

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: P226374

Luminaire Tested: **ISW-AF-450-LED-E1-T3-7030-ULG**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P226374  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P35938)-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-T3-7030-ULG  
Description: IMPACT ELITE LED WEDGE LUMINAIRE WITH UPLIGHT  
LIGHT SQUARE WITH ACCULED OPTICS-TYPE III, WITH UPLIGHT GLOW  
Light Source: (16) 3000K CCT, 70 CRI LEDs and (1) UPLIGHT LED  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4519.9 lumens  
Efficiency: N/A  
Efficacy: 107.6 lumens/watt  
Luminous Opening: Rectangular w/ Sides (W: 0.5' x L: 0.5' x H: 0.54')  
IES Classification: Type III - 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

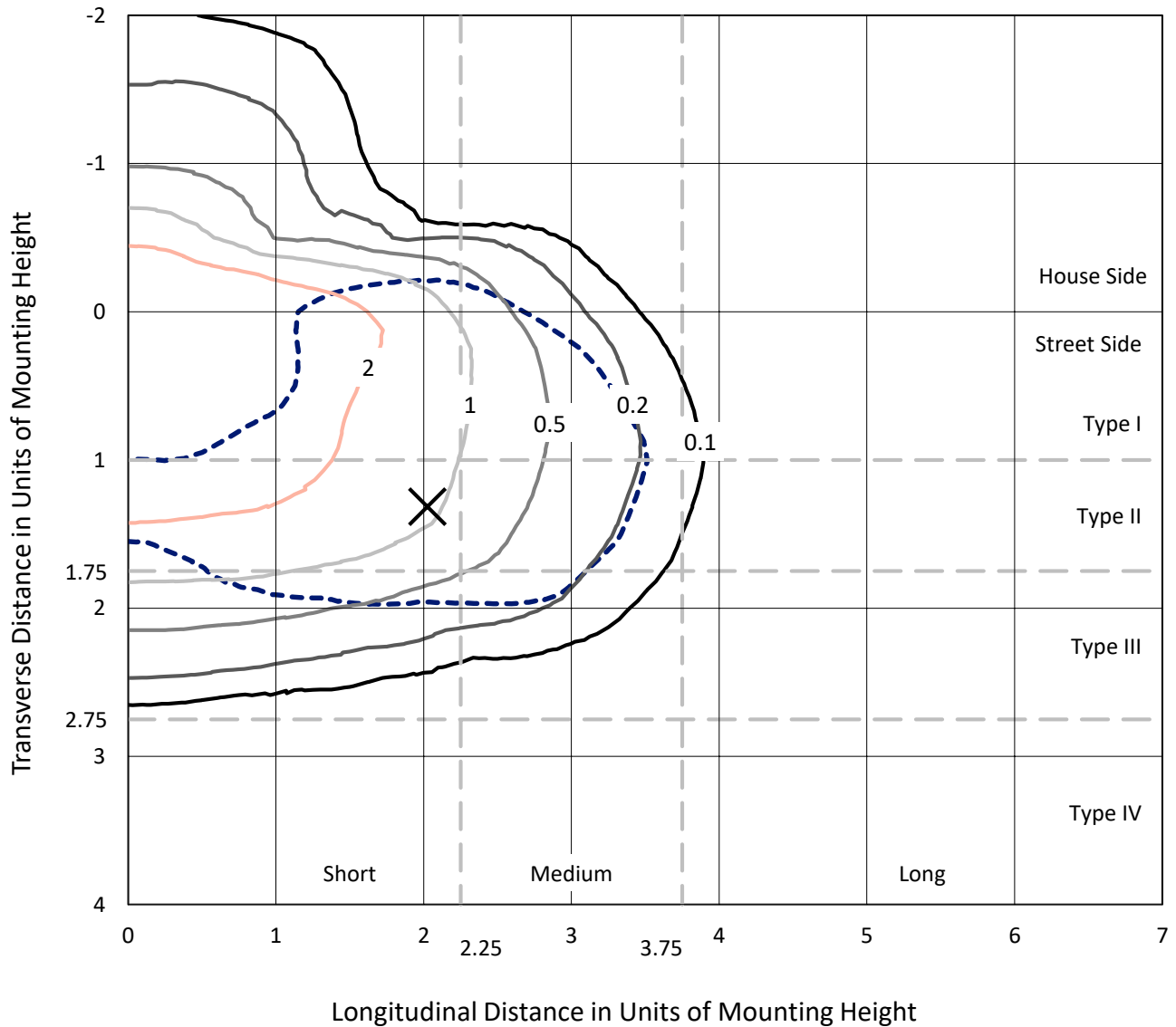


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### Iso-Footcandle Lines of Horizontal Illumination

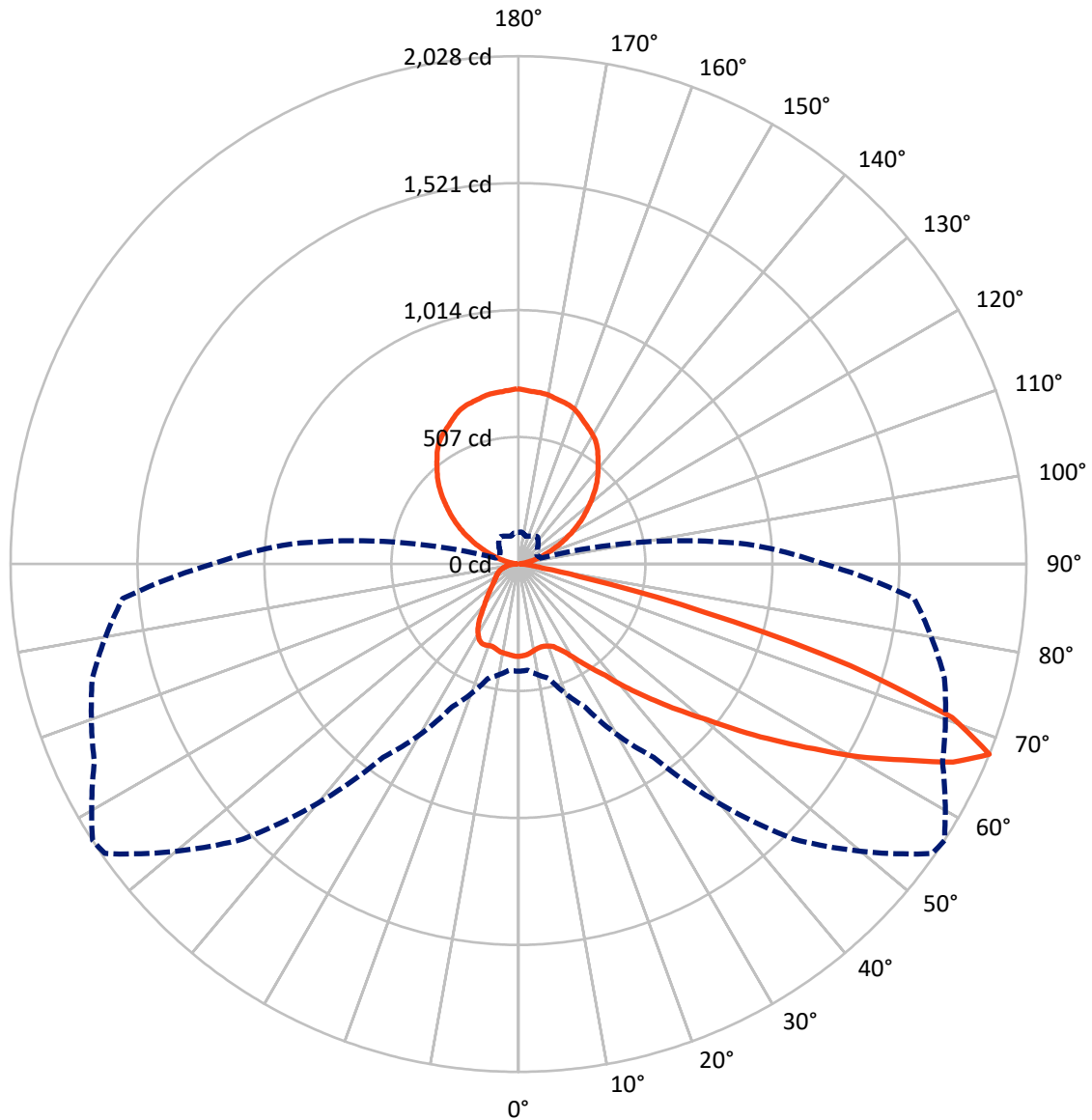
× Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 3.9 fc  
 Type III - Short - Non-Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 57-Deg Lateral    - - - Horizontal Cone Through 67.5-Deg Vertical

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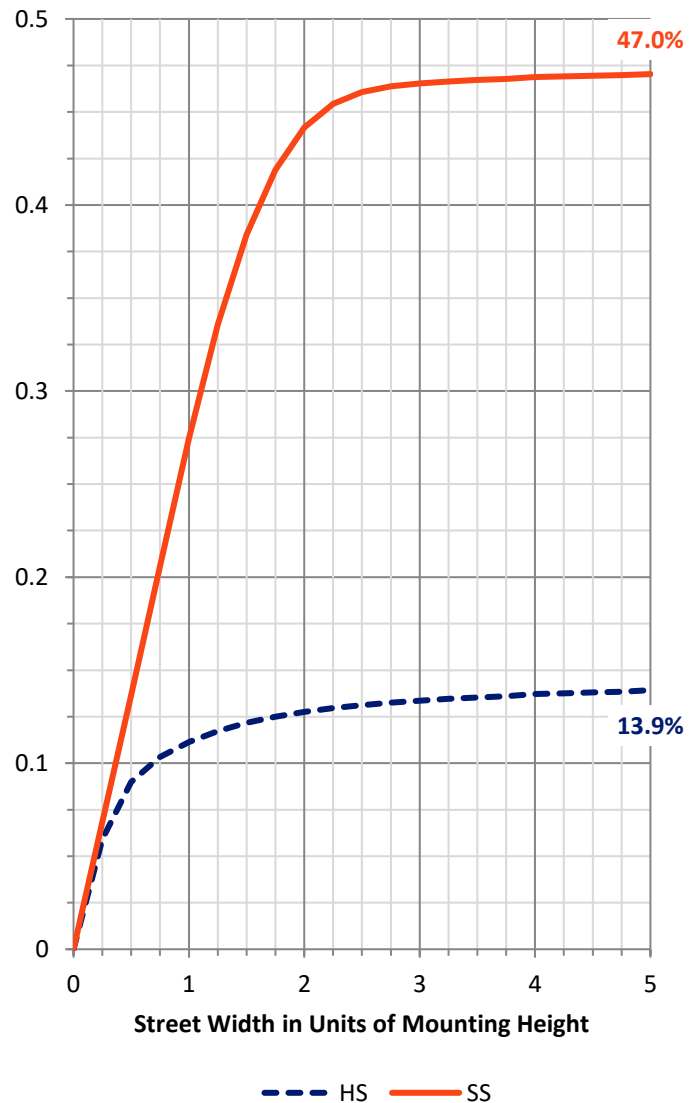
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	648.3	868.4	1516.7
	% Fixture	14.3	19.2	33.6
<b>Street Side</b>	Lumens	2135.4	867.8	3003.2
	% Fixture	47.2	19.2	66.4
<b>Total</b>	Lumens	2783.7	1736.2	4519.9
	% Fixture	61.6	38.4	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	34.5	0.8
10°-20°	99.2	2.2
20°-30°	170.7	3.8
30°-40°	277.5	6.1
40°-50°	447.6	9.9
50°-60°	667.2	14.8
60°-70°	751.5	16.6
70°-80°	289.7	6.4
80°-90°	45.9	1.0
90°-100°	10.3	0.2
100°-110°	57.4	1.3
110°-120°	166.1	3.7
120°-130°	273.2	6.0
130°-140°	336.8	7.5
140°-150°	344.6	7.6
150°-160°	290.3	6.4
160°-170°	191.2	4.2
170°-180°	66.3	1.5
0°-90°	2783.7	61.6
0°-180°	4519.9	100.0



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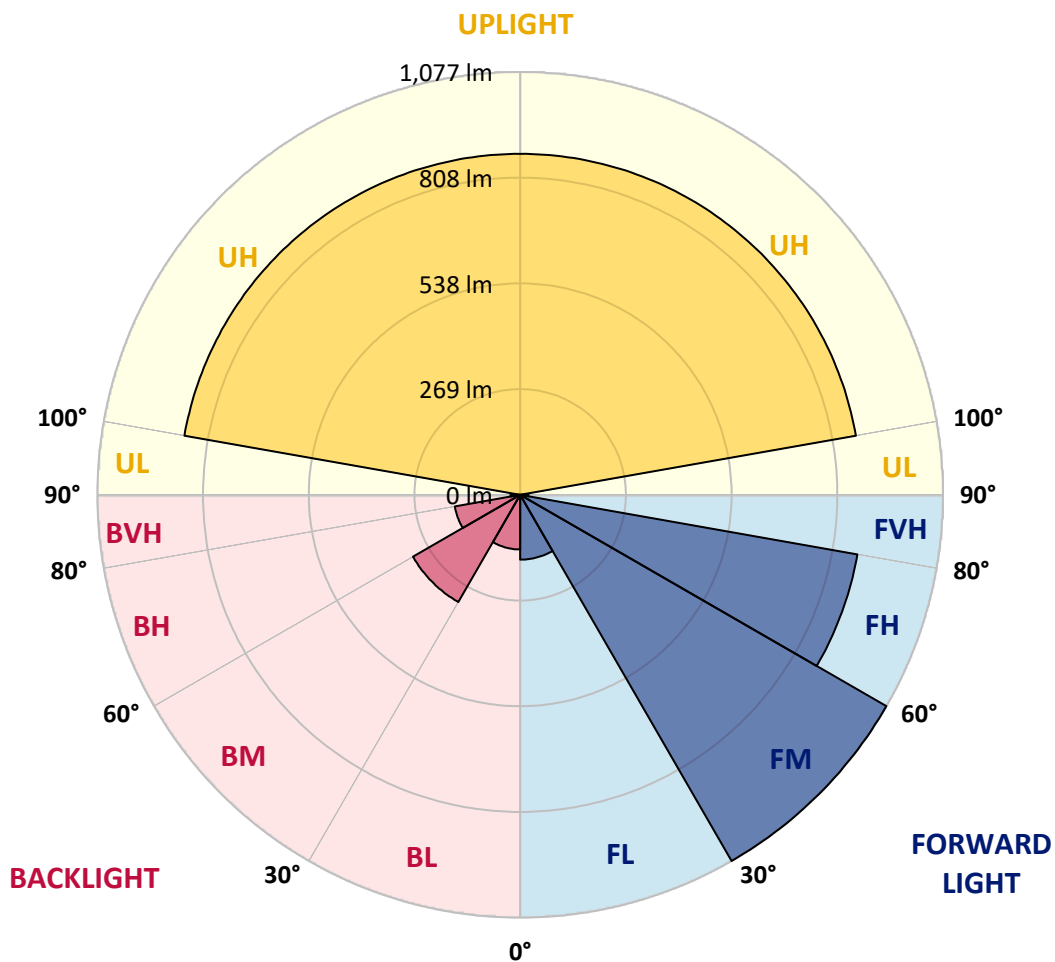
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	165.1	3.7			
FM (30°-60°)	1077.0	23.8			
FH (60°-80°)	872.2	19.3			G1/1800
FVH (80°-90°)	21.1	0.5			G1/100
BL (0°-30°)	139.2	3.1	B1/500		
BM (30°-60°)	315.3	7.0	B1/1000		
BH (60°-80°)	169.0	3.7	B1/500		G1/500
BVH (80°-90°)	24.8	0.5			G1/100
UL (90°-100°)	10.3	0.2		U2/50	
UH (100°-180°)	868.4	19.2		U4/1000	

**BUG Rating: B1-U5-G1**

Type III Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	57°	65°	75°	85°
0°	368.9	368.9	368.9	368.9	368.9	368.9	368.9	368.9	368.9	368.9	368.9
2.5°	366.1	366.9	367.7	367.3	367.3	367.3	367.3	366.5	367.7	367.7	366.9
5°	360.0	360.4	360.8	361.6	362.4	363.2	363.7	363.7	364.1	363.7	362.8
7.5°	351.2	351.6	353.2	353.2	354.0	355.6	356.4	357.2	358.4	358.4	358.0
10°	348.3	348.3	348.3	347.1	347.9	348.3	349.5	349.5	352.8	354.4	355.2
12.5°	351.6	351.2	351.2	347.9	345.1	343.9	345.1	345.5	349.1	351.6	353.2
15°	358.8	358.8	358.0	353.2	347.5	343.1	342.7	342.7	345.5	349.1	352.0
17.5°	375.7	377.4	371.7	364.1	354.8	347.5	344.7	344.3	346.3	349.1	352.0
20°	408.0	407.6	399.1	385.4	369.3	357.2	350.3	349.5	349.1	350.8	354.0
22.5°	446.3	444.7	434.6	417.3	395.1	372.9	359.6	358.0	354.8	356.0	360.4
25°	487.4	487.8	475.3	452.8	424.9	398.3	378.2	376.6	369.7	368.9	373.7
27.5°	528.5	533.8	516.9	495.5	462.4	430.6	401.1	398.7	392.7	390.7	395.5
30°	588.6	586.6	565.6	537.8	504.8	464.8	436.6	432.2	420.1	422.9	428.2
32.5°	639.4	643.9	624.9	591.8	548.3	506.4	473.7	471.3	459.6	462.8	470.1
35°	701.5	712.0	687.0	646.3	604.3	561.2	522.1	515.6	506.4	512.8	518.5
37.5°	772.5	777.7	758.3	705.9	663.2	618.0	573.7	563.6	553.5	566.8	576.9
40°	840.2	848.7	823.7	779.3	729.7	686.6	638.2	636.2	612.8	627.3	653.5
42.5°	940.6	951.1	911.1	859.5	814.8	762.8	716.8	705.9	680.5	701.1	745.0
45°	1010.7	1010.3	983.3	940.6	913.2	862.8	800.7	787.8	760.4	787.8	846.6
47.5°	1036.1	1042.2	1032.9	1027.7	1018.0	981.3	889.8	877.7	851.9	892.6	947.0
50°	1073.6	1072.0	1072.0	1104.3	1132.1	1124.4	994.2	976.9	949.9	998.6	1076.8
52.5°	1083.3	1068.8	1091.4	1153.0	1241.3	1247.8	1115.6	1105.9	1073.6	1121.2	1217.6
55°	1056.3	1052.7	1088.5	1178.0	1317.1	1363.1	1256.3	1243.0	1206.7	1247.4	1369.5
57.5°	995.8	1005.1	1062.7	1172.8	1369.5	1464.7	1410.7	1391.7	1339.7	1364.3	1520.3
60°	932.5	937.0	1013.1	1154.3	1383.7	1535.2	1572.7	1561.9	1472.8	1487.3	1632.0
62.5°	862.4	851.9	930.9	1138.9	1367.9	1632.4	1730.0	1721.5	1616.3	1611.8	1711.4
65°	666.4	680.9	748.3	941.4	1260.3	1708.2	1917.4	1906.6	1776.3	1714.7	1703.0
67.5°	428.2	425.3	472.9	629.3	941.8	1552.6	2015.4	2027.5	1867.9	1761.0	1586.0
70°	153.6	158.0	175.8	285.8	516.5	1034.5	1776.7	1836.8	1800.5	1674.3	1290.9
72.5°	93.5	93.5	106.4	128.6	209.2	490.6	1266.3	1385.3	1469.5	1379.6	953.5
75°	73.4	73.0	77.4	88.7	112.9	160.9	673.3	765.2	942.6	953.1	542.7
77.5°	58.1	57.7	62.1	67.3	84.3	85.1	214.9	279.8	432.6	407.2	193.9
80°	46.8	46.4	49.6	51.2	61.7	58.9	86.3	100.0	151.6	133.0	83.9
82.5°	42.3	42.3	45.6	39.1	42.7	41.5	53.6	57.2	76.2	79.0	50.4
85°	27.4	28.2	42.7	37.9	27.8	25.4	34.3	36.3	47.6	52.0	24.6
87.5°	12.9	14.1	32.7	31.4	18.5	13.7	19.4	20.6	25.8	31.8	14.5
90°	7.4	7.4	11.0	12.4	10.4	9.4	10.2	10.2	11.8	13.0	11.0
92.5°	4.0	4.0	5.0	6.0	6.0	6.0	7.0	7.0	7.0	6.0	6.0
95°	5.0	5.0	6.0	7.0	7.0	7.0	7.0	7.2	8.0	7.0	7.0
97.5°	7.0	7.0	8.0	8.0	9.0	9.0	12.0	11.6	10.0	9.0	8.0
100°	8.0	8.0	9.0	10.0	12.0	21.0	29.0	28.4	26.0	23.0	19.0
102.5°	11.0	11.0	13.0	18.0	27.0	40.0	50.0	49.4	47.0	42.0	39.0
105°	21.0	22.0	27.0	36.0	48.0	63.0	72.0	71.6	70.0	65.0	61.0
107.5°	41.0	42.0	49.0	58.0	73.0	88.0	95.0	94.8	94.0	90.0	87.0
110°	66.0	68.0	74.0	87.0	102.0	114.0	120.0	120.2	121.0	119.0	116.0



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	15°	25°	35°	45°	55°	57°	65°	75°	85°
112.5°	99.0	99.0	106.0	121.0	134.0	143.0	148.0	148.4	150.0	149.0	147.0
115°	140.0	139.0	147.0	159.0	168.0	174.0	179.0	179.6	182.0	179.0	177.0
117.5°	184.0	184.0	189.0	197.0	202.0	205.0	211.0	211.8	215.0	210.0	208.0
120°	225.0	223.0	226.0	233.0	237.0	243.0	246.0	246.8	250.0	245.0	243.0
122.5°	263.0	260.0	261.0	267.0	271.0	277.0	279.0	279.8	283.0	278.0	276.0
125°	298.0	294.0	296.0	299.0	305.0	310.0	313.0	313.4	315.0	310.0	310.0
127.5°	330.0	329.0	329.0	333.0	339.0	340.0	345.0	345.2	346.0	346.0	345.0
130°	363.0	361.0	362.0	366.0	370.0	372.0	377.0	377.8	381.0	381.0	379.0
132.5°	396.0	394.0	393.0	401.0	404.0	405.0	411.0	412.0	416.0	414.0	414.0
135°	429.0	426.0	426.0	432.0	435.0	437.0	443.0	444.0	448.0	447.0	450.0
137.5°	460.0	457.0	459.0	460.0	464.0	468.0	473.0	473.4	475.0	476.0	481.0
140°	488.0	485.0	487.0	489.0	491.0	497.0	500.0	500.4	502.0	504.0	509.0
142.5°	518.0	515.0	517.0	518.0	521.0	525.0	527.0	528.2	533.0	533.0	534.0
145°	550.0	546.0	544.0	547.0	550.0	551.0	556.0	557.2	562.0	561.0	558.0
147.5°	575.0	572.0	571.0	574.0	574.0	575.0	580.0	581.0	585.0	586.0	583.0
150°	595.0	592.0	593.0	593.0	593.0	593.0	597.0	597.6	600.0	603.0	606.0
152.5°	611.0	608.0	608.0	609.0	610.0	610.0	611.0	611.6	614.0	618.0	623.0
155°	629.0	625.0	625.0	627.0	630.0	628.0	626.0	627.0	631.0	636.0	638.0
157.5°	646.0	643.0	643.0	644.0	646.0	645.0	644.0	644.8	648.0	650.0	650.0
160°	663.0	660.0	659.0	656.0	655.0	655.0	658.0	659.2	664.0	661.0	660.0
162.5°	673.0	669.0	669.0	665.0	661.0	663.0	667.0	667.8	671.0	670.0	668.0
165°	681.0	678.0	676.0	676.0	673.0	673.0	672.0	673.0	677.0	680.0	678.0
167.5°	690.0	687.0	684.0	686.0	688.0	685.0	678.0	679.2	684.0	688.0	688.0
170°	698.0	695.0	692.0	692.0	693.0	691.0	686.0	686.6	689.0	694.0	696.0
172.5°	699.0	697.0	695.0	693.0	690.0	690.0	689.0	689.6	692.0	694.0	696.0
175°	700.0	698.0	697.0	695.0	691.0	690.0	690.0	691.0	695.0	696.0	694.0
177.5°	707.0	705.0	700.0	699.0	697.0	695.0	694.0	695.0	699.0	701.0	698.0
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):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	368.9	368.9	368.9	368.9	368.9	368.9	368.9	368.9	368.9	368.9	368.9
2.5°	368.1	367.3	367.7	368.1	368.5	369.7	370.1	370.1	370.1	369.7	370.5
5°	363.7	362.8	362.8	364.1	365.3	366.9	369.3	371.3	372.1	372.5	372.5
7.5°	358.8	358.0	358.4	360.4	362.4	363.7	366.1	367.3	370.5	370.5	371.3
10°	355.6	356.4	356.8	358.8	360.4	360.4	360.0	359.2	358.4	360.4	359.6
12.5°	353.6	354.8	354.4	356.8	357.6	354.4	349.5	343.1	342.3	343.1	343.9
15°	352.8	352.8	354.0	354.0	349.9	343.5	337.4	337.9	338.7	341.1	341.1
17.5°	352.8	353.2	354.0	351.2	343.9	338.3	337.0	335.8	331.4	330.2	329.0
20°	355.6	354.8	355.6	350.3	343.9	339.5	330.2	321.3	312.9	309.2	307.6
22.5°	362.4	361.2	360.8	355.6	347.5	332.6	314.5	300.8	286.2	281.4	279.8
25°	374.5	374.1	371.3	367.7	345.1	316.1	293.1	271.3	255.6	247.1	247.5
27.5°	395.9	395.9	394.3	378.2	332.6	295.5	264.5	242.3	226.2	218.1	216.9
30°	428.2	429.0	429.8	381.0	312.9	265.3	233.0	218.1	208.4	202.4	202.0
32.5°	468.1	472.5	467.3	377.8	285.8	228.6	208.4	203.2	198.4	194.3	193.9
35°	520.9	533.0	499.9	364.9	255.6	203.6	193.5	189.9	186.3	183.4	183.8
37.5°	591.8	603.5	520.9	343.1	216.9	189.5	185.1	179.4	173.8	167.7	166.9
40°	675.7	672.1	528.1	302.0	192.7	182.6	176.6	169.3	159.7	150.8	149.2
42.5°	759.6	735.4	522.1	251.2	177.0	176.6	168.1	158.8	149.2	141.5	141.5
45°	853.5	791.0	503.6	203.6	164.5	170.1	159.7	150.0	141.1	135.5	135.1
47.5°	942.2	843.0	472.9	169.7	152.0	161.7	153.2	144.3	135.9	131.0	129.8
50°	1046.2	902.3	449.5	146.8	139.9	153.2	149.6	141.5	133.4	127.8	127.0
52.5°	1151.4	959.9	431.8	131.0	129.0	146.8	148.0	143.1	134.7	123.8	123.0
55°	1261.5	1032.1	396.3	118.5	119.3	141.9	150.0	146.3	140.3	122.6	121.8
57.5°	1353.8	1098.6	334.2	110.1	111.7	138.3	150.8	143.9	137.1	123.4	122.2
60°	1426.0	1144.2	245.1	103.2	104.8	134.3	147.2	135.5	126.6	123.4	121.4
62.5°	1448.2	1145.8	162.9	95.1	99.6	127.4	140.7	131.0	120.5	122.2	121.4
65°	1392.5	1085.3	116.5	87.5	95.1	119.3	137.9	126.6	117.7	124.2	123.4
67.5°	1221.2	914.4	93.5	81.4	89.1	110.9	132.6	122.6	115.3	128.6	126.2
70°	951.5	655.9	79.4	75.4	82.6	102.8	125.4	118.1	112.1	125.0	121.8
72.5°	627.3	386.2	70.2	69.7	75.0	96.0	117.3	114.1	106.8	113.3	108.5
75°	327.4	179.0	60.9	63.3	66.5	89.9	110.1	106.8	98.8	101.2	99.6
77.5°	128.6	83.9	52.8	55.6	59.3	81.0	100.8	97.6	90.7	88.7	88.3
80°	70.6	56.4	43.9	47.6	50.0	73.0	91.1	87.5	80.2	79.0	77.8
82.5°	44.8	36.7	36.3	38.7	41.9	64.9	81.8	76.2	70.2	82.6	66.9
85°	21.0	21.8	25.8	29.0	32.7	55.2	71.4	65.3	59.3	57.7	51.2
87.5°	11.7	14.5	16.9	19.8	22.6	38.7	56.4	50.8	44.3	37.9	39.1
90°	9.8	9.8	13.8	13.4	11.8	12.6	35.8	33.0	29.2	15.5	11.9
92.5°	6.0	6.0	6.0	7.0	7.0	6.0	6.0	6.0	5.0	4.0	4.0
95°	7.0	7.0	7.0	8.0	7.0	7.0	7.0	7.0	6.0	5.0	5.0
97.5°	8.0	8.0	9.0	10.0	12.0	9.0	9.0	8.0	8.0	7.0	7.0
100°	19.0	19.0	23.0	26.0	29.0	21.0	12.0	10.0	9.0	8.0	8.0
102.5°	38.0	39.0	42.0	47.0	50.0	40.0	27.0	18.0	13.0	11.0	11.0
105°	61.0	61.0	65.0	70.0	72.0	63.0	48.0	36.0	27.0	22.0	21.0
107.5°	86.0	87.0	90.0	94.0	95.0	88.0	73.0	58.0	49.0	42.0	41.0
110°	117.0	116.0	119.0	121.0	120.0	114.0	102.0	87.0	74.0	68.0	66.0



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CATALOG NUMBER: ISW-AF-450-LED-E1-T3-7030-ULG

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
112.5°	147.0	147.0	149.0	150.0	148.0	143.0	134.0	121.0	106.0	99.0	99.0
115°	178.0	177.0	179.0	182.0	179.0	174.0	168.0	159.0	147.0	139.0	140.0
117.5°	209.0	208.0	210.0	215.0	211.0	205.0	202.0	197.0	189.0	184.0	184.0
120°	243.0	243.0	245.0	250.0	246.0	243.0	237.0	233.0	226.0	223.0	225.0
122.5°	277.0	276.0	278.0	283.0	279.0	277.0	271.0	267.0	261.0	260.0	263.0
125°	310.0	310.0	310.0	315.0	313.0	310.0	305.0	299.0	296.0	294.0	298.0
127.5°	347.0	345.0	346.0	346.0	345.0	340.0	339.0	333.0	329.0	329.0	330.0
130°	380.0	379.0	381.0	381.0	377.0	372.0	370.0	366.0	362.0	361.0	363.0
132.5°	415.0	414.0	414.0	416.0	411.0	405.0	404.0	401.0	393.0	394.0	396.0
135°	451.0	450.0	447.0	448.0	443.0	437.0	435.0	432.0	426.0	426.0	429.0
137.5°	482.0	481.0	476.0	475.0	473.0	468.0	464.0	460.0	459.0	457.0	460.0
140°	511.0	509.0	504.0	502.0	500.0	497.0	491.0	489.0	487.0	485.0	488.0
142.5°	536.0	534.0	533.0	533.0	527.0	525.0	521.0	518.0	517.0	515.0	518.0
145°	560.0	558.0	561.0	562.0	556.0	551.0	550.0	547.0	544.0	546.0	550.0
147.5°	585.0	583.0	586.0	585.0	580.0	575.0	574.0	574.0	571.0	572.0	575.0
150°	610.0	606.0	603.0	600.0	597.0	593.0	593.0	593.0	593.0	592.0	595.0
152.5°	628.0	623.0	618.0	614.0	611.0	610.0	610.0	609.0	608.0	608.0	611.0
155°	641.0	638.0	636.0	631.0	626.0	628.0	630.0	627.0	625.0	625.0	629.0
157.5°	655.0	650.0	650.0	648.0	644.0	645.0	646.0	644.0	643.0	643.0	646.0
160°	666.0	660.0	661.0	664.0	658.0	655.0	655.0	656.0	659.0	660.0	663.0
162.5°	674.0	668.0	670.0	671.0	667.0	663.0	661.0	665.0	669.0	669.0	673.0
165°	682.0	678.0	680.0	677.0	672.0	673.0	673.0	676.0	676.0	678.0	681.0
167.5°	694.0	688.0	688.0	684.0	678.0	685.0	688.0	686.0	684.0	687.0	690.0
170°	701.0	696.0	694.0	689.0	686.0	691.0	693.0	692.0	692.0	695.0	698.0
172.5°	701.0	696.0	694.0	692.0	689.0	690.0	690.0	693.0	695.0	697.0	699.0
175°	699.0	694.0	696.0	695.0	690.0	690.0	691.0	695.0	697.0	698.0	700.0
177.5°	702.0	698.0	701.0	699.0	694.0	695.0	697.0	699.0	700.0	705.0	707.0
180°	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0

(END OF REPORT)