4	10°	418.7	433.6
267.0	266.5	266.0	269.0	266.0	266.5	267.0	270.1	273.1	275.2	12.5°	367.4	388.9
302.8	301.8	300.7	304.8	300.7	301.8	302.8	304.3	305.9	308.9	15°	315.3	338.6
336.6	336.6	336.6	337.6	336.6	336.6	336.6	338.6	340.6	343.7	17.5°	258.5	286.9
370.3	369.8	369.3	371.3	369.3	369.8	370.3	372.4	374.4	376.4	20°	197.4	225.5
402.0	402.5	403.0	405.1	403.0	402.5	402.0	406.1	410.2	411.7	22.5°	138.8	162.5
435.8	435.8	435.8	438.8	435.8	435.8	435.8	438.8	441.9	443.4	25°	101.1	111.8
469.5	468.5	467.5	470.6	467.5	468.5	469.5	470.0	470.6	472.6	27.5°	89.9	94.1
498.2	497.2	496.1	499.2	496.1	497.2	498.2	499.2	500.2	501.2	30°	84.3	87.1
528.9	527.8	526.8	529.9	526.8	527.8	528.9	529.4	529.9	531.4	32.5°	75.9	78.7
556.5	557.5	558.5	562.6	558.5	557.5	556.5	558.0	559.6	561.1	35°	66.6	70.3
584.1	584.6	585.1	588.2	585.1	584.6	584.1	585.6	587.2	587.2	37.5°	62.0	64.8
606.6	606.1	605.6	608.7	605.6	606.1	606.6	606.6	606.6	606.6	40°	59.1	59.6
622.0	622.0	622.0	625.0	622.0	622.0	622.0	622.5	623.0	623.5	42.5°	56.8	56.8
639.3	639.3	639.3	643.4	639.3	639.3	639.3	640.4	641.4	642.9	45°	55.4	56.8
657.8	657.8	657.8	660.8	657.8	657.8	657.8	658.3	658.8	659.8	47.5°	56.4	62.4
674.1	674.6	675.1	678.2	675.1	674.6	674.1	672.6	671.1	670.5	50°	63.3	61.5
684.4	684.4	684.4	688.4	684.4	684.4	684.4	682.3	680.3	678.2	52.5°	64.8	57.8
691.5	692.5	693.6	696.6	693.6	692.5	691.5	691.5	691.5	690.0	55°	59.1	55.4
699.7	701.2	702.8	705.8	702.8	701.2	699.7	700.7	701.7	702.8	57.5°	53.1	48.4
707.9	709.4	711.0	714.0	711.0	709.4	707.9	707.9	707.9	708.4	59°	47.5	44.7
711.0	712.0	713.0	715.0	713.0	712.0	711.0	709.9	708.9	707.4	60°	44.3	43.3
713.0	713.5	714.0	716.1	714.0	713.5	713.0	712.0	711.0	708.9	62.5°	40.5	41.4
716.1	718.6	721.2	723.2	721.2	718.6	716.1	715.6	715.0	714.0	65°	37.7	39.6
716.1	716.1	716.1	716.1	716.1	716.1	716.1	716.1	716.1	716.1	67.5°	36.3	37.7
										70°	34.0	34.9
										72.5°	31.7	32.1
										75°	28.4	28.8
										77.5°	25.2	25.2
										80°	20.5	20.5
										82.5°	15.9	15.3
										85°	10.2	9.8
										87.5°	4.7	3.7
										90°	8.2	7.7
										92.5°	6.1	6.1
										95°	7.2	7.2
										97.5°	9.2	9.2
										100°	12.3	16.9
										102.5°	27.6	34.3
										105°	49.1	56.8
										107.5°	74.7	82.3



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**tinued):**

**CANDELA DISTRIBUTION (continued):**

225°	230°	235°	240°	245°	250°	255°	260°	265°		215°	220°	225°
914.2	914.2	914.2	914.2	914.2	914.2	914.2	914.2	914.2	110°	104.3	110.5	116.6
880.7	893.8	904.0	902.1	924.0	937.0	938.9	952.4	965.5	112.5°	137.1	141.7	146.3
720.5	738.7	756.4	769.4	803.8	832.3	854.2	877.4	904.9	115°	171.9	174.9	178.0
574.3	589.6	618.5	639.4	675.8	708.8	740.9	777.7	808.9	117.5°	206.6	208.2	209.7
449.9	469.4	496.4	535.6	568.1	605.9	646.4	681.4	733.6	120°	242.4	245.5	248.6
404.3	416.3	438.7	457.4	497.9	537.9	583.6	631.6	679.4	122.5°	277.2	280.3	283.4
357.2	378.6	399.6	426.6	462.0	505.7	555.2	606.8	660.8	125°	312.0	314.6	317.1
311.6	340.0	362.8	392.1	431.7	487.1	551.4	615.7	679.0	127.5°	346.8	347.3	347.8
255.6	282.2	322.3	352.1	403.8	473.2	555.6	644.6	730.3	130°	378.5	379.5	380.5
201.2	229.7	275.3	319.5	376.3	465.7	572.3	692.0	806.6	132.5°	413.3	413.8	414.3
143.9	182.6	227.7	283.7	352.5	461.0	595.2	750.7	904.9	135°	445.0	446.0	447.0
107.6	134.6	189.6	250.5	326.0	452.7	619.4	805.3	972.0	137.5°	474.6	476.7	478.7
96.0	115.1	150.9	215.1	293.4	436.4	637.6	856.9	1033.0	140°	502.3	505.3	508.4
83.8	98.7	127.2	181.7	264.0	411.2	645.5	884.4	1075.3	142.5°	533.0	535.0	537.0
73.6	87.6	116.4	168.6	249.2	382.8	644.0	911.9	1128.4	145°	562.6	563.1	563.6
67.1	79.2	111.8	165.3	237.5	356.7	645.5	956.2	1207.2	147.5°	587.2	587.7	588.2
62.0	75.9	108.0	158.4	231.9	342.3	651.1	995.2	1274.7	150°	606.6	606.6	606.6
62.0	75.0	98.7	148.5	229.1	343.7	653.5	1025.5	1325.0	152.5°	624.0	624.0	624.0
65.2	70.3	91.8	143.0	231.0	353.9	650.6	1056.3	1373.9	155°	644.5	643.4	642.4
62.0	65.7	87.1	142.1	231.0	361.4	659.0	1094.5	1438.2	157.5°	660.8	660.3	659.8
58.7	61.0	85.7	140.7	226.4	368.4	693.5	1165.8	1521.9	160°	670.0	670.0	670.0
54.5	57.3	83.8	138.3	221.3	377.3	754.4	1285.4	1660.8	162.5°	676.2	677.2	678.2
49.4	54.9	81.0	134.6	218.0	393.1	816.9	1406.5	1826.1	165°	688.4	688.4	688.4
47.5	52.6	74.5	125.7	214.7	410.3	883.5	1522.5	1974.7	167.5°	703.8	702.3	700.7
46.1	50.7	68.9	119.3	212.0	418.7	903.5	1566.8	2032.0	170°	708.9	707.9	706.9
45.2	49.8	65.7	113.6	208.7	419.1	918.0	1583.4	2040.4	172.5°	705.8	705.8	705.8
43.8	48.0	59.1	102.0	198.4	418.7	919.3	1594.2	2016.1	175°	706.9	706.3	705.8
41.4	46.1	59.6	96.0	179.7	399.2	861.6	1542.5	1919.8	177.5°	713.0	712.0	711.0
39.6	44.7	62.9	97.4	160.2	348.8	753.5	1381.8	1713.4	180°	716.1	716.1	716.1
36.8	43.8	65.7	100.6	154.7	289.7	570.1	1128.4	1434.9				
34.0	43.3	68.0	102.9	148.5	238.4	395.0	800.2	1074.0				
30.7	39.6	62.0	87.6	123.0	173.3	254.3	523.4	740.5				
26.6	31.7	45.2	61.5	90.3	121.1	150.5	316.2	484.4				
21.9	23.7	32.1	39.6	60.0	71.7	83.4	178.4	338.6				
16.3	16.8	21.9	25.2	34.0	39.6	49.8	109.5	274.4				
9.3	10.7	14.9	16.8	20.5	25.2	32.6	69.9	215.1				
3.7	4.7	8.9	9.8	11.2	14.0	18.2	40.5	67.1				
7.2	7.2	7.2	8.2	9.2	9.2	9.2	8.2	7.2				
6.1	6.6	7.2	7.2	7.2	6.6	6.1	6.1	6.1				
7.2	7.2	7.2	7.7	8.2	7.7	7.2	7.2	7.2				
9.2	10.7	12.3	11.3	10.2	9.7	9.2	8.7	8.2				
21.5	25.6	29.7	28.1	26.6	25.1	23.5	21.5	19.4				
40.9	46.0	51.1	49.6	48.1	45.5	43.0	41.4	39.9				
64.4	69.0	73.7	72.6	71.6	69.0	66.5	64.4	62.4				
90.0	93.6	97.2	96.7	96.2	94.1	92.1	90.5	89.0				

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SLR-ULG

**CANDELA DISTRIBUTION (continued):**

230°	235°	240°	245°	250°	255°	260°	265°		270°	275°	280°	285°
119.7	122.8	123.3	123.8	122.8	121.7	120.2	118.7	0°	914.2	914.2	914.2	914.2
148.8	151.4	152.4	153.4	152.9	152.4	151.4	150.4	2.5°	978.5	988.3	996.7	1003.2
180.6	183.1	184.6	186.2	184.6	183.1	182.1	181.1	5°	934.3	957.1	984.6	1007.8
212.8	215.8	217.9	219.9	217.4	214.8	213.8	212.8	7.5°	855.5	884.4	929.1	956.6
250.1	251.6	253.7	255.7	253.2	250.6	249.6	248.6	10°	781.0	823.4	872.3	911.9
284.4	285.4	287.4	289.5	286.9	284.4	283.4	282.3	12.5°	730.3	782.9	829.4	873.7
318.6	320.2	321.2	322.2	319.7	317.1	317.1	317.1	15°	716.3	769.9	811.7	852.3
350.4	352.9	353.4	353.9	353.9	353.9	353.4	352.9	17.5°	744.2	797.8	833.6	858.4
383.1	385.7	387.7	389.7	389.7	389.7	388.7	387.7	20°	809.9	867.2	890.0	888.1
417.4	420.4	423.0	425.5	424.5	423.5	423.5	423.5	22.5°	899.8	959.8	959.8	941.2
450.1	453.2	455.7	458.3	457.8	457.3	458.8	460.3	25°	1018.6	1061.8	1038.1	1002.7
481.3	483.9	484.9	485.9	486.4	486.9	489.5	492.0	27.5°	1102.8	1143.4	1101.9	1043.7
509.9	511.5	512.5	513.5	514.5	515.6	518.1	520.7	30°	1172.7	1202.5	1149.9	1079.5
538.1	539.1	542.2	545.2	545.2	545.2	545.7	546.3	32.5°	1234.2	1256.1	1186.6	1117.3
566.2	568.8	571.8	574.9	574.4	573.9	572.3	570.8	35°	1307.7	1315.7	1224.9	1150.8
590.8	593.3	595.9	598.4	598.9	599.4	597.9	596.4	37.5°	1389.3	1395.8	1279.8	1187.6
608.7	610.7	612.2	613.8	615.3	616.8	618.4	619.9	40°	1485.2	1461.9	1320.3	1221.6
624.5	625.0	626.6	628.1	630.1	632.2	634.7	637.3	42.5°	1544.3	1506.2	1349.7	1239.3
641.4	640.4	642.9	645.5	648.0	650.6	651.6	652.6	45°	1590.9	1538.7	1363.2	1249.5
659.3	658.8	660.8	662.9	663.9	664.9	664.9	664.9	47.5°	1648.2	1586.7	1386.9	1268.2
671.6	673.1	676.2	679.2	677.7	676.2	675.7	675.1	50°	1723.7	1653.3	1447.0	1320.8
680.3	682.3	684.4	686.4	685.9	685.4	684.4	683.3	52.5°	1878.2	1791.2	1555.1	1412.6
687.9	687.4	690.0	692.5	694.1	695.6	694.6	693.6	55°	2056.1	1973.8	1727.9	1563.9
697.1	693.6	696.6	699.7	701.7	703.8	703.8	703.8	57.5°	2198.7	2143.3	1882.0	1700.9
704.3	701.7	703.3	704.8	707.4	709.9	711.0	712.0	59°	2251.3	2227.6	1991.0	1816.8
705.3	704.8	706.3	707.9	708.9	709.9	711.0	712.0	60°	2270.8	2291.4	2048.8	1887.5
705.8	705.8	708.4	711.0	711.5	712.0	711.0	709.9	62.5°	2284.4	2373.3	2236.4	2099.0
710.4	709.9	712.5	715.0	716.1	717.1	715.6	714.0	65°	2256.4	2386.9	2312.3	2228.0
716.1	716.1	716.1	716.1	716.1	716.1	716.1	716.1	67.5°	2134.9	2290.9	2276.5	2202.4
								70°	1886.2	2059.9	2110.2	2005.0
								72.5°	1419.0	1634.7	1909.0	1744.1
								75°	924.4	1123.8	1630.1	1494.0
								77.5°	578.9	701.3	1162.9	1046.5
								80°	385.1	450.8	738.2	672.1
								82.5°	289.7	319.5	507.7	477.4
								85°	152.7	194.7	395.0	500.6
								87.5°	57.3	63.8	297.2	447.5
								90°	7.2	7.2	8.7	9.2
								92.5°	6.1	6.1	6.1	6.1
								95°	7.2	7.2	7.2	7.2
								97.5°	8.2	8.2	8.7	9.2
								100°	19.4	19.4	21.5	23.5
								102.5°	38.9	39.9	41.4	43.0
								105°	62.4	62.4	64.4	66.5
								107.5°	88.0	89.0	90.5	92.1





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

**CANDELA DISTRIBUTION (continued):**

290°	295°	300°	305°	310°	315°	320°		270°	275°	280°	285°	290°
914.2	914.2	914.2	914.2	914.2	914.2	914.2	110°	119.7	118.7	120.2	121.7	122.8
1008.7	1017.1	1022.2	1018.6	1024.6	1026.0	1019.5	112.5°	150.4	150.4	151.4	152.4	152.9
1027.3	1050.7	1067.4	1079.1	1083.7	1087.9	1086.1	115°	182.1	181.1	182.1	183.1	184.6
993.0	1028.8	1060.0	1081.5	1088.8	1094.5	1089.3	117.5°	213.8	212.8	213.8	214.8	217.4
954.7	992.0	1021.3	1042.8	1042.3	1047.9	1038.1	120°	248.6	248.6	249.6	250.6	253.2
918.9	955.2	981.3	980.4	973.8	957.5	954.7	122.5°	283.4	282.3	283.4	284.4	286.9
890.5	909.6	916.1	914.7	896.1	886.7	885.4	125°	317.1	317.1	317.1	317.1	319.7
876.5	875.5	860.7	844.3	826.6	825.7	813.7	127.5°	355.0	352.9	353.4	353.9	353.9
878.8	848.5	821.1	793.1	774.1	769.9	771.2	130°	388.7	387.7	388.7	389.7	389.7
908.2	854.6	802.9	774.5	752.2	745.6	748.4	132.5°	424.5	423.5	423.5	423.5	424.5
945.0	873.2	808.9	765.7	747.5	739.6	740.9	135°	461.4	460.3	458.8	457.3	457.8
969.7	894.7	829.0	775.4	750.7	743.3	748.0	137.5°	493.1	492.0	489.5	486.9	486.4
1001.3	924.0	856.0	800.6	763.8	754.0	757.3	140°	522.7	520.7	518.1	515.6	514.5
1032.5	955.6	894.2	831.4	786.6	768.4	773.6	142.5°	548.3	546.3	545.7	545.2	545.2
1066.0	992.5	930.5	873.2	820.6	792.2	798.7	145°	572.9	570.8	572.3	573.9	574.4
1105.2	1035.3	982.2	929.6	875.5	851.8	854.6	147.5°	598.4	596.4	597.9	599.4	598.9
1142.8	1077.3	1043.2	1004.1	972.4	936.1	936.1	150°	624.0	619.9	618.4	616.8	615.3
1165.2	1131.7	1122.4	1111.2	1092.6	1066.5	1060.9	152.5°	642.4	637.3	634.7	632.2	630.1
1192.8	1196.4	1217.8	1240.2	1245.9	1220.2	1212.3	155°	655.7	652.6	651.6	650.6	648.0
1244.4	1283.5	1353.9	1414.8	1427.0	1448.0	1423.7	157.5°	670.0	664.9	664.9	664.9	663.9
1317.0	1389.3	1508.0	1607.7	1636.1	1637.9	1639.8	160°	681.3	675.1	675.7	676.2	677.7
1400.0	1503.3	1660.4	1779.1	1829.9	1843.4	1833.5	162.5°	689.5	683.3	684.4	685.4	685.9
1542.0	1635.6	1807.5	1935.5	2000.8	2032.4	2024.0	165°	697.7	693.6	694.6	695.6	694.1
1682.7	1799.1	1950.5	2076.7	2146.0	2181.4	2188.9	167.5°	709.9	703.8	703.8	703.8	701.7
1778.6	1887.5	2027.3	2143.7	2212.2	2254.6	2258.3	170°	717.1	712.0	711.0	709.9	707.4
1837.3	1937.0	2073.4	2175.9	2244.4	2280.2	2293.3	172.5°	717.1	712.0	711.0	709.9	708.9
2015.2	2033.3	2126.5	2194.0	2242.0	2258.3	2268.1	175°	715.0	709.9	711.0	712.0	711.5
2098.6	2022.7	2011.9	2053.9	2058.1	2047.3	2033.8	177.5°	718.1	714.0	715.6	717.1	716.1
1982.6	1805.2	1739.5	1733.9	1716.7	1709.7	1666.8	180°	716.1	716.1	716.1	716.1	716.1
1721.8	1466.1	1350.1	1287.3	1325.4	1324.1	1280.3						
1450.7	1190.4	1039.9	949.6	938.5	936.6	898.4						
1178.3	934.3	802.4	758.6	706.0	690.2	696.7						
849.5	667.0	638.9	672.5	676.7	664.6	656.2						
535.1	501.6	528.6	589.6	625.4	609.7	615.7						
446.2	395.0	396.8	461.0	485.3	489.0	476.4						
495.1	395.4	324.2	316.2	307.8	193.7	269.6						
446.2	306.0	180.2	148.5	91.2	52.6	54.5						
9.2	9.2	8.2	7.2	7.2	7.2	7.7						
6.6	7.2	7.2	7.2	6.6	6.1	6.1						
7.7	8.2	7.7	7.2	7.2	7.2	7.2						
9.7	10.2	11.3	12.3	10.7	9.2	9.2						
25.1	26.6	28.1	29.7	25.6	21.5	16.9						
45.5	48.1	49.6	51.1	46.0	40.9	34.3						
69.0	71.6	72.6	73.7	69.0	64.4	56.8						
94.1	96.2	96.7	97.2	93.6	90.0	82.3						



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**CANDELA DISTRIBUTION (continued):**

295°	300°	305°	310°	315°	320°		325°	330°	335°	340°	345°	350°
123.8	123.3	122.8	119.7	116.6	110.5	0°	914.2	914.2	914.2	914.2	914.2	914.2
153.4	152.4	151.4	148.8	146.3	141.7	2.5°	1018.0	1009.2	999.4	986.4	988.8	972.9
186.2	184.6	183.1	180.6	178.0	174.9	5°	1071.6	1056.3	1035.3	1008.7	984.1	952.4
219.9	217.9	215.8	212.8	209.7	208.2	7.5°	1066.0	1041.4	1006.5	966.4	933.7	888.1
255.7	253.7	251.6	250.1	248.6	245.5	10°	1018.0	985.9	957.5	916.1	873.7	833.6
289.5	287.4	285.4	284.4	283.4	280.3	12.5°	951.0	932.8	908.2	877.0	836.0	795.0
322.2	321.2	320.2	318.6	317.1	314.6	15°	877.9	879.3	864.4	856.0	835.5	802.9
353.9	353.4	352.9	350.4	347.8	347.3	17.5°	817.8	831.8	839.7	852.7	855.1	839.2
389.7	387.7	385.7	383.1	380.5	379.5	20°	777.7	797.3	822.0	857.8	895.6	911.9
425.5	423.0	420.4	417.4	414.3	413.8	22.5°	755.4	779.6	819.2	884.4	953.4	994.8
458.3	455.7	453.2	450.1	447.0	446.0	25°	751.3	783.4	838.8	918.4	1007.8	1066.0
485.9	484.9	483.9	481.3	478.7	476.7	27.5°	758.2	800.2	865.8	956.6	1044.6	1128.9
513.5	512.5	511.5	509.9	508.4	505.3	30°	780.5	829.4	901.2	999.0	1090.3	1174.1
545.2	542.2	539.1	538.1	537.0	535.0	32.5°	802.0	862.6	941.7	1037.2	1128.9	1212.3
574.9	571.8	568.8	566.2	563.6	563.1	35°	836.5	897.4	978.5	1066.5	1155.4	1250.0
598.4	595.9	593.3	590.8	588.2	587.7	37.5°	889.0	942.6	1007.4	1089.3	1182.0	1279.8
613.8	612.2	610.7	608.7	606.6	606.6	40°	964.0	999.4	1041.4	1106.1	1195.0	1299.9
628.1	626.6	625.0	624.5	624.0	624.0	42.5°	1076.2	1083.7	1098.1	1131.7	1206.7	1323.1
645.5	642.9	640.4	641.4	642.4	643.4	45°	1221.1	1198.8	1186.2	1181.5	1232.8	1338.0
662.9	660.8	658.8	659.3	659.8	660.3	47.5°	1389.3	1345.5	1295.2	1271.0	1283.1	1361.8
679.2	676.2	673.1	671.6	670.0	670.0	50°	1608.2	1536.9	1438.2	1368.3	1362.3	1431.6
686.4	684.4	682.3	680.3	678.2	677.2	52.5°	1808.9	1715.7	1591.4	1509.0	1475.4	1562.0
692.5	690.0	687.4	687.9	688.4	688.4	55°	1998.4	1926.7	1786.1	1683.6	1671.9	1734.8
699.7	696.6	693.6	697.1	700.7	702.3	57.5°	2164.7	2102.8	1987.7	1854.1	1858.7	1919.8
704.8	703.3	701.7	704.3	706.9	707.9	59°	2250.9	2199.1	2092.5	1956.5	1966.7	2050.6
707.9	706.3	704.8	705.3	705.8	705.8	60°	2281.6	2238.3	2136.7	2022.2	2035.3	2122.3
711.0	708.4	705.8	705.8	705.8	706.3	62.5°	2279.2	2251.3	2177.8	2123.7	2190.3	2254.1
715.0	712.5	709.9	710.4	711.0	712.0	65°	2061.8	2019.4	2011.0	2105.5	2234.1	2295.6
716.1	716.1	716.1	716.1	716.1	716.1	67.5°	1639.8	1659.8	1739.5	1902.1	2117.6	2207.1
						70°	1217.8	1253.2	1359.5	1563.5	1859.6	2014.3
						72.5°	895.6	931.0	1028.8	1252.3	1529.9	1666.8
						75°	702.8	713.5	783.8	959.4	1205.8	1318.0
						77.5°	649.3	617.0	588.2	682.3	813.1	909.6
						80°	604.5	543.5	475.5	503.9	535.6	638.0
						82.5°	469.4	428.9	375.8	412.1	427.1	430.4
						85°	274.8	244.5	309.7	438.7	434.0	380.0
						87.5°	96.9	125.7	141.6	243.2	293.9	254.3
						90°	8.2	9.6	12.4	12.4	14.1	8.5
						92.5°	6.1	6.1	6.1	5.6	5.1	4.6
						95°	7.2	7.2	7.2	6.6	6.1	5.6
						97.5°	9.2	8.7	8.2	8.2	8.2	7.7
						100°	12.3	11.3	10.2	9.7	9.2	8.7
						102.5°	27.6	23.0	18.4	15.9	13.3	12.3
						105°	49.1	43.0	36.8	32.2	27.6	25.1
						107.5°	74.7	67.0	59.3	54.7	50.1	46.5



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**CANDELA DISTRIBUTION (continued):**

355°	359°	360°		325°	330°	335°	340°	345°	350°	355°
914.2	914.2	914.2	110°	104.3	96.7	89.0	82.3	75.7	72.6	69.6
960.3	947.3	946.3	112.5°	137.1	130.4	123.8	116.1	108.4	104.9	101.3
927.3	897.9	888.6	115°	171.9	167.3	162.6	156.5	150.4	146.3	142.2
848.5	814.6	807.5	117.5°	206.6	204.1	201.5	197.4	193.3	190.8	188.2
782.5	744.7	738.2	120°	242.4	240.4	238.3	234.8	231.2	229.7	228.1
748.4	712.6	704.6	122.5°	277.2	275.2	273.1	270.1	267.0	266.5	266.0
761.5	721.9	717.7	125°	312.0	308.9	305.9	304.3	302.8	301.8	300.7
810.4	768.4	770.3	127.5°	346.8	343.7	340.6	338.6	336.6	336.6	336.6
894.2	867.2	860.7	130°	378.5	376.4	374.4	372.4	370.3	369.8	369.3
1004.1	974.8	966.4	132.5°	413.3	411.7	410.2	406.1	402.0	402.5	403.0
1097.7	1082.8	1077.3	135°	445.0	443.4	441.9	438.8	435.8	435.8	435.8
1165.2	1172.2	1166.7	137.5°	474.6	472.6	470.6	470.0	469.5	468.5	467.5
1219.3	1242.6	1239.7	140°	502.3	501.2	500.2	499.2	498.2	497.2	496.1
1274.7	1319.9	1321.8	142.5°	533.0	531.4	529.9	529.4	528.9	527.8	526.8
1315.7	1395.3	1411.6	145°	562.6	561.1	559.6	558.0	556.5	557.5	558.5
1368.3	1475.0	1491.8	147.5°	587.2	587.2	587.2	585.6	584.1	584.6	585.1
1408.4	1533.6	1554.2	150°	606.6	606.6	606.6	606.6	606.6	606.1	605.6
1447.5	1582.1	1604.4	152.5°	624.0	623.5	623.0	622.5	622.0	622.0	622.0
1479.6	1630.1	1652.9	155°	644.5	642.9	641.4	640.4	639.3	639.3	639.3
1515.9	1676.6	1698.9	157.5°	660.8	659.8	658.8	658.3	657.8	657.8	657.8
1581.2	1749.8	1776.3	160°	670.0	670.5	671.1	672.6	674.1	674.6	675.1
1721.3	1885.3	1922.9	162.5°	676.2	678.2	680.3	682.3	684.4	684.4	684.4
1923.9	2072.5	2102.3	165°	688.4	690.0	691.5	691.5	691.5	692.5	693.6
2106.5	2199.7	2207.5	167.5°	703.8	702.8	701.7	700.7	699.7	701.2	702.8
2181.4	2234.5	2232.2	170°	708.9	708.4	707.9	707.9	707.9	709.4	711.0
2236.4	2242.9	2229.9	172.5°	705.8	707.4	708.9	709.9	711.0	712.0	713.0
2266.2	2204.3	2182.0	175°	706.9	708.9	711.0	712.0	713.0	713.5	714.0
2188.4	2102.3	2072.9	177.5°	713.0	714.0	715.0	715.6	716.1	718.6	721.2
1964.0	1918.3	1884.8	180°	716.1	716.1	716.1	716.1	716.1	716.1	716.1
1670.6	1555.1	1533.2								
1266.3	1114.0	1081.5								
884.9	702.4	658.1								
581.6	450.8	434.0								
377.3	299.4	294.3								
263.1	196.5	181.2								
161.6	65.7	62.9								
50.3	30.3	27.0								
6.5	7.0	7.0								
4.1	4.1	4.1								
5.1	5.1	5.1								
7.2	7.2	7.2								
8.2	8.2	8.2								
11.3	11.3	11.3								
22.5	21.7	21.5								
43.0	42.1	41.9								



359°	360°
67.9	67.5
101.3	101.3
143.0	143.2
188.2	188.2
229.8	230.2
268.4	269.0
304.0	304.8
337.4	337.6
370.9	371.3
404.7	405.1
438.2	438.8
469.9	470.6
498.6	499.2
529.3	529.9
561.8	562.6
587.6	588.2
608.0	608.7
624.4	625.0
642.6	643.4
660.2	660.8
677.6	678.2
687.6	688.4
696.0	696.6
705.2	705.8
713.4	714.0
714.6	715.0
715.7	716.1
722.8	723.2
716.1	716.1

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