

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: P198307

Luminaire Tested: **TT-C2-LED-E1-DL-CG-UPL**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P198307
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-C2-LED-E1-DL-CG-UPL
Description: TOPTIER LED PARKING GARAGE LUMINAIRE WITH UPLIGHT
DRIVE LANE DISTRIBUTION WITH CLEAR GLASS LENS
Light Source: (160) 4000K CCT, 70 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4567.8 lumens
Efficiency: N/A
Efficacy: 77.7 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): 58.8
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



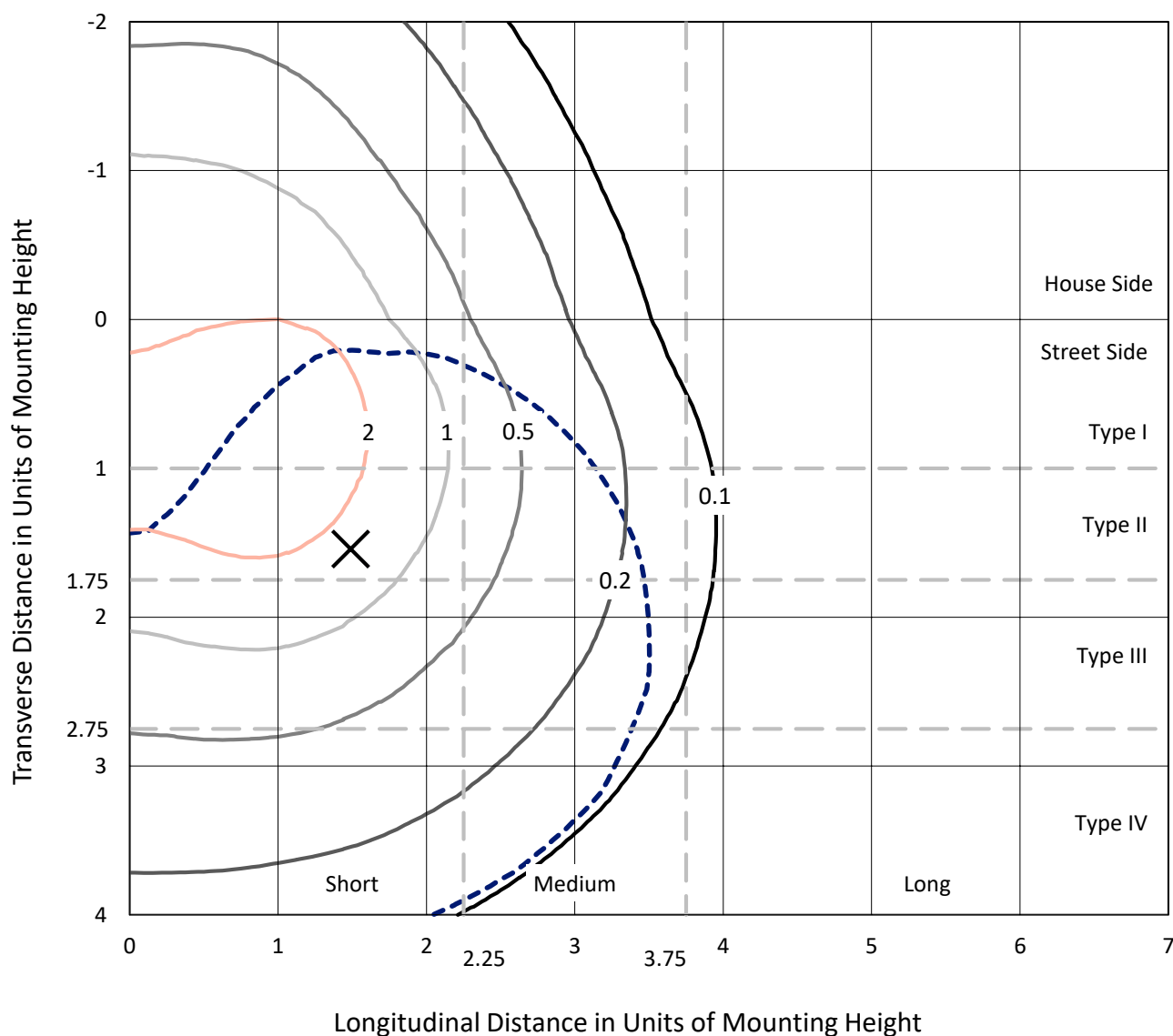
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Iso-Footcandle Lines of Horizontal Illumination

× Max cd

--- 1/2 Max cd

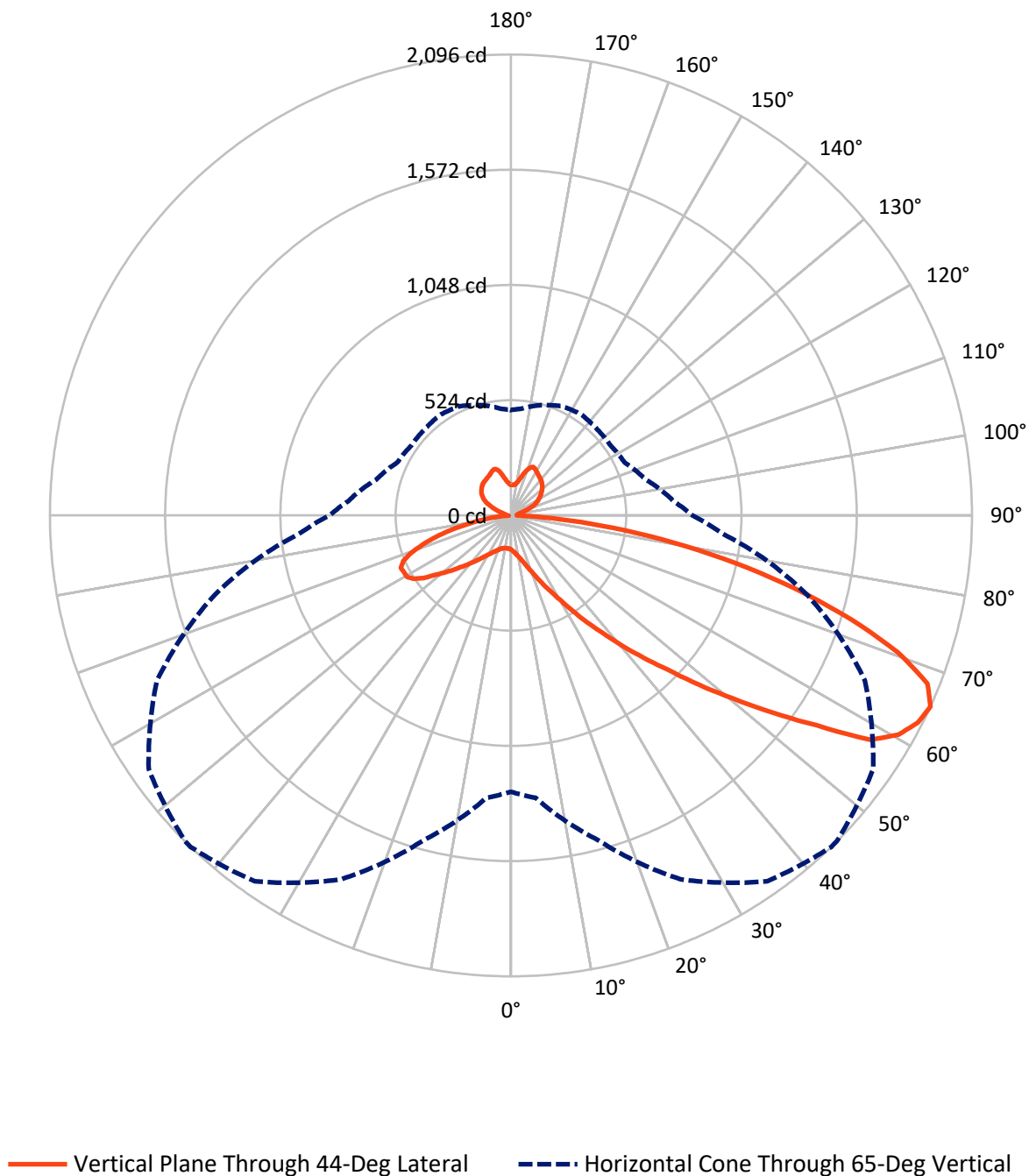


Based on 10 foot mounting height. Maximum calculated value = 3.6 fc
 Type IV - Short - Non-Cutoff

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Luminous Intensity Polar Plot



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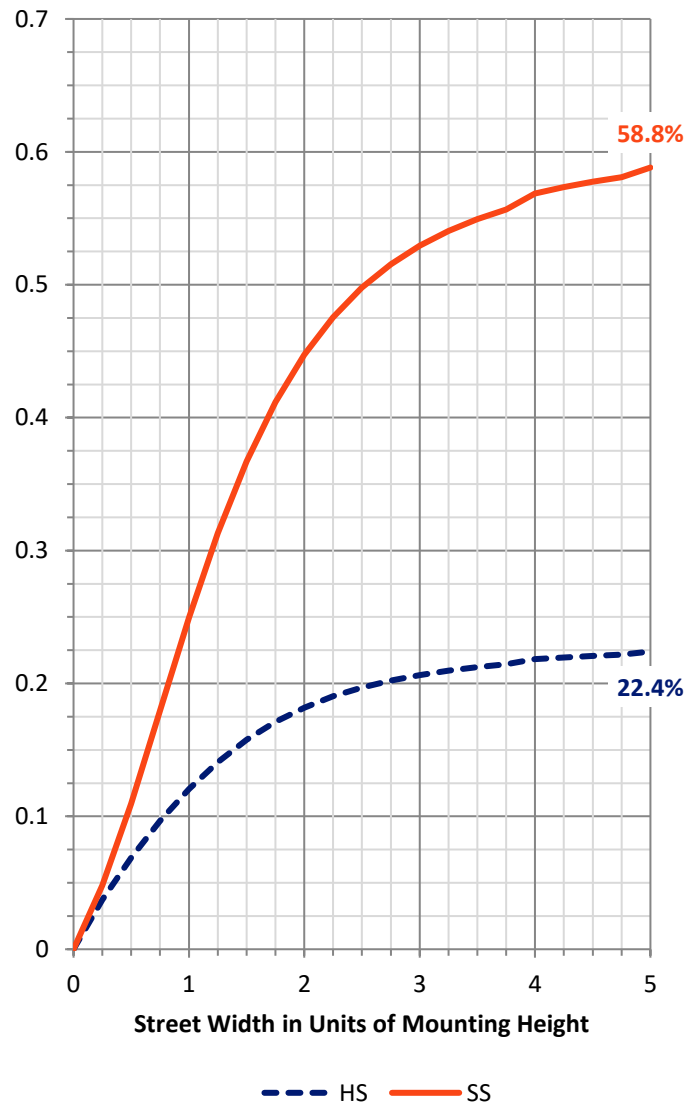
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1034.2	387.3	1421.5
	% Fixture	22.6	8.5	31.1
Street Side	Lumens	2733.7	412.6	3146.3
	% Fixture	59.8	9.0	68.9
Total	Lumens	3767.8	800.0	4567.8
	% Fixture	82.5	17.5	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	15.6	0.3
10°-20°	54.8	1.2
20°-30°	122.8	2.7
30°-40°	250.6	5.5
40°-50°	481.8	10.5
50°-60°	837.0	18.3
60°-70°	1071.9	23.5
70°-80°	767.6	16.8
80°-90°	165.7	3.6
90°-100°	36.3	0.8
100°-110°	55.2	1.2
110°-120°	110.8	2.4
120°-130°	144.2	3.2
130°-140°	148.0	3.2
140°-150°	133.4	2.9
150°-160°	102.6	2.2
160°-170°	55.1	1.2
170°-180°	14.3	0.3
0°-90°	3767.8	82.5
0°-180°	4567.8	100.0

Coefficient of Utilization



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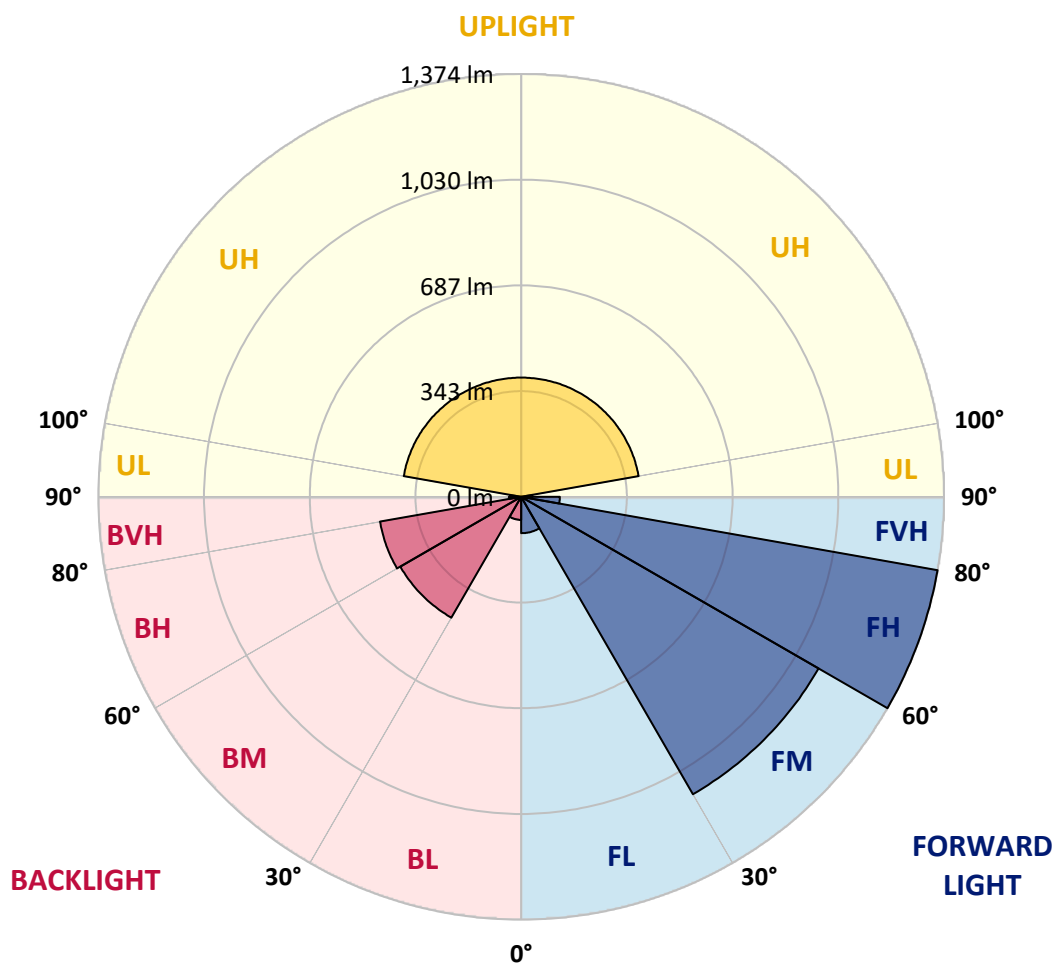
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	118.3	2.6			
FM	(30°-60°)	1115.9	24.4			
FH	(60°-80°)	1373.8	30.1			G1/1800
FVH	(80°-90°)	125.6	2.8			G2/225
BL	(0°-30°)	75.0	1.6	B0/110		
BM	(30°-60°)	453.4	9.9	B1/1000		
BH	(60°-80°)	465.7	10.2	B1/500		G1/500
BVH	(80°-90°)	40.1	0.9			G1/100
UL	(90°-100°)	36.3	0.8		U2/50	
UH	(100°-180°)	387.3	8.5		U3/500	

BUG Rating: B1-U4-G2

Type IV Short



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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	44°	45°	55°	65°	75°	85°
0°	154.9	154.9	154.9	154.9	154.9	154.9	154.9	154.9	154.9	154.9	154.9
2.5°	163.4	163.4	163.4	162.7	162.0	161.3	161.3	160.6	159.9	159.2	157.8
5°	173.3	172.6	172.6	171.2	170.5	169.1	169.1	167.7	165.5	163.4	161.3
7.5°	183.9	184.6	183.9	182.5	180.4	179.0	178.3	175.5	172.6	169.1	165.5
10°	196.7	197.4	197.4	196.0	193.8	190.3	190.3	186.1	181.8	177.6	171.2
12.5°	215.1	214.4	213.7	213.7	209.4	205.2	206.6	200.9	193.8	187.5	179.7
15°	232.1	233.5	234.9	231.3	228.5	224.3	223.6	216.5	208.7	199.5	189.6
17.5°	256.8	258.2	257.5	256.1	252.6	247.6	246.2	237.7	227.1	214.4	200.9
20°	288.6	289.4	286.5	285.1	282.3	275.9	273.8	263.9	249.7	232.1	215.8
22.5°	324.0	321.9	321.2	319.8	319.1	312.0	311.3	296.4	275.9	256.1	232.8
25°	354.4	356.6	358.0	360.1	359.4	352.3	352.3	335.3	310.6	283.7	254.0
27.5°	389.8	393.4	397.6	402.6	401.8	396.9	399.7	383.4	350.2	317.7	279.5
30°	428.0	433.7	440.8	452.8	456.3	451.4	451.4	430.8	398.3	354.4	307.7
32.5°	479.0	481.8	488.2	507.3	517.9	517.9	517.2	494.5	454.9	399.7	341.7
35°	532.0	532.7	549.7	573.1	586.5	597.1	592.2	570.2	525.7	457.7	384.9
37.5°	586.5	587.2	611.3	638.8	669.3	677.8	682.0	662.2	604.9	522.1	432.3
40°	641.0	650.2	678.5	716.7	761.9	778.9	776.8	759.1	690.5	592.9	483.9
42.5°	696.2	715.3	744.3	803.0	856.7	884.3	885.8	870.2	798.0	685.5	551.1
45°	761.9	774.0	818.5	886.5	963.6	999.7	1003.2	996.1	928.2	798.7	631.8
47.5°	830.6	841.9	895.7	981.3	1077.5	1150.3	1156.7	1150.3	1066.2	894.2	703.9
50°	905.6	909.8	974.2	1088.8	1228.2	1308.1	1312.4	1315.2	1201.3	1017.3	774.0
52.5°	975.6	977.0	1059.8	1209.8	1388.1	1487.8	1492.8	1487.1	1397.3	1171.6	905.6
55°	1044.9	1046.3	1151.1	1348.4	1560.0	1683.8	1714.9	1717.7	1555.0	1270.6	940.9
57.5°	1109.3	1115.7	1258.6	1486.4	1753.8	1924.3	1922.2	1874.8	1647.7	1308.1	948.7
60°	1167.3	1187.8	1361.2	1641.3	1910.9	2023.4	2034.7	1930.7	1680.2	1324.4	942.4
62.5°	1216.8	1239.5	1458.1	1764.4	2009.2	2075.7	2071.5	1953.3	1726.2	1381.0	984.1
65°	1256.5	1289.0	1527.4	1825.3	2030.4	2095.5	2094.8	2009.9	1775.0	1393.0	967.1
67.5°	1278.4	1328.6	1538.0	1826.7	2014.2	2041.8	2031.9	1926.4	1683.8	1315.9	885.0
70°	1290.4	1323.0	1512.6	1746.0	1874.1	1866.3	1868.4	1740.4	1526.7	1187.1	786.7
72.5°	1246.6	1273.4	1406.5	1572.0	1656.2	1616.6	1635.0	1517.5	1327.2	1012.4	662.9
75°	1137.6	1150.3	1214.7	1320.1	1365.4	1338.5	1338.5	1253.6	1071.1	830.6	535.6
77.5°	952.3	956.5	981.3	1037.9	1050.6	1042.8	1040.7	967.8	822.1	634.6	400.4
80°	680.6	696.2	706.8	731.5	758.4	747.1	732.2	673.5	575.2	434.4	275.9
82.5°	422.4	423.8	434.4	450.7	454.9	469.8	467.6	420.9	347.4	259.6	161.3
85°	197.4	193.8	203.8	215.1	221.4	220.7	225.7	203.0	160.6	118.9	73.6
87.5°	31.1	43.9	46.7	46.0	50.9	51.6	53.8	48.8	33.3	23.3	17.7
90°	36.0	36.0	36.0	34.0	29.0	26.2	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	30.2	30.0	30.0	34.0	37.0	39.0
97.5°	42.0	42.0	40.0	37.0	35.0	33.2	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	51.8	52.0	54.0	53.0	49.0	48.0
107.5°	72.0	72.0	70.0	67.0	66.0	67.6	68.0	68.0	66.0	60.0	59.0
110°	86.0	86.0	89.0	85.0	86.0	86.8	87.0	84.0	84.0	78.0	74.0

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CANDELA DISTRIBUTION (continued):

	0°	5°	15°	25°	35°	44°	45°	55°	65°	75°	85°
112.5°	101.0	102.0	108.0	107.0	110.0	107.2	107.0	102.0	105.0	100.0	95.0
115°	121.0	122.0	128.0	128.0	129.0	124.4	124.0	121.0	125.0	123.0	116.0
117.5°	140.0	141.0	144.0	141.0	141.0	136.4	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	157.6	158.0	159.0	162.0	155.0	153.0
125°	169.0	169.0	172.0	163.0	165.0	167.6	168.0	167.0	168.0	163.0	160.0
127.5°	177.0	177.0	181.0	171.0	176.0	177.8	178.0	176.0	175.0	173.0	166.0
130°	187.0	188.0	191.0	179.0	186.0	186.2	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	201.2	201.0	196.0	201.0	199.0	185.0
137.5°	221.0	219.0	213.0	197.0	205.0	207.8	208.0	203.0	210.0	204.0	191.0
140°	229.0	226.0	216.0	200.0	207.0	212.4	213.0	212.0	217.0	209.0	195.0
142.5°	235.0	231.0	218.0	201.0	208.0	216.8	218.0	220.0	223.0	211.0	198.0
145°	235.0	230.0	218.0	202.0	211.0	221.4	223.0	230.0	227.0	211.0	201.0
147.5°	230.0	227.0	219.0	207.0	216.0	227.2	229.0	239.0	229.0	212.0	204.0
150°	224.0	221.0	220.0	214.0	222.0	233.4	235.0	242.0	232.0	214.0	210.0
152.5°	216.0	214.0	221.0	220.0	230.0	239.6	241.0	242.0	235.0	219.0	215.0
155°	208.0	207.0	219.0	224.0	237.0	242.2	243.0	238.0	234.0	224.0	220.0
157.5°	203.0	203.0	216.0	224.0	234.0	234.4	235.0	228.0	229.0	226.0	222.0
160°	199.0	198.0	210.0	213.0	219.0	218.4	219.0	215.0	219.0	221.0	218.0
162.5°	185.0	184.0	193.0	193.0	198.0	197.4	198.0	196.0	200.0	204.0	207.0
165°	169.0	167.0	173.0	173.0	176.0	176.4	177.0	176.0	181.0	185.0	190.0
167.5°	154.0	152.0	156.0	155.0	159.0	158.6	159.0	160.0	165.0	168.0	172.0
170°	142.0	141.0	145.0	144.0	147.0	146.8	147.0	148.0	152.0	155.0	159.0
172.5°	137.0	135.0	139.0	138.0	141.0	140.8	141.0	141.0	145.0	146.0	149.0
175°	136.0	134.0	137.0	137.0	139.0	138.8	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°	154.9	154.9	154.9	154.9	154.9	154.9	154.9	154.9	154.9	154.9	154.9
2.5°	157.1	157.1	155.6	154.2	152.8	152.1	151.4	150.7	150.7	150.0	150.0
5°	160.6	159.2	157.1	154.9	152.8	151.4	150.0	149.3	147.9	147.2	147.2
7.5°	163.4	162.0	158.5	155.6	152.8	150.7	148.6	147.2	146.4	145.7	145.7
10°	169.1	166.3	162.0	157.1	153.5	150.7	148.6	147.2	146.4	145.7	145.7
12.5°	176.9	172.6	165.5	160.6	155.6	152.1	150.0	148.6	147.2	147.2	146.4
15°	185.4	180.4	171.9	164.1	158.5	154.9	152.1	151.4	150.0	150.0	150.0
17.5°	195.3	189.6	179.0	169.8	163.4	159.2	156.4	154.9	154.2	154.9	155.6
20°	208.0	200.2	186.8	176.9	169.1	164.8	162.7	160.6	160.6	162.0	162.0
22.5°	222.9	213.7	197.4	185.4	177.6	171.9	170.5	169.1	168.4	169.8	169.8
25°	238.4	227.8	208.7	195.3	186.1	181.1	179.7	178.3	179.0	179.7	177.6
27.5°	262.5	247.6	222.9	207.3	196.7	191.7	189.6	188.9	189.6	190.3	188.9
30°	285.1	267.4	239.8	221.4	208.0	203.0	200.9	200.9	201.6	201.6	201.6
32.5°	316.2	294.3	258.9	237.0	223.6	217.2	216.5	216.5	215.1	215.8	215.1
35°	353.0	326.9	285.1	258.2	242.7	235.6	233.5	232.1	232.1	232.1	232.1
37.5°	392.6	360.8	312.0	282.3	264.6	256.1	251.9	249.7	250.4	250.4	249.0
40°	437.2	400.4	343.8	307.0	290.8	278.0	273.1	271.0	270.3	268.8	265.3
42.5°	496.6	450.0	382.7	338.9	314.8	305.6	296.4	292.2	288.6	287.9	282.3
45°	566.7	516.5	433.0	384.2	352.3	331.8	322.6	315.5	309.2	307.0	302.8
47.5°	624.7	563.9	477.5	423.1	387.7	366.5	351.6	341.0	332.5	327.6	329.0
50°	689.8	621.9	528.5	459.9	425.2	402.6	388.4	370.7	358.0	350.2	353.0
52.5°	796.6	720.9	599.2	523.5	464.1	441.5	423.1	402.6	385.6	375.0	380.6
55°	826.3	747.1	633.2	563.9	517.9	493.1	465.5	440.0	416.0	401.8	401.8
57.5°	824.9	745.0	636.0	575.2	548.3	530.6	510.1	478.3	447.1	426.6	425.2
60°	814.3	734.4	628.9	567.4	546.9	550.4	541.9	515.0	478.3	450.0	445.7
62.5°	841.9	760.5	647.3	575.2	545.5	549.0	556.1	540.5	504.4	469.1	464.8
65°	824.2	742.1	632.5	569.5	553.2	553.9	558.9	547.6	518.6	486.0	479.0
67.5°	752.0	679.9	582.2	527.8	517.2	529.9	545.5	541.9	517.2	495.2	486.7
70°	660.8	597.1	513.6	468.3	460.6	479.0	505.1	510.1	503.0	488.9	486.0
72.5°	559.6	503.7	433.0	399.0	396.2	410.3	436.5	453.5	458.4	464.8	464.8
75°	449.2	405.4	344.5	321.2	321.2	336.8	358.0	379.9	393.4	410.3	415.3
77.5°	341.0	302.8	259.6	239.8	239.8	254.0	270.3	287.9	310.6	333.9	330.4
80°	233.5	208.7	177.6	167.7	165.5	173.3	187.5	199.5	219.3	234.9	244.1
82.5°	133.7	125.2	106.8	98.3	97.6	107.5	117.4	118.9	132.3	141.5	144.3
85°	63.7	55.9	52.4	46.7	47.4	49.5	53.1	55.9	59.4	63.0	63.0
87.5°	14.1	13.4	12.0	12.7	12.7	11.3	12.7	12.0	13.4	14.1	12.7
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-C2-LED-E1-DL-CG-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)