

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: P271708

Luminaire Tested: **IST-AF-450-LED-E1-T3-7027-ULG**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P271708
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: IST-AF-450-LED-E1-T3-7027-ULG
Description: IMPACT ELITE LED TRAPEZOID LUMINAIRE WITH UPLIGHT
LIGHT SQUARE WITH ACCULED OPTICS-TYPE III, WITH UPLIGHT GLOW
Light Source: (16) 2700K CCT, 70 CRI LEDs and (1) UPLIGHT LED
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4436.1 lumens
Efficiency: N/A
Efficacy: 105.6 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

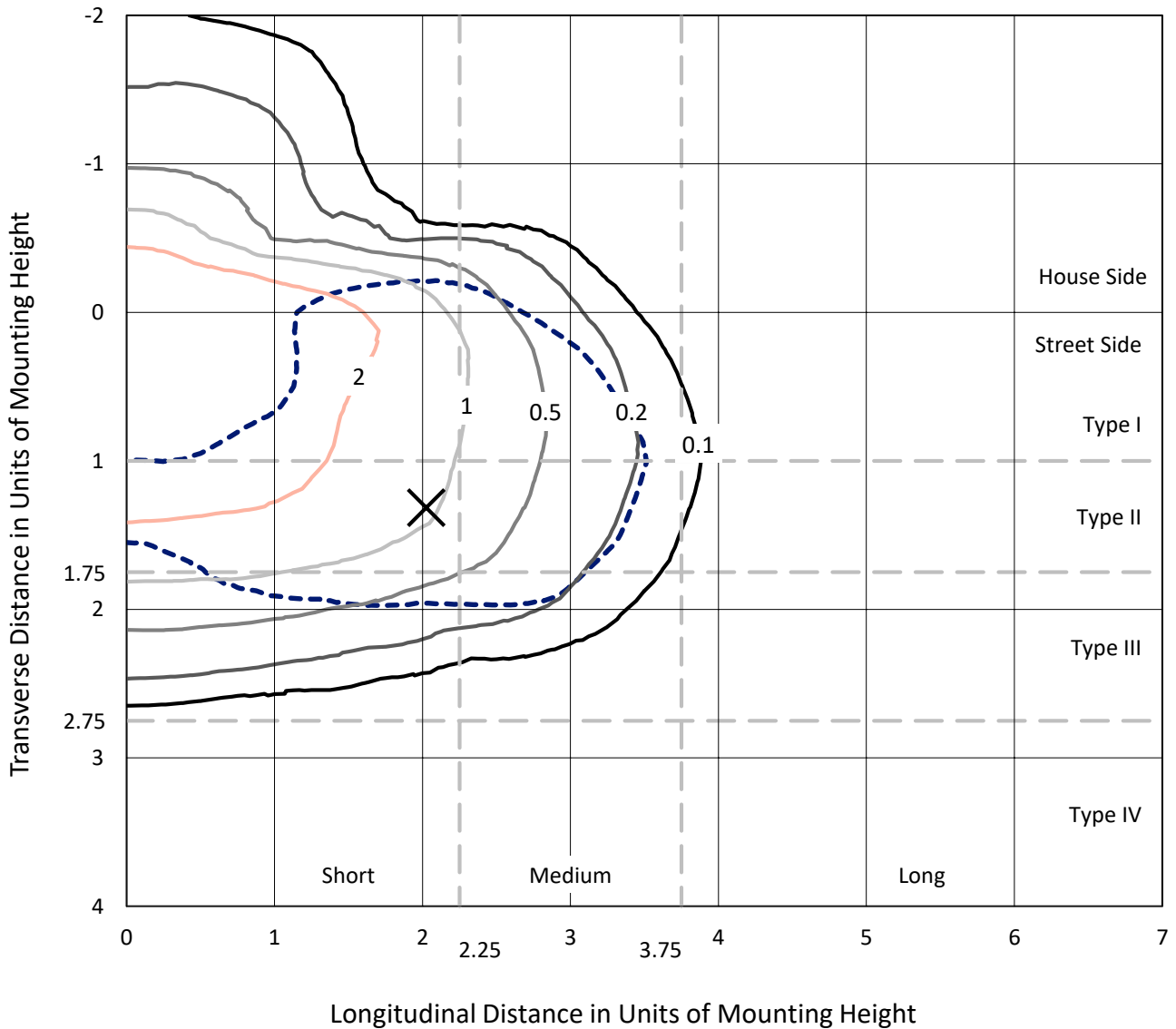
Input Watts (W): 42.01
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



REPORT NUMBER: P271708
 CATALOG NUMBER: IST-AF-450-LED-E1-T3-7027-ULG

Iso-Footcandle Lines of Horizontal Illumination

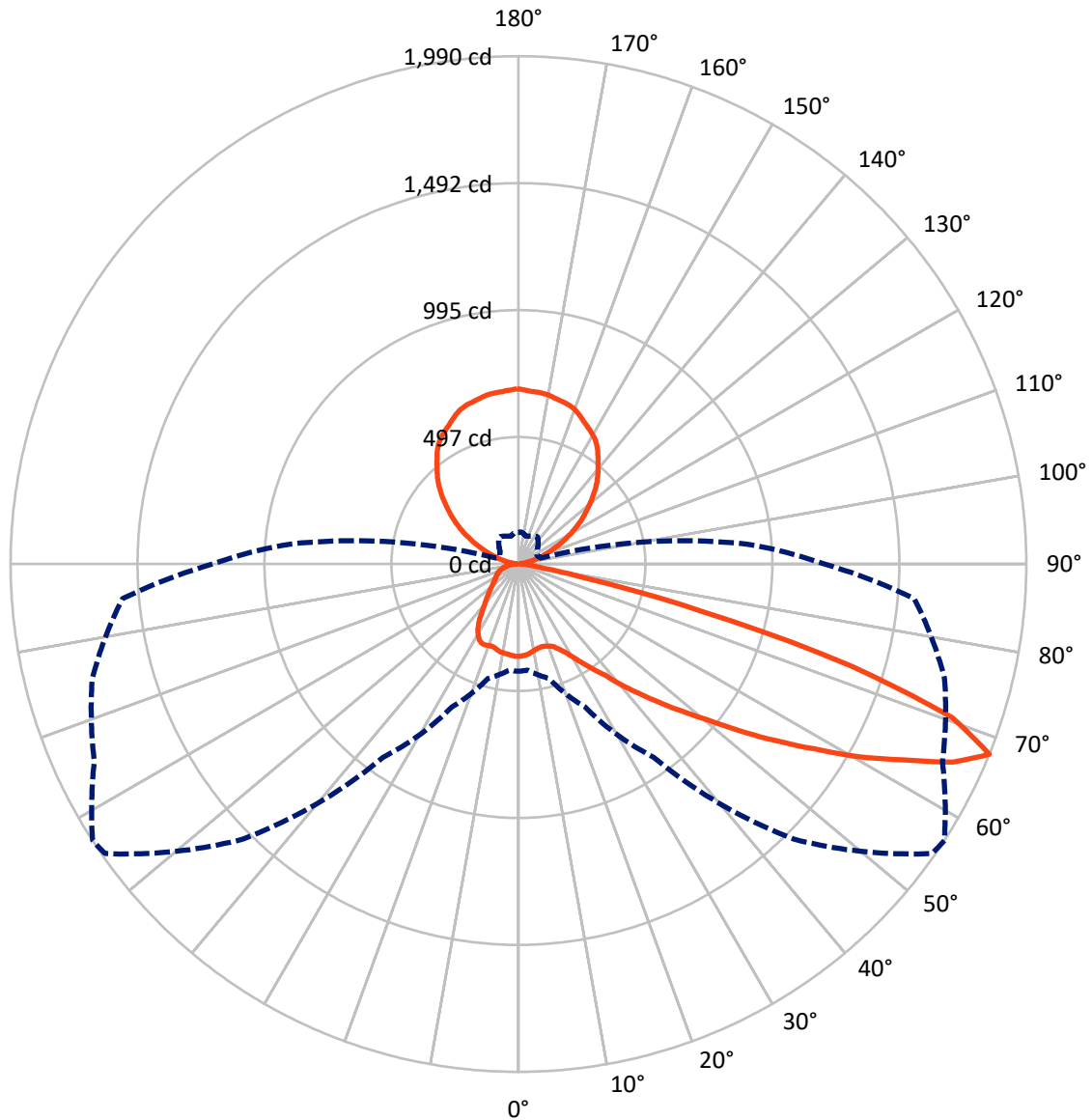
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 3.8 fc
 Type III - Short - Non-Cutoff

REPORT NUMBER: P271708
CATALOG NUMBER: IST-AF-450-LED-E1-T3-7027-ULG

Luminous Intensity Polar Plot



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

REPORT NUMBER: P271708

CATALOG NUMBER: IST-AF-450-LED-E1-T3-7027-ULG

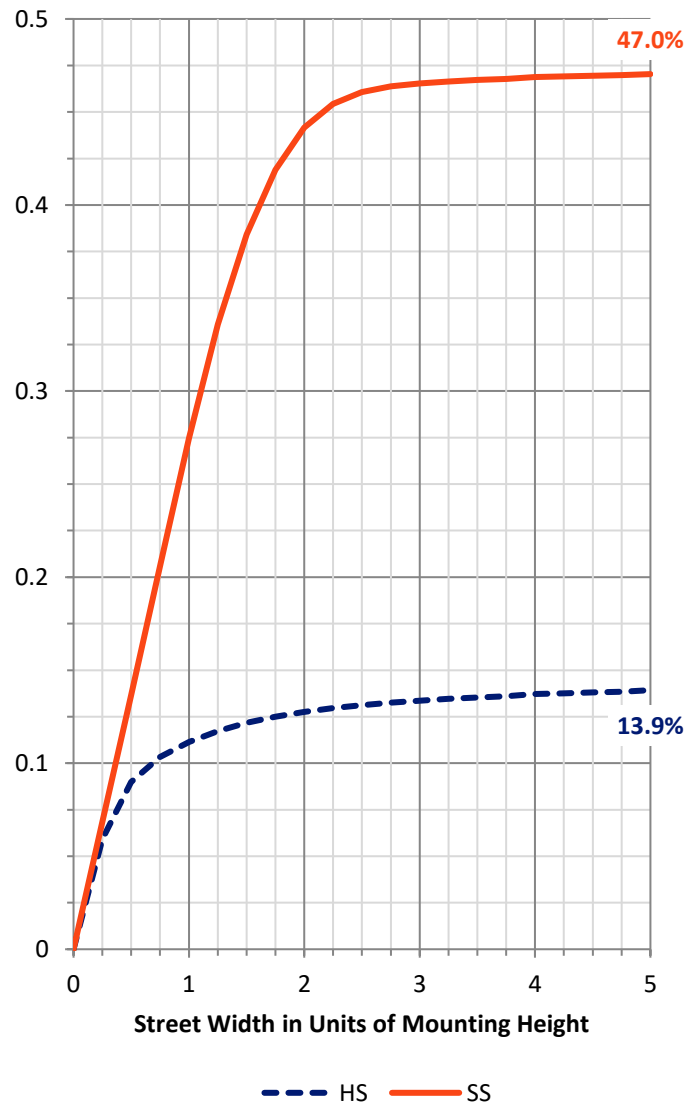
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	636.3	852.3	1488.6
	% Fixture	14.3	19.2	33.6
Street Side	Lumens	2095.8	851.7	2947.5
	% Fixture	47.2	19.2	66.4
Total	Lumens	2732.2	1704.0	4436.1
	% Fixture	61.6	38.4	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	33.9	0.8
10°-20°	97.3	2.2
20°-30°	167.5	3.8
30°-40°	272.3	6.1
40°-50°	439.3	9.9
50°-60°	654.9	14.8
60°-70°	737.6	16.6
70°-80°	284.4	6.4
80°-90°	45.1	1.0
90°-100°	10.1	0.2
100°-110°	56.3	1.3
110°-120°	163.0	3.7
120°-130°	268.1	6.0
130°-140°	330.6	7.5
140°-150°	338.2	7.6
150°-160°	284.9	6.4
160°-170°	187.6	4.2
170°-180°	65.0	1.5
0°-90°	2732.2	61.6
0°-180°	4436.1	100.0



REPORT NUMBER: P271708

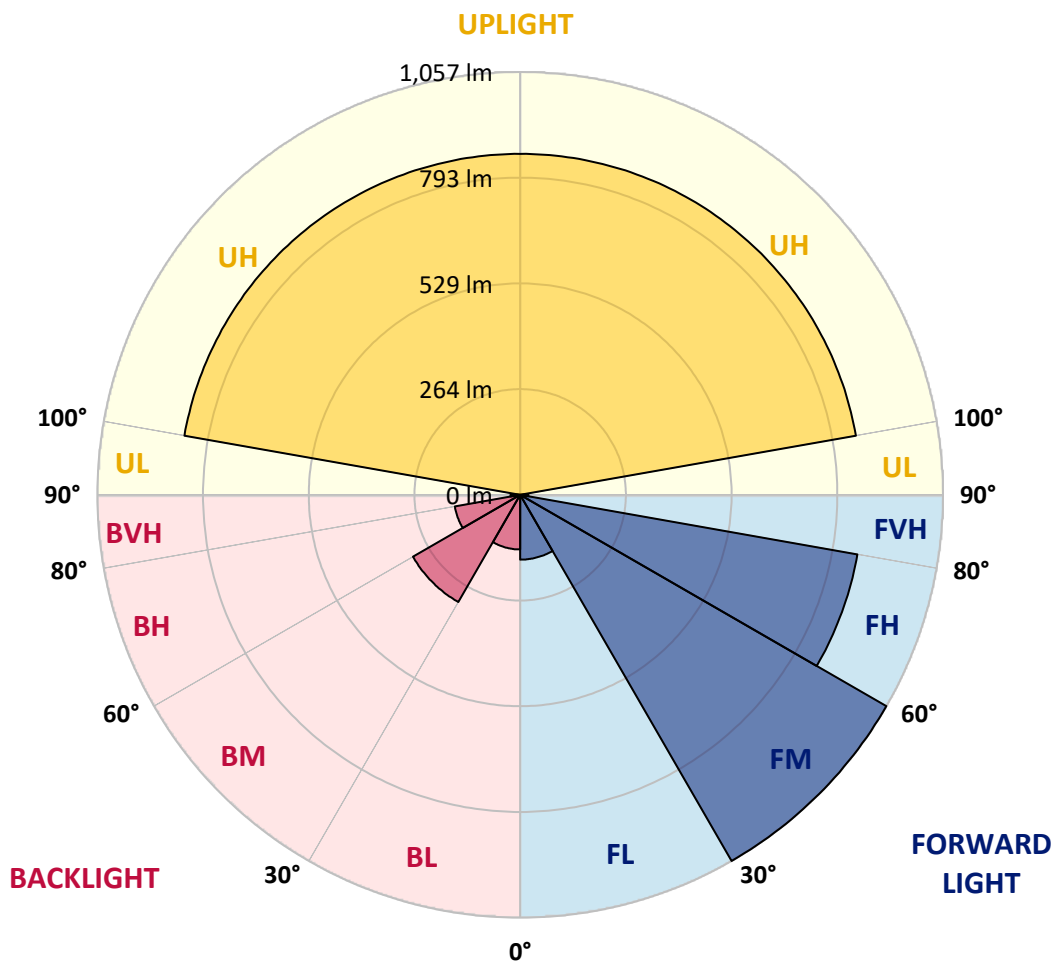
CATALOG NUMBER: IST-AF-450-LED-E1-T3-7027-ULG

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	162.1	3.7			
FM (30°-60°)	1057.0	23.8			
FH (60°-80°)	856.0	19.3			G1/1800
FVH (80°-90°)	20.7	0.5			G1/100
BL (0°-30°)	136.6	3.1	B1/500		
BM (30°-60°)	309.5	7.0	B1/1000		
BH (60°-80°)	165.9	3.7	B1/500		G1/500
BVH (80°-90°)	24.3	0.5			G1/100
UL (90°-100°)	10.1	0.2		U2/50	
UH (100°-180°)	852.3	19.2		U4/1000	

BUG Rating: B1-U5-G1

Type III Short





REPORT NUMBER: P271708

CATALOG NUMBER: IST-AF-450-LED-E1-T3-7027-ULG

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	57°	65°	75°	85°
0°	362.1	362.1	362.1	362.1	362.1	362.1	362.1	362.1	362.1	362.1	362.1
2.5°	359.3	360.1	360.8	360.5	360.5	360.5	360.5	359.7	360.8	360.8	360.1
5°	353.3	353.8	354.1	354.9	355.7	356.4	357.0	357.0	357.3	357.0	356.1
7.5°	344.7	345.1	346.7	346.7	347.5	349.0	349.8	350.6	351.8	351.8	351.3
10°	341.9	341.9	341.9	340.6	341.4	341.9	343.1	343.1	346.3	347.8	348.6
12.5°	345.1	344.7	344.7	341.4	338.8	337.5	338.8	339.1	342.6	345.1	346.7
15°	352.1	352.1	351.3	346.7	341.1	336.8	336.3	336.3	339.1	342.6	345.5
17.5°	368.8	370.4	364.8	357.3	348.3	341.1	338.3	337.9	339.9	342.6	345.5
20°	400.5	400.0	391.8	378.3	362.5	350.6	343.8	343.1	342.6	344.3	347.5
22.5°	438.0	436.5	426.5	409.5	387.8	366.0	352.9	351.3	348.3	349.4	353.8
25°	478.3	478.8	466.5	444.4	417.0	390.9	371.2	369.7	362.8	362.1	366.8
27.5°	518.7	523.9	507.4	486.3	453.8	422.7	393.6	391.3	385.5	383.5	388.2
30°	577.7	575.7	555.2	527.8	495.4	456.2	428.5	424.2	412.3	415.1	420.2
32.5°	627.6	632.0	613.4	580.8	538.2	497.0	465.0	462.5	451.1	454.3	461.4
35°	688.6	698.8	674.3	634.3	593.2	550.8	512.4	506.0	497.0	503.3	508.9
37.5°	758.2	763.3	744.2	692.9	650.9	606.5	563.1	553.2	543.3	556.3	566.2
40°	824.6	833.0	808.5	764.9	716.2	673.9	626.4	624.4	601.4	615.7	641.4
42.5°	923.2	933.5	894.3	843.6	799.7	748.6	703.6	692.9	667.9	688.1	731.2
45°	992.0	991.5	965.0	923.2	896.3	846.8	785.8	773.2	746.3	773.2	830.9
47.5°	1016.9	1022.9	1013.7	1008.7	999.2	963.2	873.3	861.5	836.1	876.0	929.5
50°	1053.7	1052.2	1052.2	1083.9	1111.1	1103.6	975.8	958.9	932.4	980.1	1056.9
52.5°	1063.2	1049.0	1071.2	1131.7	1218.3	1224.7	1094.9	1085.4	1053.7	1100.4	1195.0
55°	1036.7	1033.2	1068.4	1156.2	1292.8	1337.8	1233.0	1220.0	1184.3	1224.3	1344.1
57.5°	977.4	986.5	1043.0	1151.1	1344.1	1437.6	1384.6	1366.0	1314.8	1339.0	1492.2
60°	915.2	919.7	994.3	1132.9	1358.1	1506.7	1543.6	1533.0	1445.6	1459.7	1601.8
62.5°	846.5	836.1	913.7	1117.9	1342.6	1602.1	1698.0	1689.6	1586.4	1581.9	1679.7
65°	654.1	668.2	734.5	924.0	1237.0	1676.6	1881.9	1871.3	1743.4	1683.0	1671.5
67.5°	420.2	417.4	464.2	617.7	924.4	1523.9	1978.1	1989.9	1833.4	1728.4	1556.7
70°	150.7	155.0	172.6	280.5	506.9	1015.4	1743.8	1802.8	1767.1	1643.3	1267.0
72.5°	91.8	91.8	104.5	126.2	205.4	481.5	1242.9	1359.7	1442.3	1354.0	935.9
75°	72.0	71.7	76.0	87.0	110.9	157.9	660.8	751.1	925.2	935.5	532.7
77.5°	57.0	56.6	60.9	66.0	82.7	83.5	210.9	274.6	424.6	399.7	190.4
80°	45.9	45.5	48.7	50.2	60.5	57.9	84.7	98.2	148.8	130.5	82.4
82.5°	41.5	41.5	44.7	38.4	42.0	40.7	52.6	56.1	74.8	77.5	49.5
85°	26.9	27.7	42.0	37.2	27.3	25.0	33.7	35.7	46.7	51.0	24.2
87.5°	12.7	13.8	32.1	30.8	18.1	13.5	19.0	20.2	25.3	31.2	14.2
90°	7.3	7.3	10.8	12.1	10.2	9.3	10.0	10.0	11.6	12.8	10.8
92.5°	4.0	4.0	4.9	5.9	5.9	5.9	6.8	6.8	6.8	5.9	5.9
95°	4.9	4.9	5.9	6.8	6.8	6.8	6.8	7.1	7.8	6.8	6.8
97.5°	6.8	6.8	7.8	7.8	8.8	8.8	11.8	11.4	9.8	8.8	7.8
100°	7.8	7.8	8.8	9.8	11.8	20.6	28.5	27.8	25.5	22.5	18.7
102.5°	10.8	10.8	12.8	17.7	26.5	39.3	49.0	48.5	46.2	41.2	38.3
105°	20.6	21.6	26.5	35.3	47.1	61.8	70.7	70.2	68.7	63.8	59.8
107.5°	40.2	41.2	48.1	57.0	71.7	86.3	93.2	93.1	92.3	88.3	85.4
110°	64.8	66.7	72.7	85.4	100.1	111.9	117.8	117.9	118.8	116.8	113.8



REPORT NUMBER: P271708

CATALOG NUMBER: IST-AF-450-LED-E1-T3-7027-ULG

CANDELA DISTRIBUTION (continued):

	0°	5°	15°	25°	35°	45°	55°	57°	65°	75°	85°
112.5°	97.2	97.2	104.0	118.8	131.5	140.3	145.3	145.6	147.2	146.2	144.3
115°	137.4	136.5	144.3	156.0	164.9	170.8	175.7	176.2	178.7	175.7	173.7
117.5°	180.6	180.6	185.5	193.3	198.3	201.2	207.1	207.9	211.0	206.1	204.2
120°	220.8	218.8	221.8	228.7	232.6	238.5	241.5	242.3	245.3	240.5	238.5
122.5°	258.2	255.2	256.2	262.0	266.0	271.8	273.8	274.6	277.8	272.8	270.9
125°	292.5	288.5	290.5	293.5	299.3	304.3	307.2	307.6	309.2	304.3	304.3
127.5°	323.9	322.9	322.9	326.8	332.7	333.7	338.6	338.8	339.6	339.6	338.6
130°	356.3	354.3	355.3	359.2	363.2	365.1	370.0	370.8	374.0	374.0	372.0
132.5°	388.7	386.7	385.7	393.5	396.5	397.5	403.4	404.3	408.3	406.3	406.3
135°	421.0	418.1	418.1	424.0	427.0	428.9	434.8	435.8	439.7	438.7	441.7
137.5°	451.5	448.5	450.5	451.5	455.4	459.3	464.2	464.6	466.2	467.2	472.1
140°	479.0	476.0	478.0	480.0	481.9	487.8	490.7	491.1	492.7	494.7	499.5
142.5°	508.4	505.5	507.5	508.4	511.3	515.3	517.2	518.4	523.2	523.2	524.1
145°	539.8	535.9	534.0	536.8	539.8	540.8	545.7	546.9	551.6	550.6	547.7
147.5°	564.3	561.4	560.5	563.3	563.3	564.3	569.3	570.2	574.2	575.2	572.2
150°	584.0	581.0	582.0	582.0	582.0	582.0	586.0	586.5	588.9	591.8	594.8
152.5°	599.7	596.7	596.7	597.7	598.7	598.7	599.7	600.2	602.7	606.5	611.5
155°	617.3	613.5	613.5	615.4	618.3	616.3	614.4	615.4	619.3	624.2	626.2
157.5°	634.0	631.1	631.1	632.0	634.0	633.0	632.0	632.9	636.0	638.0	638.0
160°	650.7	647.8	646.8	643.8	642.8	642.8	645.8	647.0	651.7	648.8	647.8
162.5°	660.5	656.6	656.6	652.7	648.8	650.7	654.7	655.4	658.5	657.6	655.7
165°	668.4	665.5	663.5	663.5	660.5	660.5	659.5	660.5	664.5	667.4	665.5
167.5°	677.2	674.3	671.3	673.3	675.3	672.3	665.5	666.6	671.3	675.3	675.3
170°	685.0	682.2	679.2	679.2	680.2	678.2	673.3	673.9	676.2	681.2	683.1
172.5°	686.0	684.1	682.2	680.2	677.2	677.2	676.2	676.9	679.2	681.2	683.1
175°	687.0	685.0	684.1	682.2	678.2	677.2	677.2	678.2	682.2	683.1	681.2
177.5°	693.9	692.0	687.0	686.0	684.1	682.2	681.2	682.2	686.0	688.0	685.0
180°	687.0	687.0	687.0	687.0	687.0	687.0	687.0	687.0	687.0	687.0	687.0



REPORT NUMBER: P271708

CATALOG NUMBER: IST-AF-450-LED-E1-T3-7027-ULG

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	362.1	362.1	362.1	362.1	362.1	362.1	362.1	362.1	362.1	362.1	362.1
2.5°	361.3	360.5	360.8	361.3	361.7	362.8	363.3	363.3	363.3	362.8	363.6
5°	357.0	356.1	356.1	357.3	358.5	360.1	362.5	364.4	365.3	365.6	365.6
7.5°	352.1	351.3	351.8	353.8	355.7	357.0	359.3	360.5	363.6	363.6	364.4
10°	349.0	349.8	350.2	352.1	353.8	353.8	353.3	352.6	351.8	353.8	352.9
12.5°	347.0	348.3	347.8	350.2	351.0	347.8	343.1	336.8	336.0	336.8	337.5
15°	346.3	346.3	347.5	347.5	343.4	337.1	331.1	331.7	332.5	334.8	334.8
17.5°	346.3	346.7	347.5	344.7	337.5	332.0	330.8	329.6	325.3	324.1	322.9
20°	349.0	348.3	349.0	343.8	337.5	333.2	324.1	315.3	307.1	303.4	301.9
22.5°	355.7	354.5	354.1	349.0	341.1	326.4	308.7	295.3	280.9	276.2	274.6
25°	367.6	367.1	364.4	360.8	338.8	310.3	287.6	266.3	250.9	242.5	242.9
27.5°	388.6	388.6	387.0	371.2	326.4	290.1	259.6	237.8	222.0	214.1	212.9
30°	420.2	421.0	421.8	374.0	307.1	260.4	228.7	214.1	204.5	198.6	198.3
32.5°	459.4	463.7	458.7	370.8	280.5	224.4	204.5	199.4	194.8	190.7	190.4
35°	511.2	523.2	490.7	358.2	250.9	199.9	189.9	186.4	182.9	180.0	180.4
37.5°	580.8	592.3	511.2	336.8	212.9	185.9	181.6	176.1	170.6	164.6	163.9
40°	663.2	659.6	518.3	296.4	189.1	179.2	173.4	166.2	156.8	148.0	146.4
42.5°	745.5	721.8	512.4	246.6	173.7	173.4	165.0	155.9	146.4	138.9	138.9
45°	837.7	776.3	494.2	199.9	161.4	166.9	156.8	147.2	138.5	132.9	132.6
47.5°	924.7	827.4	464.2	166.5	149.2	158.7	150.4	141.7	133.4	128.5	127.4
50°	1026.9	885.5	441.2	144.1	137.4	150.4	146.9	138.9	131.0	125.4	124.7
52.5°	1130.1	942.1	423.8	128.5	126.6	144.1	145.3	140.5	132.2	121.5	120.7
55°	1238.1	1013.0	389.0	116.3	117.0	139.2	147.2	143.5	137.7	120.4	119.6
57.5°	1328.8	1078.2	328.0	108.1	109.6	135.7	148.0	141.2	134.6	121.1	119.9
60°	1399.6	1123.0	240.6	101.3	102.9	131.8	144.4	132.9	124.2	121.1	119.1
62.5°	1421.4	1124.6	159.9	93.3	97.7	125.0	138.1	128.5	118.3	119.9	119.1
65°	1366.7	1065.2	114.4	85.9	93.3	117.0	135.4	124.2	115.5	121.9	121.1
67.5°	1198.6	897.5	91.8	79.9	87.5	108.9	130.2	120.4	113.2	126.2	123.9
70°	933.9	643.7	78.0	74.0	81.0	100.9	123.1	115.9	110.0	122.7	119.6
72.5°	615.7	379.1	68.9	68.5	73.6	94.2	115.2	112.0	104.8	111.2	106.4
75°	321.3	175.7	59.7	62.2	65.3	88.2	108.1	104.8	96.9	99.4	97.7
77.5°	126.2	82.4	51.8	54.5	58.2	79.5	98.9	95.8	89.0	87.0	86.7
80°	69.3	55.3	43.1	46.7	49.0	71.7	89.4	85.9	78.7	77.5	76.4
82.5°	43.9	36.0	35.7	38.0	41.1	63.7	80.3	74.8	68.9	81.0	65.7
85°	20.6	21.4	25.3	28.5	32.1	54.2	70.1	64.0	58.2	56.6	50.2
87.5°	11.5	14.2	16.6	19.4	22.2	38.0	55.3	49.9	43.5	37.2	38.4
90°	9.6	9.6	13.6	13.1	11.6	12.4	35.1	32.4	28.7	15.2	11.7
92.5°	5.9	5.9	5.9	6.8	6.8	5.9	5.9	5.9	4.9	4.0	4.0
95°	6.8	6.8	6.8	7.8	6.8	6.8	6.8	6.8	5.9	4.9	4.9
97.5°	7.8	7.8	8.8	9.8	11.8	8.8	8.8	7.8	7.8	6.8	6.8
100°	18.7	18.7	22.5	25.5	28.5	20.6	11.8	9.8	8.8	7.8	7.8
102.5°	37.3	38.3	41.2	46.2	49.0	39.3	26.5	17.7	12.8	10.8	10.8
105°	59.8	59.8	63.8	68.7	70.7	61.8	47.1	35.3	26.5	21.6	20.6
107.5°	84.4	85.4	88.3	92.3	93.2	86.3	71.7	57.0	48.1	41.2	40.2
110°	114.8	113.8	116.8	118.8	117.8	111.9	100.1	85.4	72.7	66.7	64.8



REPORT NUMBER: P271708

CATALOG NUMBER: IST-AF-450-LED-E1-T3-7027-ULG

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
112.5°	144.3	144.3	146.2	147.2	145.3	140.3	131.5	118.8	104.0	97.2	97.2
115°	174.7	173.7	175.7	178.7	175.7	170.8	164.9	156.0	144.3	136.5	137.4
117.5°	205.2	204.2	206.1	211.0	207.1	201.2	198.3	193.3	185.5	180.6	180.6
120°	238.5	238.5	240.5	245.3	241.5	238.5	232.6	228.7	221.8	218.8	220.8
122.5°	271.8	270.9	272.8	277.8	273.8	271.8	266.0	262.0	256.2	255.2	258.2
125°	304.3	304.3	304.3	309.2	307.2	304.3	299.3	293.5	290.5	288.5	292.5
127.5°	340.5	338.6	339.6	339.6	338.6	333.7	332.7	326.8	322.9	322.9	323.9
130°	373.0	372.0	374.0	374.0	370.0	365.1	363.2	359.2	355.3	354.3	356.3
132.5°	407.3	406.3	406.3	408.3	403.4	397.5	396.5	393.5	385.7	386.7	388.7
135°	442.7	441.7	438.7	439.7	434.8	428.9	427.0	424.0	418.1	418.1	421.0
137.5°	473.0	472.1	467.2	466.2	464.2	459.3	455.4	451.5	450.5	448.5	451.5
140°	501.5	499.5	494.7	492.7	490.7	487.8	481.9	480.0	478.0	476.0	479.0
142.5°	526.0	524.1	523.2	523.2	517.2	515.3	511.3	508.4	507.5	505.5	508.4
145°	549.7	547.7	550.6	551.6	545.7	540.8	539.8	536.8	534.0	535.9	539.8
147.5°	574.2	572.2	575.2	574.2	569.3	564.3	563.3	563.3	560.5	561.4	564.3
150°	598.7	594.8	591.8	588.9	586.0	582.0	582.0	582.0	582.0	581.0	584.0
152.5°	616.3	611.5	606.5	602.7	599.7	598.7	598.7	597.7	596.7	596.7	599.7
155°	629.2	626.2	624.2	619.3	614.4	616.3	618.3	615.4	613.5	613.5	617.3
157.5°	642.8	638.0	638.0	636.0	632.0	633.0	634.0	632.0	631.1	631.1	634.0
160°	653.7	647.8	648.8	651.7	645.8	642.8	642.8	643.8	646.8	647.8	650.7
162.5°	661.5	655.7	657.6	658.5	654.7	650.7	648.8	652.7	656.6	656.6	660.5
165°	669.3	665.5	667.4	664.5	659.5	660.5	660.5	663.5	663.5	665.5	668.4
167.5°	681.2	675.3	675.3	671.3	665.5	672.3	675.3	673.3	671.3	674.3	677.2
170°	688.0	683.1	681.2	676.2	673.3	678.2	680.2	679.2	679.2	682.2	685.0
172.5°	688.0	683.1	681.2	679.2	676.2	677.2	677.2	680.2	682.2	684.1	686.0
175°	686.0	681.2	683.1	682.2	677.2	677.2	678.2	682.2	684.1	685.0	687.0
177.5°	689.0	685.0	688.0	686.0	681.2	682.2	684.1	686.0	687.0	692.0	693.9
180°	687.0	687.0	687.0	687.0	687.0	687.0	687.0	687.0	687.0	687.0	687.0

(END OF REPORT)