

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: P198246

Luminaire Tested: **TT-C1-LED-E1-DL-UPL**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P198246
REPORT IS FROM IESNA LM-79-08 TEST DATA - UPLIGHT (P27139) AND DOWNLIGHT
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: McGRAW-EDISON
Catalog Number: TT-C1-LED-E1-DL-UPL
Description: TOPTIER LED PARKING GARAGE LUMINAIRE WITH UPLIGHT
DRIVE LANE DISTRIBUTION
Light Source: (160) 4000K CCT, 70 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4039.5 lumens
Efficiency: N/A
Efficacy: 79.4 lumens/watt
Luminous Opening: Vertical Cylinder (Dia: 1.12' x H: 0.1')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B1 - U4 - G2

Input Watts (W): 50.9
Input Voltage (V): NR
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



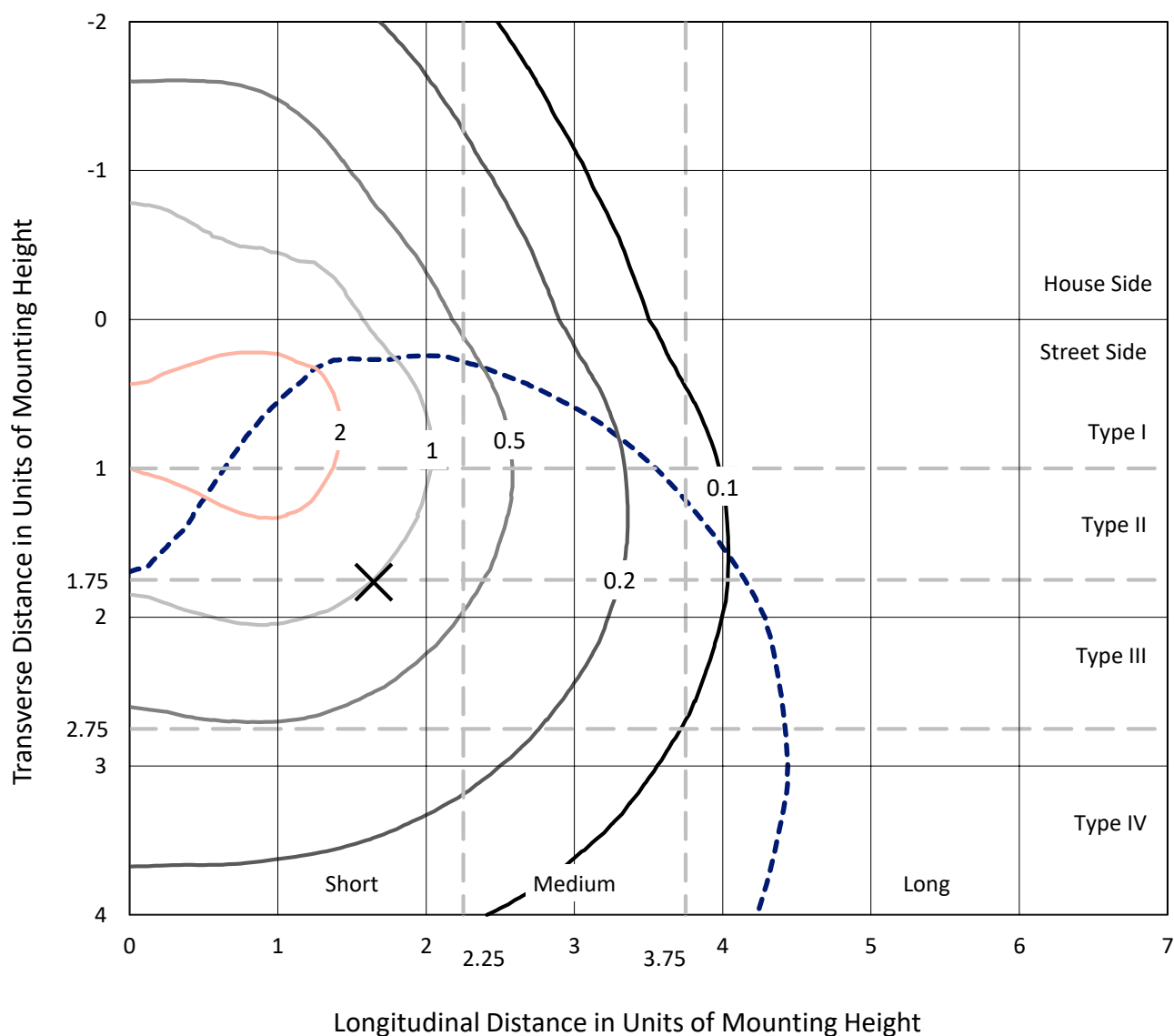
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Iso-Footcandle Lines of Horizontal Illumination

× Max cd

--- 1/2 Max cd

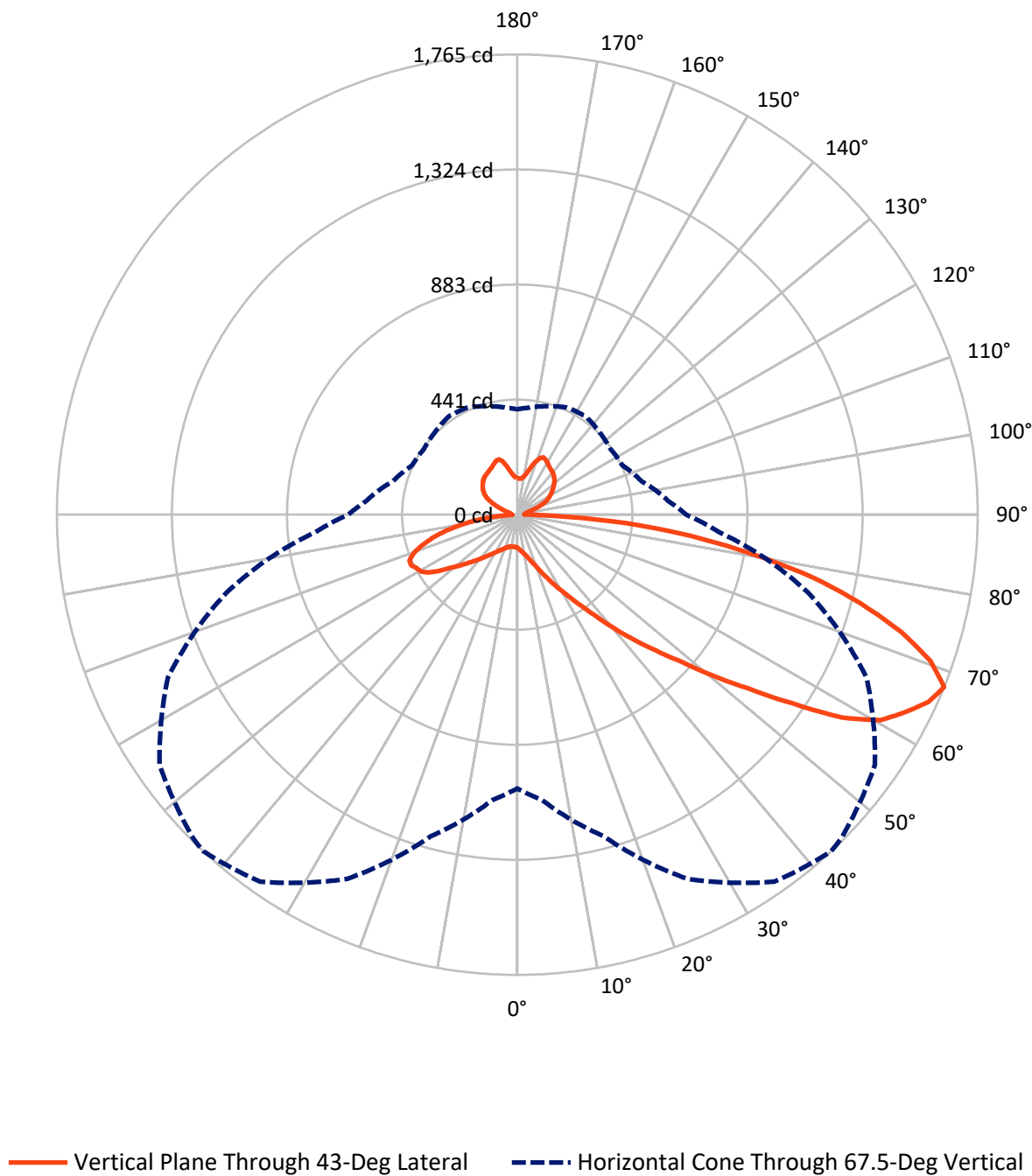


Based on 10 foot mounting height. Maximum calculated value = 2.6 fc
Type IV - Short - Non-Cutoff

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Luminous Intensity Polar Plot



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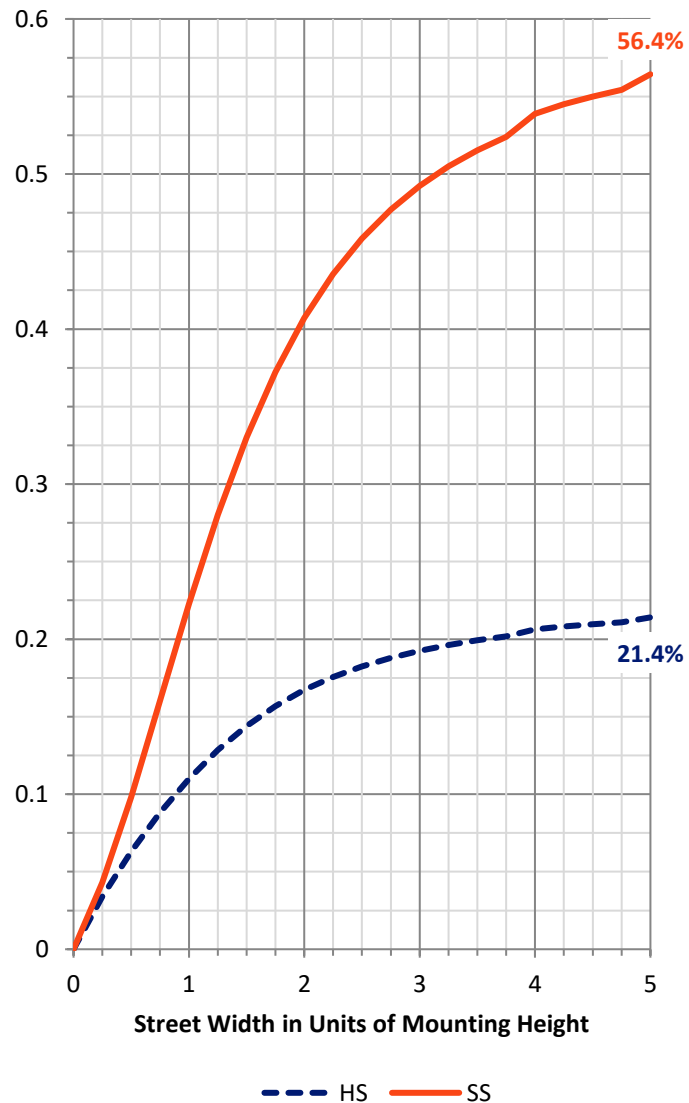
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	885.0	387.3	1272.3
	% Fixture	21.9	9.6	31.5
Street Side	Lumens	2354.5	412.6	2767.1
	% Fixture	58.3	10.2	68.5
Total	Lumens	3239.6	799.9	4039.5
	% Fixture	80.2	19.8	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	12.7	0.3
10°-20°	44.2	1.1
20°-30°	96.5	2.4
30°-40°	191.1	4.7
40°-50°	361.8	9.0
50°-60°	642.4	15.9
60°-70°	889.6	22.0
70°-80°	763.1	18.9
80°-90°	238.1	5.9
90°-100°	36.3	0.9
100°-110°	55.2	1.4
110°-120°	110.8	2.7
120°-130°	144.2	3.6
130°-140°	148.0	3.7
140°-150°	133.4	3.3
150°-160°	102.6	2.5
160°-170°	55.1	1.4
170°-180°	14.3	0.4
0°-90°	3239.6	80.2
0°-180°	4039.5	100.0



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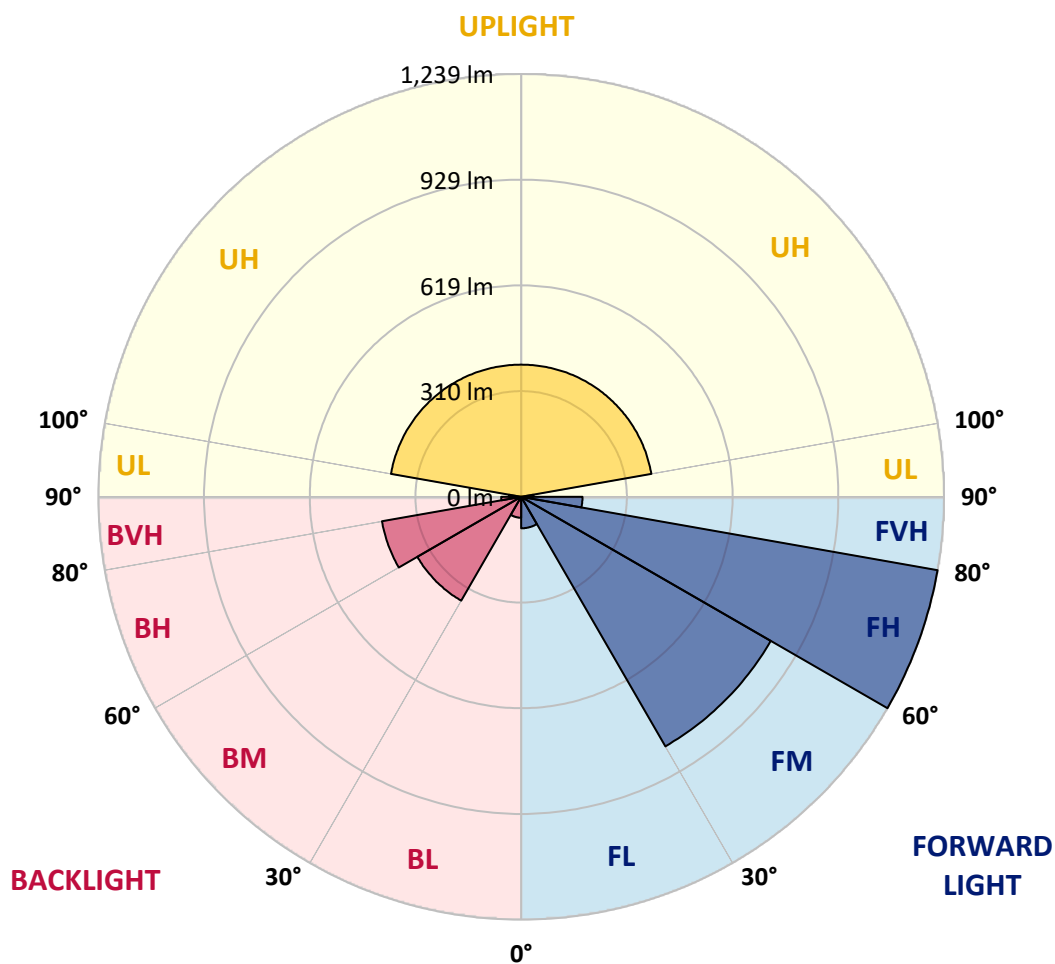
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	92.2	2.3			
FM	(30°-60°)	844.2	20.9			
FH	(60°-80°)	1238.6	30.7			G1/1800
FVH	(80°-90°)	179.6	4.4			G2/225
BL	(0°-30°)	61.2	1.5	B0/110		
BM	(30°-60°)	351.2	8.7	B1/1000		
BH	(60°-80°)	414.1	10.3	B1/500		G1/500
BVH	(80°-90°)	58.5	1.4			G1/100
UL	(90°-100°)	36.3	0.9		U2/50	
UH	(100°-180°)	387.3	9.6		U3/500	

BUG Rating: B1-U4-G2

Type IV Short



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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	43°	45°	55°	65°	75°	85°
0°	126.3	126.3	126.3	126.3	126.3	126.3	126.3	126.3	126.3	126.3	126.3
2.5°	133.4	132.8	132.8	132.8	132.2	131.6	131.6	131.0	130.5	129.9	128.7
5°	140.4	139.3	139.3	139.3	138.7	138.1	137.5	136.3	134.6	132.8	131.6
7.5°	148.7	149.3	149.3	147.5	146.3	145.1	144.6	142.2	139.9	136.9	134.6
10°	158.7	159.2	159.2	158.1	155.7	154.5	153.4	151.0	146.9	142.8	139.3
12.5°	169.8	171.0	171.6	169.8	166.9	164.5	165.1	161.0	155.7	150.4	145.1
15°	186.3	185.7	187.5	183.9	181.0	178.1	177.5	171.6	166.3	159.2	152.8
17.5°	206.3	203.9	203.9	202.1	200.4	195.7	193.3	187.5	178.6	170.4	160.4
20°	226.8	226.2	225.1	223.9	220.4	215.1	215.7	206.3	195.7	183.9	171.6
22.5°	250.9	253.3	249.7	249.7	246.8	242.7	240.9	228.6	214.5	198.0	183.9
25°	276.8	277.4	277.4	278.5	277.9	270.9	267.4	256.2	239.8	218.0	197.4
27.5°	303.2	305.6	305.0	307.9	309.7	305.0	302.0	289.1	265.6	241.5	215.7
30°	332.6	334.4	337.3	344.4	346.1	341.4	339.1	323.8	300.3	266.2	233.9
32.5°	366.1	368.4	371.4	384.9	391.4	386.1	382.5	369.0	339.7	302.0	260.9
35°	403.1	403.1	413.1	429.6	439.5	436.0	437.2	423.1	391.4	344.4	293.8
37.5°	444.2	444.2	457.2	477.7	497.1	498.3	504.8	488.3	449.5	389.0	326.1
40°	480.7	488.3	507.7	534.2	564.7	574.7	577.6	561.2	513.6	441.9	362.0
42.5°	523.0	531.8	555.9	595.3	634.1	655.8	657.0	641.1	591.7	508.9	413.7
45°	565.9	577.1	606.4	656.4	715.7	741.6	742.2	742.8	697.5	588.8	474.2
47.5°	614.7	623.5	662.3	721.6	797.4	839.7	853.8	855.6	793.9	671.7	527.1
50°	667.5	670.5	724.0	808.0	910.2	969.0	977.2	983.1	896.1	765.7	582.9
52.5°	722.2	726.3	788.6	905.0	1033.6	1106.5	1120.6	1123.0	1053.0	902.0	691.1
55°	778.6	782.1	862.6	1020.7	1180.5	1276.3	1301.6	1317.5	1207.6	989.6	734.5
57.5°	836.2	845.0	952.5	1141.2	1342.7	1469.7	1487.3	1463.2	1295.1	1034.2	746.9
60°	893.8	909.7	1050.1	1275.7	1502.6	1600.7	1605.4	1538.4	1337.4	1058.9	751.6
62.5°	947.8	974.3	1152.3	1400.3	1608.9	1668.3	1668.3	1579.6	1398.0	1138.8	805.6
65°	1002.5	1034.2	1229.3	1489.1	1667.1	1732.3	1740.0	1690.0	1502.6	1187.6	821.5
67.5°	1050.1	1098.9	1276.3	1540.8	1718.8	1765.2	1756.4	1674.2	1477.3	1153.5	777.4
70°	1103.0	1136.5	1309.8	1539.6	1672.4	1680.0	1675.3	1586.6	1397.4	1090.1	721.0
72.5°	1124.1	1151.2	1286.9	1459.7	1540.2	1539.0	1530.8	1452.6	1273.4	991.3	643.5
75°	1102.4	1100.6	1181.1	1296.9	1359.2	1359.8	1353.3	1286.9	1113.6	851.5	544.7
77.5°	984.3	980.8	1016.0	1086.5	1153.5	1159.4	1148.2	1074.2	927.3	705.2	455.4
80°	794.5	779.8	806.2	863.8	915.5	910.2	919.6	838.5	720.4	544.1	344.4
82.5°	537.7	542.4	575.3	610.0	665.8	670.5	660.5	615.8	521.2	394.9	242.1
85°	277.9	284.4	326.1	380.2	399.6	421.9	419.6	388.4	315.0	229.2	144.0
87.5°	48.8	42.3	59.4	89.9	109.3	130.5	129.9	92.8	72.9	49.4	30.6
90°	36.0	36.0	36.0	34.0	29.0	26.4	26.0	28.0	32.0	34.0	34.0
92.5°	40.0	39.0	38.0	34.0	29.0	27.0	27.0	28.0	32.0	35.0	36.0
95°	44.0	43.0	41.0	36.0	32.0	30.4	30.0	30.0	34.0	37.0	39.0
97.5°	42.0	42.0	40.0	37.0	35.0	33.4	33.0	33.0	34.0	36.0	36.0
100°	45.0	45.0	44.0	40.0	38.0	36.0	36.0	36.0	38.0	38.0	37.0
102.5°	51.0	51.0	49.0	46.0	44.0	42.0	42.0	43.0	44.0	42.0	41.0
105°	60.0	60.0	57.0	54.0	53.0	51.6	52.0	54.0	53.0	49.0	48.0
107.5°	72.0	72.0	70.0	67.0	66.0	67.2	68.0	68.0	66.0	60.0	59.0
110°	86.0	86.0	89.0	85.0	86.0	86.6	87.0	84.0	84.0	78.0	74.0

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CANDELA DISTRIBUTION (continued):

	0°	5°	15°	25°	35°	43°	45°	55°	65°	75°	85°
112.5°	101.0	102.0	108.0	107.0	110.0	107.4	107.0	102.0	105.0	100.0	95.0
115°	121.0	122.0	128.0	128.0	129.0	124.8	124.0	121.0	125.0	123.0	116.0
117.5°	140.0	141.0	144.0	141.0	141.0	136.8	136.0	138.0	141.0	139.0	133.0
120°	152.0	153.0	155.0	149.0	149.0	147.0	147.0	150.0	153.0	148.0	145.0
122.5°	161.0	162.0	164.0	154.0	155.0	157.2	158.0	159.0	162.0	155.0	153.0
125°	169.0	169.0	172.0	163.0	165.0	167.2	168.0	167.0	168.0	163.0	160.0
127.5°	177.0	177.0	181.0	171.0	176.0	177.6	178.0	176.0	175.0	173.0	166.0
130°	187.0	188.0	191.0	179.0	186.0	186.4	186.0	183.0	183.0	184.0	171.0
132.5°	198.0	199.0	201.0	186.0	193.0	195.0	195.0	190.0	192.0	192.0	179.0
135°	210.0	210.0	209.0	192.0	199.0	201.4	201.0	196.0	201.0	199.0	185.0
137.5°	221.0	219.0	213.0	197.0	205.0	207.6	208.0	203.0	210.0	204.0	191.0
140°	229.0	226.0	216.0	200.0	207.0	211.8	213.0	212.0	217.0	209.0	195.0
142.5°	235.0	231.0	218.0	201.0	208.0	215.6	218.0	220.0	223.0	211.0	198.0
145°	235.0	230.0	218.0	202.0	211.0	219.8	223.0	230.0	227.0	211.0	201.0
147.5°	230.0	227.0	219.0	207.0	216.0	225.4	229.0	239.0	229.0	212.0	204.0
150°	224.0	221.0	220.0	214.0	222.0	231.8	235.0	242.0	232.0	214.0	210.0
152.5°	216.0	214.0	221.0	220.0	230.0	238.2	241.0	242.0	235.0	219.0	215.0
155°	208.0	207.0	219.0	224.0	237.0	241.4	243.0	238.0	234.0	224.0	220.0
157.5°	203.0	203.0	216.0	224.0	234.0	233.8	235.0	228.0	229.0	226.0	222.0
160°	199.0	198.0	210.0	213.0	219.0	217.8	219.0	215.0	219.0	221.0	218.0
162.5°	185.0	184.0	193.0	193.0	198.0	196.8	198.0	196.0	200.0	204.0	207.0
165°	169.0	167.0	173.0	173.0	176.0	175.8	177.0	176.0	181.0	185.0	190.0
167.5°	154.0	152.0	156.0	155.0	159.0	158.2	159.0	160.0	165.0	168.0	172.0
170°	142.0	141.0	145.0	144.0	147.0	146.6	147.0	148.0	152.0	155.0	159.0
172.5°	137.0	135.0	139.0	138.0	141.0	140.6	141.0	141.0	145.0	146.0	149.0
175°	136.0	134.0	137.0	137.0	139.0	138.6	139.0	138.0	141.0	141.0	143.0
177.5°	137.0	136.0	139.0	138.0	140.0	139.0	139.0	138.0	140.0	140.0	141.0
180°	140.0	140.0	140.0	140.0	140.0	140.0	140.0	140.0	140.0	140.0	140.0

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CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	126.3	126.3	126.3	126.3	126.3	126.3	126.3	126.3	126.3	126.3	126.3
2.5°	128.7	128.1	127.5	126.3	125.2	124.6	124.0	123.4	123.4	122.8	122.8
5°	131.0	129.9	128.7	126.9	125.8	124.6	123.4	122.8	122.2	121.6	121.6
7.5°	133.4	132.2	129.9	127.5	125.2	124.0	123.4	122.2	121.6	121.1	121.1
10°	137.5	135.7	132.2	128.7	126.3	124.6	122.8	122.2	121.6	121.6	121.1
12.5°	142.2	139.3	135.2	131.0	127.5	125.2	124.0	123.4	122.8	122.8	122.2
15°	149.3	146.3	139.9	134.0	131.0	128.1	126.3	125.8	125.2	125.8	125.2
17.5°	156.3	152.8	144.6	138.7	134.0	131.6	129.9	129.3	128.7	129.9	129.9
20°	165.7	160.4	151.6	144.0	138.7	135.7	135.2	134.0	134.6	135.2	135.2
22.5°	175.7	169.2	158.7	149.8	145.1	141.6	141.0	141.0	141.0	141.6	142.2
25°	188.0	179.8	166.3	157.5	151.6	148.7	148.1	148.1	148.7	149.3	149.3
27.5°	203.3	192.7	176.3	165.1	158.7	155.7	155.1	155.7	156.9	157.5	157.5
30°	220.9	208.6	187.5	175.7	168.1	164.5	164.5	165.1	166.3	167.5	165.7
32.5°	242.1	226.2	202.7	186.9	178.6	175.1	175.1	176.3	175.7	176.3	178.1
35°	269.1	250.3	220.9	202.1	191.6	187.5	187.5	188.0	188.0	189.2	189.8
37.5°	297.9	275.0	240.3	219.8	208.0	202.1	200.4	201.0	202.1	201.6	202.7
40°	329.7	302.0	263.3	237.4	225.1	218.6	215.1	215.1	214.5	213.9	213.3
42.5°	372.0	339.7	291.5	259.7	244.5	237.4	231.5	229.8	228.6	229.2	225.1
45°	425.4	387.8	327.3	292.6	267.4	256.2	250.3	246.8	243.9	241.5	239.2
47.5°	470.7	423.1	360.2	320.8	294.4	280.9	271.5	265.6	259.7	257.4	257.4
50°	519.5	471.3	398.4	347.3	323.8	307.3	297.3	286.8	278.5	273.2	276.2
52.5°	614.1	553.0	456.0	397.8	354.3	336.1	324.4	310.3	299.1	292.1	292.6
55°	641.7	577.6	487.1	431.3	393.7	376.1	357.9	339.1	322.0	312.0	312.6
57.5°	645.8	580.6	493.0	444.2	422.5	410.8	394.9	370.2	348.5	332.6	330.8
60°	642.9	578.8	492.4	443.1	427.2	429.6	424.9	403.7	374.3	354.9	352.6
62.5°	685.8	611.1	517.7	453.1	432.5	436.0	441.9	429.6	400.8	374.3	370.2
65°	689.3	617.0	521.2	466.0	450.1	450.1	453.7	444.2	420.7	393.7	387.2
67.5°	647.6	582.9	493.6	445.4	437.2	446.6	458.9	453.1	430.1	410.8	404.3
70°	601.1	537.7	457.8	411.9	407.8	420.7	440.7	446.0	435.4	419.6	417.2
72.5°	528.3	480.1	405.5	369.6	368.4	381.4	401.9	416.6	419.6	420.2	419.0
75°	455.4	406.1	345.5	318.5	320.8	334.9	353.2	369.0	384.9	397.8	403.1
77.5°	373.1	336.7	288.5	262.7	267.4	283.2	297.9	313.8	330.2	352.6	355.5
80°	286.2	261.5	218.0	206.8	206.3	219.2	236.8	246.2	269.7	287.9	286.2
82.5°	202.1	182.8	158.1	148.1	150.4	159.2	170.4	176.9	193.9	203.9	206.8
85°	119.3	111.1	97.0	87.6	89.9	98.7	100.5	108.7	112.8	119.3	117.5
87.5°	25.3	21.7	19.4	20.0	17.6	18.2	20.6	20.0	20.0	23.5	22.3
90°	34.0	34.0	34.0	32.0	27.0	21.0	25.0	30.0	33.0	34.0	34.0
92.5°	36.0	35.0	33.0	31.0	27.0	23.0	25.0	29.0	34.0	36.0	36.0
95°	38.0	38.0	35.0	33.0	29.0	26.0	27.0	31.0	34.0	35.0	36.0
97.5°	36.0	35.0	35.0	34.0	30.0	25.0	26.0	30.0	33.0	35.0	35.0
100°	37.0	37.0	38.0	38.0	33.0	27.0	28.0	32.0	35.0	36.0	36.0
102.5°	41.0	42.0	43.0	45.0	39.0	32.0	33.0	35.0	38.0	40.0	41.0
105°	49.0	49.0	52.0	54.0	48.0	39.0	38.0	41.0	44.0	48.0	49.0
107.5°	60.0	61.0	65.0	65.0	58.0	50.0	47.0	50.0	54.0	60.0	61.0
110°	75.0	77.0	78.0	75.0	71.0	65.0	60.0	62.0	67.0	73.0	74.0

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CATALOG NUMBER: TT-C1-LED-E1-DL-UPL

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
112.5°	94.0	94.0	91.0	86.0	84.0	82.0	77.0	80.0	85.0	87.0	87.0
115°	113.0	111.0	104.0	100.0	99.0	102.0	99.0	103.0	106.0	102.0	102.0
117.5°	129.0	128.0	121.0	117.0	116.0	120.0	121.0	125.0	125.0	120.0	120.0
120°	142.0	142.0	137.0	134.0	134.0	137.0	137.0	139.0	139.0	134.0	136.0
122.5°	150.0	153.0	151.0	148.0	149.0	149.0	145.0	148.0	149.0	145.0	146.0
125°	158.0	162.0	162.0	159.0	160.0	159.0	149.0	154.0	156.0	154.0	154.0
127.5°	163.0	169.0	170.0	168.0	168.0	169.0	154.0	158.0	163.0	160.0	161.0
130°	169.0	176.0	178.0	174.0	175.0	175.0	159.0	164.0	169.0	164.0	167.0
132.5°	176.0	182.0	186.0	181.0	183.0	181.0	165.0	171.0	176.0	171.0	174.0
135°	184.0	190.0	195.0	190.0	191.0	187.0	170.0	177.0	184.0	179.0	179.0
137.5°	190.0	196.0	204.0	200.0	199.0	191.0	175.0	182.0	192.0	187.0	187.0
140°	195.0	201.0	213.0	212.0	206.0	195.0	180.0	186.0	200.0	195.0	196.0
142.5°	198.0	204.0	220.0	222.0	212.0	197.0	184.0	190.0	205.0	204.0	205.0
145°	202.0	208.0	225.0	230.0	216.0	199.0	187.0	193.0	208.0	211.0	214.0
147.5°	206.0	212.0	230.0	236.0	219.0	202.0	191.0	195.0	212.0	220.0	225.0
150°	211.0	216.0	231.0	235.0	219.0	205.0	194.0	199.0	215.0	227.0	233.0
152.5°	216.0	220.0	229.0	230.0	220.0	208.0	201.0	205.0	219.0	232.0	239.0
155°	219.0	221.0	224.0	222.0	220.0	213.0	208.0	212.0	224.0	234.0	240.0
157.5°	219.0	219.0	216.0	213.0	216.0	219.0	215.0	220.0	229.0	232.0	235.0
160°	215.0	214.0	210.0	208.0	213.0	223.0	224.0	228.0	233.0	229.0	232.0
162.5°	207.0	207.0	204.0	204.0	209.0	221.0	227.0	231.0	230.0	224.0	226.0
165°	192.0	194.0	196.0	198.0	203.0	212.0	216.0	219.0	220.0	215.0	217.0
167.5°	174.0	177.0	181.0	184.0	189.0	195.0	196.0	199.0	200.0	197.0	200.0
170°	160.0	163.0	166.0	168.0	172.0	177.0	178.0	180.0	181.0	178.0	181.0
172.5°	151.0	153.0	155.0	156.0	159.0	162.0	162.0	164.0	165.0	163.0	166.0
175°	144.0	146.0	147.0	148.0	149.0	151.0	151.0	152.0	153.0	151.0	153.0
177.5°	141.0	142.0	142.0	142.0	143.0	144.0	143.0	144.0	145.0	143.0	145.0
180°	140.0	140.0	140.0	140.0	140.0	140.0	140.0	140.0	140.0	140.0	140.0

(END OF REPORT)