

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: P226745

Luminaire Tested: **IST-AF-450-LED-E1-T4W**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P226745  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P35944)  
Test Lab: INNOVATION CENTER-P3  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: MCGRAW-EDISON  
Catalog Number: IST-AF-450-LED-E1-T4W  
Description: IMPACT ELITE LED TRAPEZOID LUMINAIRE  
LIGHT SQUARE WITH ACCULED OPTICS-TYPE IV WIDE  
Light Source: (16) 4000K CCT, 70 CRI LEDs  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3211 lumens  
Efficiency: N/A  
Efficacy: 126.9 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type IV - Medium - Semi-Cutoff  
BUG Rating: B1 - U1 - G1

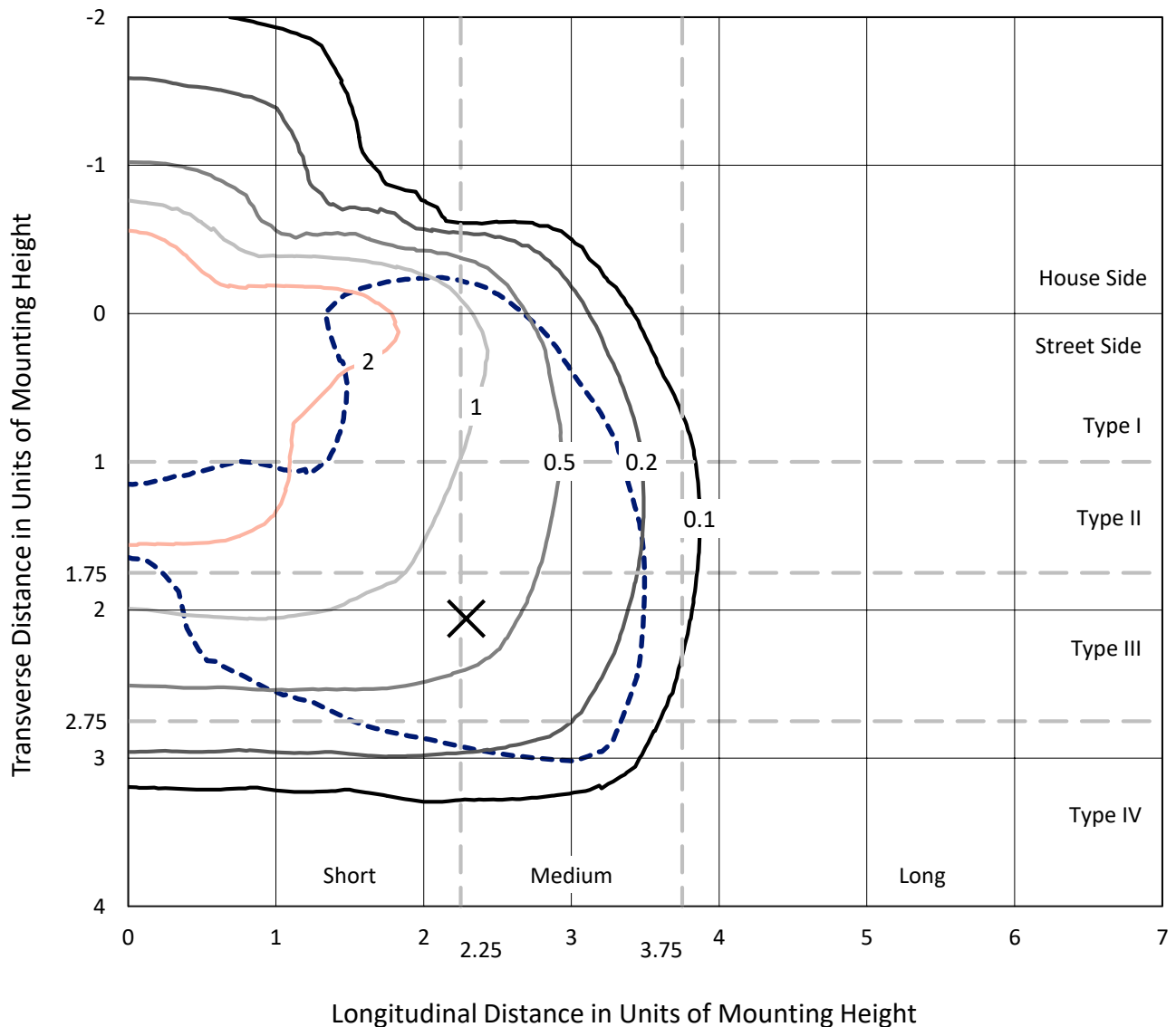
Input Watts (W): 25.31  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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 CATALOG NUMBER: IST-AF-450-LED-E1-T4W

### Iso-Footcandle Lines of Horizontal Illumination

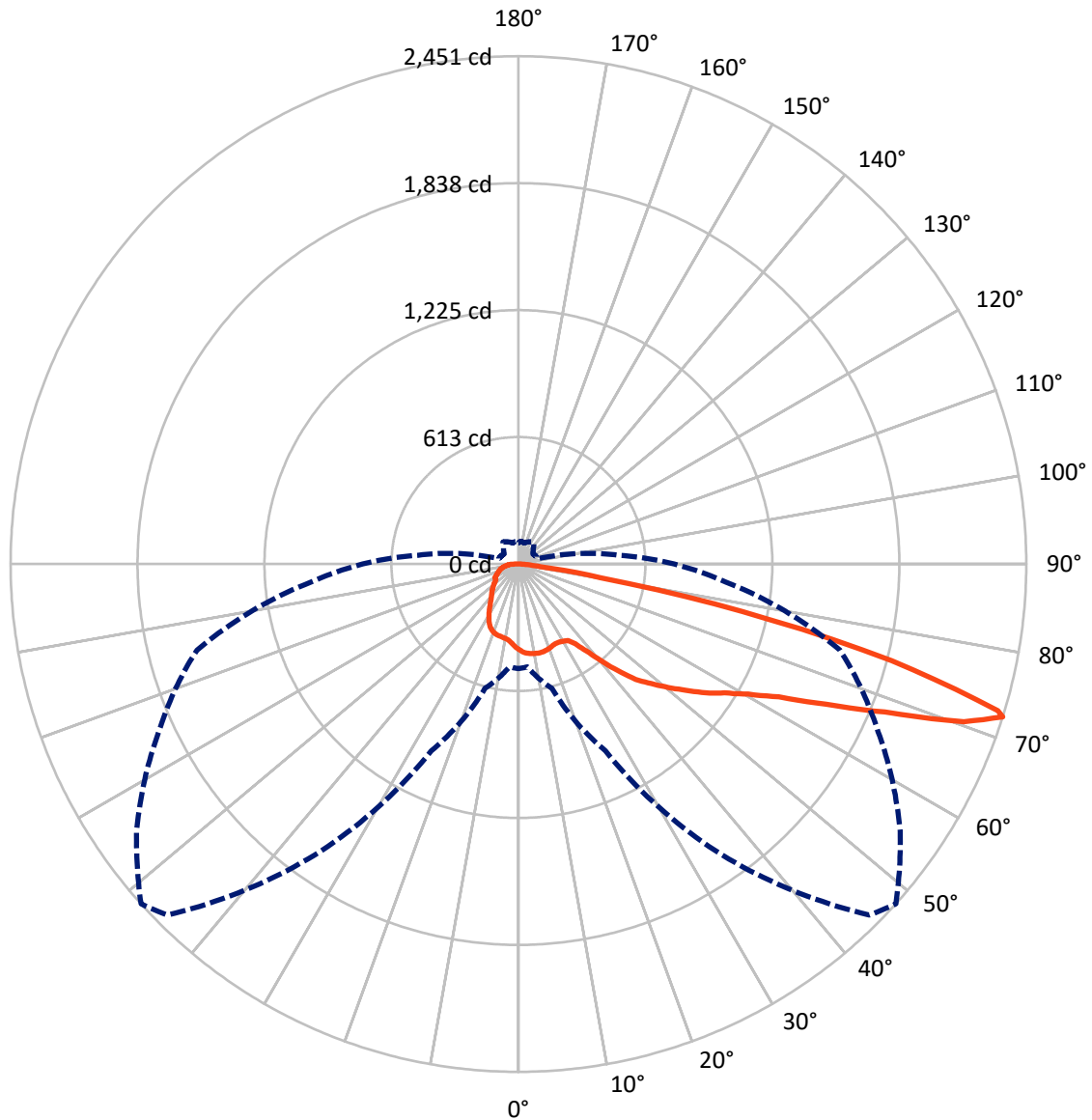
× Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 4.6 fc  
 Type IV - Medium - Semi-Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 48-Deg Lateral    - - - Horizontal Cone Through 72-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	697.4	1.4	698.8
	% Fixture	21.7	0.0	21.8
<b>Street Side</b>	Lumens	2511.7	0.5	2512.2
	% Fixture	78.2	0.0	78.2
<b>Total</b>	Lumens	3209.1	2.0	3211.0
	% Fixture	99.9	0.1	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	39.0	1.2
10°-20°	114.1	3.6
20°-30°	175.9	5.5
30°-40°	263.7	8.2
40°-50°	439.1	13.7
50°-60°	686.2	21.4
60°-70°	906.5	28.2
70°-80°	524.4	16.3
80°-90°	60.1	1.9
90°-100°	2.0	0.1
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-90°	3209.1	99.9
0°-180°	3211.0	100.0



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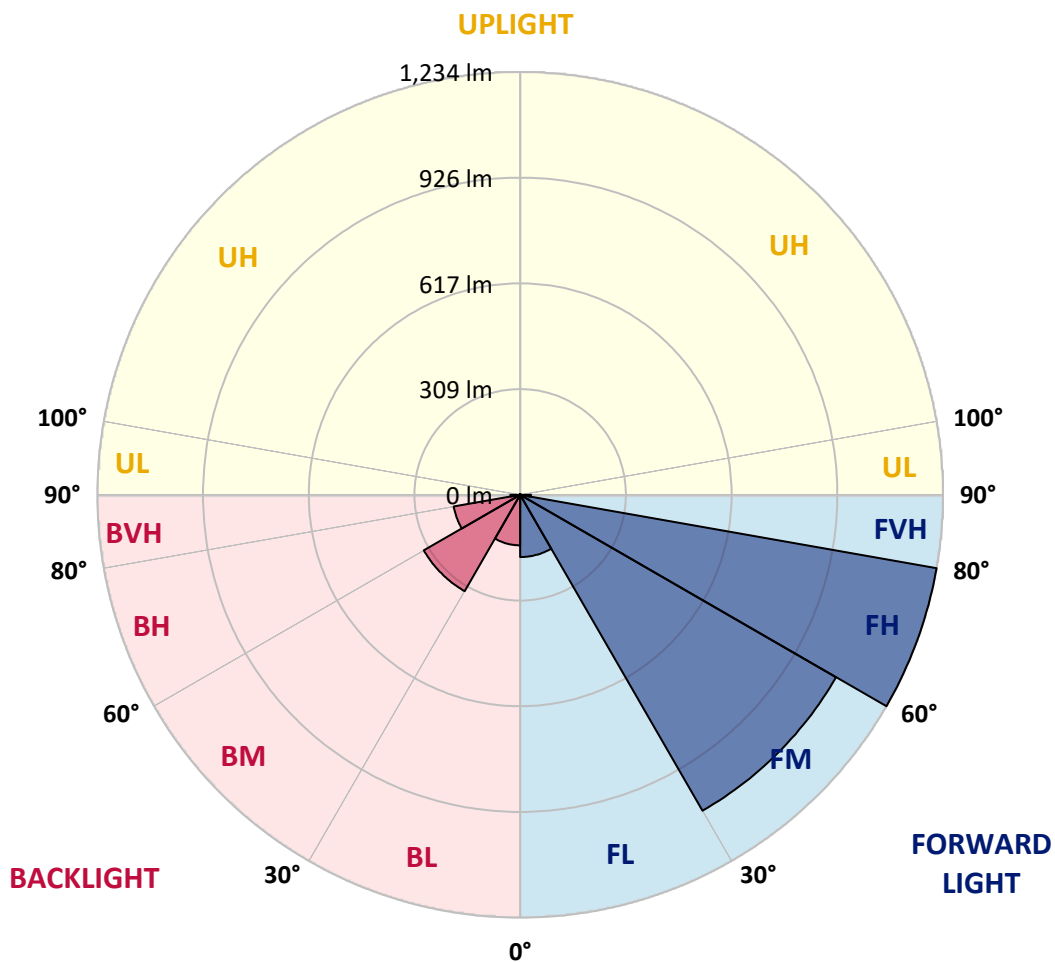
CATALOG NUMBER: IST-AF-450-LED-E1-T4W

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

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	181.6	5.7			
FM	(30°-60°)	1064.6	33.2			
FH	(60°-80°)	1234.0	38.4			G1/1800
FVH	(80°-90°)	31.5	1.0			G1/100
BL	(0°-30°)	147.5	4.6	B1/500		
BM	(30°-60°)	324.5	10.1	B1/1000		
BH	(60°-80°)	196.8	6.1	B1/500		G1/500
BVH	(80°-90°)	28.6	0.9			G1/100
UL	(90°-100°)	2.0	0.1		U1/10	
UH	(100°-180°)	1.4	0.0		U1/10	

**BUG Rating: B1-U1-G1**

Type IV Medium





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	48°	55°	65°	75°	85°
0°	413.1	413.1	413.1	413.1	413.1	413.1	413.1	413.1	413.1	413.1	413.1
2.5°	435.0	434.5	434.5	430.8	429.4	427.1	425.2	422.4	419.6	416.3	412.1
5°	455.9	457.4	455.4	449.9	442.9	435.5	432.6	426.2	417.3	409.4	401.9
7.5°	476.0	476.4	471.3	462.0	451.2	439.7	435.9	427.1	417.3	406.5	395.9
10°	490.4	490.8	483.4	470.4	455.9	442.9	438.7	429.8	417.8	406.1	392.6
12.5°	498.8	499.2	488.0	474.5	457.4	444.3	440.6	431.3	418.7	403.8	388.8
15°	497.4	498.8	489.5	474.5	456.4	444.8	440.1	432.2	416.3	401.4	385.7
17.5°	488.0	489.9	482.5	466.2	451.7	442.4	437.3	429.4	414.0	398.1	380.9
20°	469.9	472.2	468.9	453.2	443.3	435.9	432.6	425.2	410.7	394.4	376.8
22.5°	449.4	451.7	450.8	437.7	433.1	429.4	426.2	420.5	408.0	391.7	374.9
25°	434.5	436.4	435.0	423.8	425.2	425.2	423.3	419.1	407.5	392.6	374.9
27.5°	459.2	459.2	447.1	424.2	422.0	426.2	425.2	422.9	413.6	397.2	378.6
30°	549.5	542.6	520.7	463.4	434.0	432.2	431.7	430.4	422.0	407.5	390.3
32.5°	650.6	643.6	617.6	545.8	484.8	444.8	440.6	441.0	438.7	425.2	408.0
35°	740.5	739.6	719.0	641.3	563.5	489.0	472.2	461.0	460.1	454.5	441.0
37.5°	813.1	813.1	815.0	726.5	648.8	559.3	530.9	495.5	495.5	492.2	483.9
40°	896.0	899.8	904.0	803.8	740.0	643.1	611.0	557.4	541.1	546.3	548.1
42.5°	1005.0	1009.7	1006.9	899.3	823.4	743.3	703.7	638.9	598.9	607.3	626.9
45°	1078.6	1080.4	1100.5	998.9	928.1	828.1	794.5	705.5	665.9	683.2	717.7
47.5°	1162.0	1166.6	1169.8	1112.2	1051.1	923.9	862.4	770.3	744.7	770.8	825.2
50°	1243.5	1237.4	1246.3	1243.9	1167.5	1009.2	936.1	830.8	832.7	868.1	957.5
52.5°	1314.3	1293.7	1314.3	1339.9	1317.5	1096.7	1011.5	902.0	929.0	972.4	1113.5
55°	1368.7	1319.4	1353.8	1426.5	1421.4	1174.0	1097.7	997.1	1042.3	1101.4	1303.0
57.5°	1257.4	1263.4	1358.5	1484.7	1482.4	1252.3	1173.1	1115.8	1171.3	1237.4	1527.6
60°	1153.6	1180.6	1327.3	1494.0	1524.7	1337.5	1274.7	1250.9	1302.1	1382.7	1742.7
62.5°	1098.6	1124.2	1276.5	1476.7	1592.2	1463.7	1411.1	1393.0	1462.8	1553.1	1934.6
65°	1115.8	1131.7	1273.3	1502.8	1670.1	1654.6	1631.8	1601.5	1636.5	1721.3	2021.1
67.5°	1067.4	1093.5	1246.3	1549.0	1812.1	1887.5	1906.6	1874.0	1844.7	1833.0	1895.0
70°	794.5	819.7	979.9	1358.5	1928.5	2291.7	2280.2	2171.1	1973.7	1808.8	1480.5
72°	504.8	497.9	620.3	995.2	1714.3	2395.6	2450.6	2249.0	1915.0	1606.2	1005.5
72.5°	366.9	400.1	514.6	884.9	1628.6	2338.8	2418.9	2223.8	1838.1	1517.2	884.3
75°	89.4	94.5	123.4	317.1	953.8	1759.9	1860.5	1718.0	1341.7	900.7	392.1
77.5°	60.6	62.9	81.5	111.8	280.4	1003.6	1104.2	948.7	600.3	306.5	174.6
80°	45.2	46.5	59.1	79.2	116.4	342.3	403.8	320.9	149.5	170.0	124.4
82.5°	31.7	32.6	44.7	58.2	77.3	80.1	106.7	117.8	96.9	111.3	72.6
85°	21.9	21.9	32.6	40.1	48.9	39.6	42.4	59.1	65.7	66.1	44.2
87.5°	11.7	13.0	19.1	25.6	25.6	18.2	20.0	30.3	36.8	39.6	26.5
90°	4.2	4.2	7.9	9.8	6.0	4.7	4.2	6.0	8.8	12.6	8.4
92.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
95°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
97.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
102.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
105°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
107.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	15°	25°	35°	45°	48°	55°	65°	75°	85°
110°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
112.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
115°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
117.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
122.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
125°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
127.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
132.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
135°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
137.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
142.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
145°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
147.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
152.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
155°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
157.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
162.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
167.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0





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**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	413.1	413.1	413.1	413.1	413.1	413.1	413.1	413.1	413.1	413.1	413.1
2.5°	411.2	408.5	404.7	402.8	401.9	400.1	398.1	397.2	397.2	395.4	395.9
5°	398.1	394.0	388.8	385.1	384.6	384.6	385.7	385.7	386.1	384.6	386.6
7.5°	391.7	387.0	379.5	375.3	372.1	371.6	373.5	377.3	379.1	377.7	379.5
10°	387.0	381.9	373.5	368.4	366.0	365.1	366.5	370.2	376.3	376.3	378.2
12.5°	382.4	375.8	367.4	363.8	361.8	362.3	364.2	366.9	373.5	375.8	376.8
15°	377.7	370.2	363.2	358.1	358.1	359.6	361.8	365.1	371.1	375.3	376.3
17.5°	373.1	365.6	359.6	355.4	355.4	357.2	359.6	363.8	368.0	374.0	374.0
20°	368.9	362.7	354.9	351.2	350.7	352.1	354.9	359.1	362.3	368.4	368.9
22.5°	366.5	359.1	351.6	346.1	343.7	342.8	345.6	349.7	353.0	359.1	360.0
25°	365.6	357.2	347.9	337.7	331.5	329.7	331.1	336.2	339.0	343.7	345.0
27.5°	368.9	360.9	346.5	327.9	315.3	310.2	311.6	314.9	315.8	320.9	323.3
30°	380.0	370.7	349.2	317.6	294.8	285.5	285.5	285.9	287.3	291.5	292.0
32.5°	398.1	389.3	357.6	306.9	273.8	260.8	257.6	255.2	255.2	254.7	255.2
35°	431.7	424.2	372.1	294.8	251.0	236.6	228.6	224.4	220.2	218.4	218.0
37.5°	480.2	473.6	392.6	280.8	231.0	216.6	206.7	198.4	193.7	193.2	195.6
40°	552.3	545.8	415.4	264.9	211.9	201.2	191.0	182.1	177.0	177.5	179.7
42.5°	641.3	621.2	440.1	243.6	196.5	191.0	179.7	172.3	167.2	164.4	164.0
45°	745.1	711.6	463.4	223.5	179.7	182.1	171.3	163.0	156.5	149.0	148.1
47.5°	874.6	802.0	483.9	203.5	161.6	172.8	162.5	154.6	144.8	136.0	134.6
50°	1009.7	905.8	501.6	182.1	145.3	162.5	153.6	143.0	129.5	121.5	121.5
52.5°	1165.7	1030.6	524.4	158.4	132.7	151.4	142.5	128.6	117.3	116.4	116.4
55°	1339.3	1161.5	540.2	139.7	123.0	139.2	135.0	130.8	127.2	128.1	128.6
57.5°	1521.0	1297.9	526.2	126.6	115.0	136.5	148.5	143.0	131.3	130.8	130.4
60°	1677.5	1404.1	449.0	118.3	108.9	141.1	159.3	143.0	131.3	137.4	137.9
62.5°	1779.9	1454.4	299.0	107.6	100.1	133.2	155.6	138.8	131.8	149.0	150.4
65°	1766.0	1398.1	171.9	100.1	94.5	122.4	150.4	133.7	123.0	132.7	129.9
67.5°	1557.9	1171.7	124.4	96.9	90.3	115.0	141.1	126.2	114.6	126.6	121.5
70°	1119.6	797.8	107.1	94.1	87.6	106.2	134.6	121.5	109.9	118.3	110.4
72°	751.2	485.3	98.3	91.8	84.8	100.6	129.9	117.8	105.7	110.4	101.5
72.5°	639.4	382.8	96.0	90.8	83.8	99.2	128.6	116.9	104.8	109.5	101.1
75°	238.9	150.0	85.2	83.8	77.3	92.2	123.0	112.7	100.1	98.7	95.0
77.5°	123.0	95.0	72.6	74.1	69.4	84.3	116.9	106.2	92.2	87.1	85.2
80°	89.4	68.9	58.7	62.9	59.1	75.9	108.5	96.4	83.8	78.3	75.9
82.5°	56.4	42.9	44.7	49.8	50.3	67.1	98.7	86.6	74.5	69.9	66.1
85°	27.0	25.6	31.7	36.8	40.5	56.8	90.3	76.8	65.2	55.9	56.4
87.5°	14.4	19.5	19.1	24.7	31.2	46.5	80.1	62.9	52.2	41.9	42.4
90°	3.3	5.1	5.6	9.8	12.6	20.0	51.7	35.9	34.9	14.9	13.0
92.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
95°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
97.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
102.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
105°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
107.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CATALOG NUMBER: IST-AF-450-LED-E1-T4W

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
110°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
112.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
115°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
117.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
122.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
125°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
127.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
132.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
135°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
137.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
142.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
145°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
147.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
152.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
155°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
157.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
162.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
167.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)