

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: P198304

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P198304
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-LWR-LW-UPL
Description: TOPTIER LED PARKING GARAGE LUMINAIRE WITH UPLIGHT
DRIVE LANE DISTRIBUTION WITH CLEAR GLASS LENS AND LumaWatt WIRELESS SENSOR
Light Source: (160) 4000K CCT, 70 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4164.7 lumens
Efficiency: N/A
Efficacy: 70.8 lumens/watt
Luminous Opening: Vertical Cylinder (Dia: 1.12' x H: 0.1')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B1 - U4 - G1

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



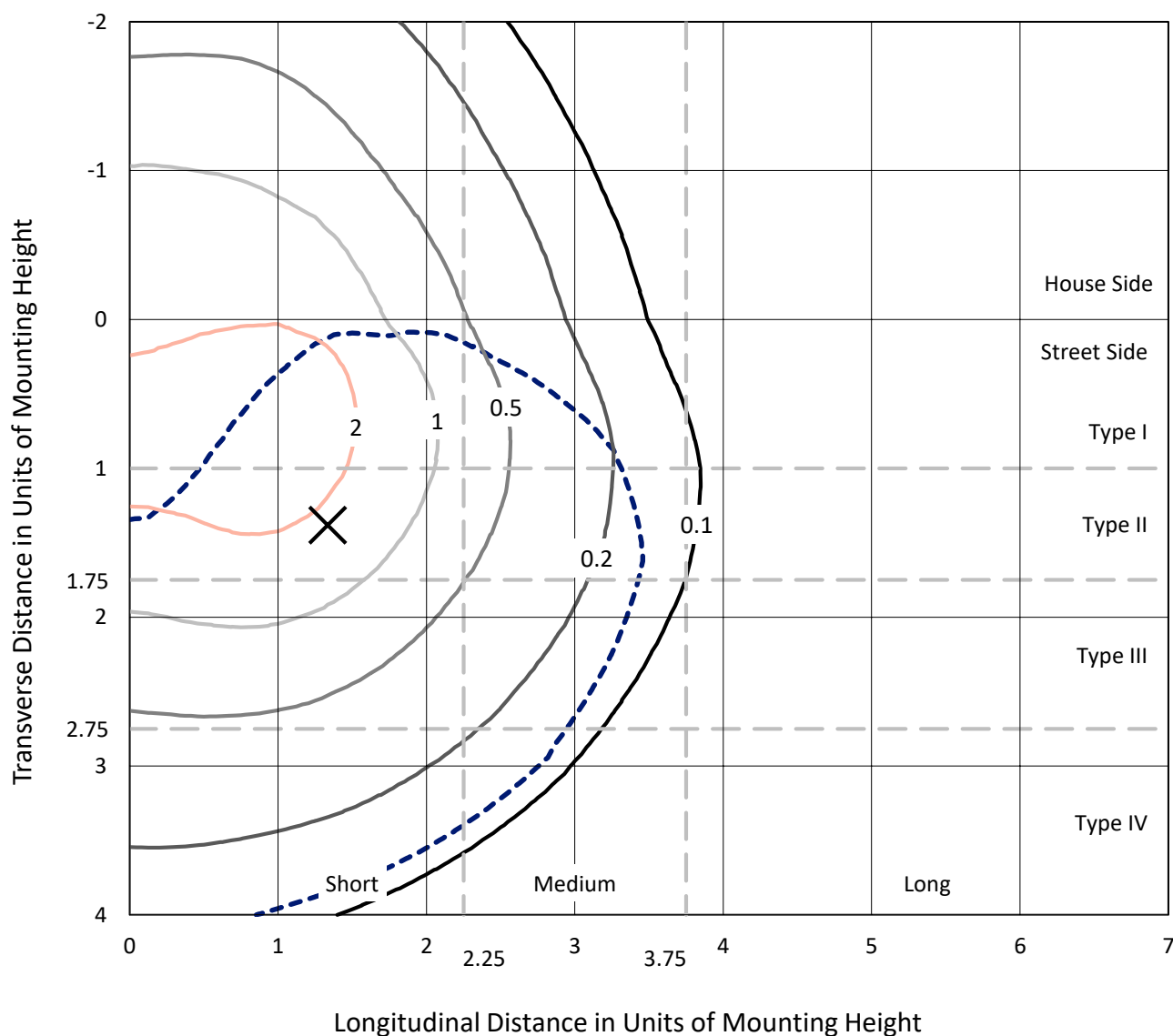
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Iso-Footcandle Lines of Horizontal Illumination

× Max cd

--- 1/2 Max cd

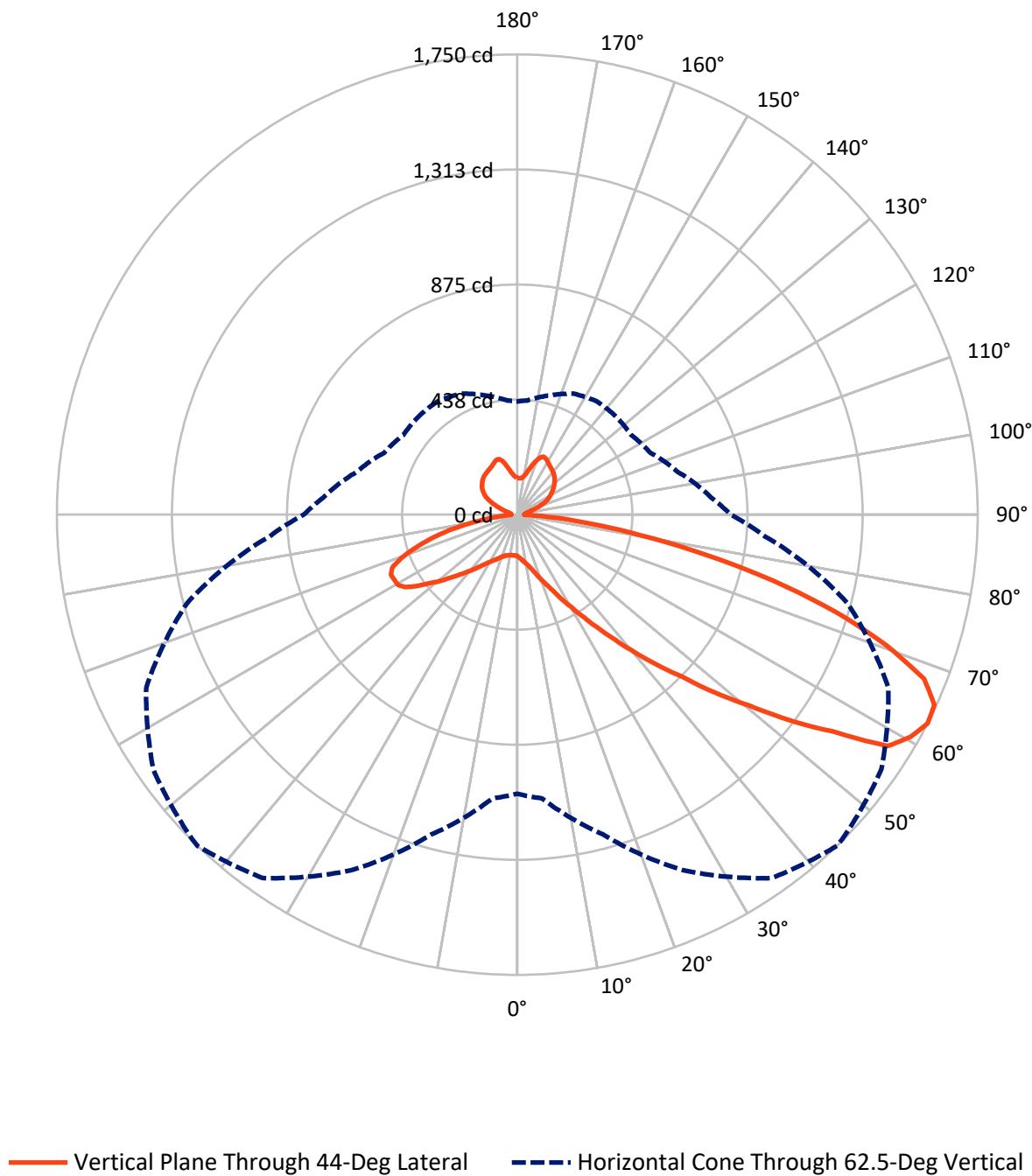


Based on 10 foot mounting height. Maximum calculated value = 3.2 fc
 Type IV - Short - Non-Cutoff

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Luminous Intensity Polar Plot



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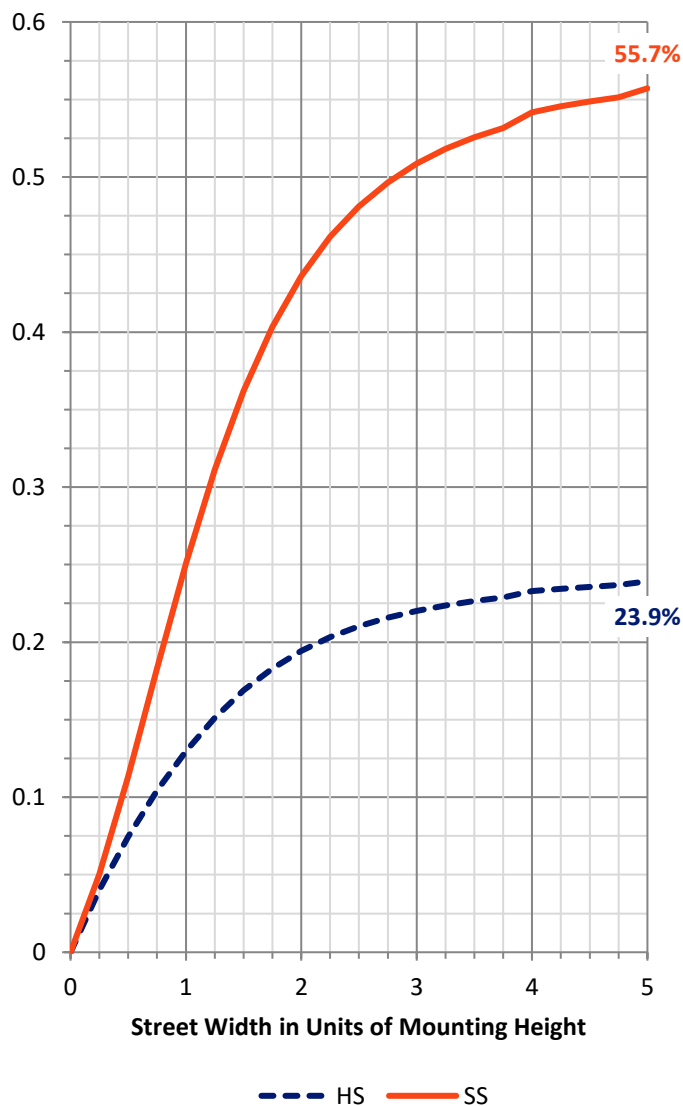
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1011.1	387.3	1398.4
	% Fixture	24.3	9.3	33.6
Street Side	Lumens	2353.6	412.6	2766.3
	% Fixture	56.5	9.9	66.4
Total	Lumens	3364.8	800.0	4164.7
	% Fixture	80.8	19.2	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	15.9	0.4
10°-20°	54.7	1.3
20°-30°	118.4	2.8
30°-40°	233.7	5.6
40°-50°	441.8	10.6
50°-60°	759.4	18.2
60°-70°	952.8	22.9
70°-80°	650.7	15.6
80°-90°	137.4	3.3
90°-100°	36.3	0.9
100°-110°	55.2	1.3
110°-120°	110.8	2.7
120°-130°	144.2	3.5
130°-140°	148.0	3.6
140°-150°	133.4	3.2
150°-160°	102.6	2.5
160°-170°	55.1	1.3
170°-180°	14.3	0.3
0°-90°	3364.8	80.8
0°-180°	4164.7	100.0

Coefficient of Utilization



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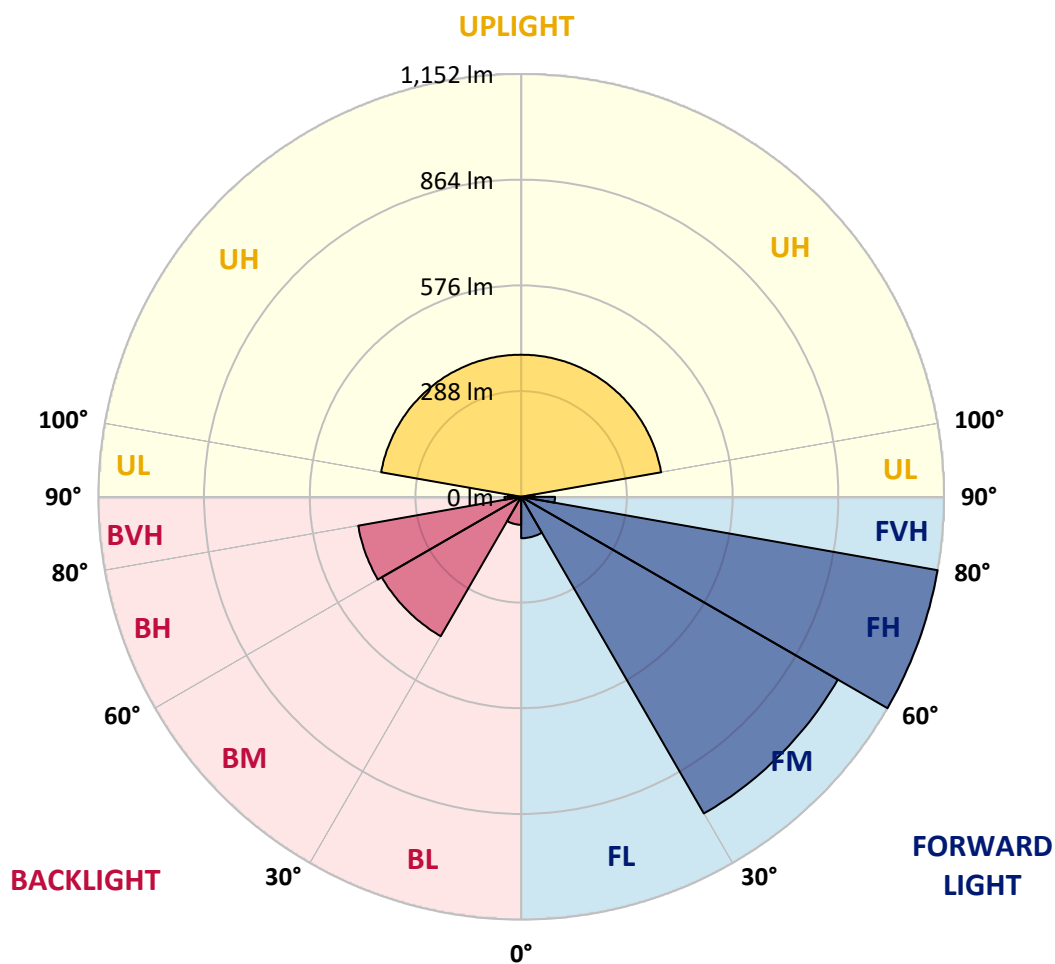
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	112.8	2.7			
FM	(30°-60°)	996.4	23.9			
FH	(60°-80°)	1152.4	27.7			G1/1800
FVH	(80°-90°)	92.1	2.2			G1/100
BL	(0°-30°)	76.2	1.8	B0/110		
BM	(30°-60°)	438.5	10.5	B1/1000		
BH	(60°-80°)	451.1	10.8	B1/500		G1/500
BVH	(80°-90°)	45.3	1.1			G1/100
UL	(90°-100°)	36.3	0.9		U2/50	
UH	(100°-180°)	387.3	9.3		U3/500	

BUG Rating: B1-U4-G1

Type IV Short



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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	44°	45°	55°	65°	75°	85°
0°	157.8	157.8	157.8	157.8	157.8	157.8	157.8	157.8	157.8	157.8	157.8
2.5°	165.5	165.5	165.5	165.5	164.1	164.1	164.1	163.4	162.7	161.3	160.6
5°	174.0	174.7	174.0	173.3	171.9	171.2	170.5	169.8	167.7	165.5	163.4
7.5°	184.6	183.9	183.9	183.2	181.1	179.7	179.7	176.9	174.0	171.2	167.7
10°	196.0	196.7	196.7	194.6	193.1	190.3	190.3	186.1	182.5	178.3	174.0
12.5°	210.1	209.4	210.8	209.4	207.3	202.3	202.3	198.8	192.4	186.8	181.1
15°	227.8	227.8	228.5	225.7	223.6	218.6	220.0	210.8	205.2	198.8	189.6
17.5°	250.4	250.4	248.3	246.9	243.4	240.5	237.7	229.9	221.4	210.8	200.2
20°	275.9	276.6	273.1	273.1	268.8	265.3	263.2	254.0	241.2	227.1	213.7
22.5°	307.0	305.6	302.8	300.0	297.8	291.5	293.6	281.6	264.6	245.5	227.8
25°	331.8	333.9	333.9	336.0	332.5	325.4	327.6	312.7	292.9	270.3	245.5
27.5°	362.2	366.5	370.0	374.3	372.8	367.9	366.5	353.0	327.6	300.7	267.4
30°	395.5	401.8	404.7	412.5	414.6	410.3	409.6	396.2	371.4	331.1	295.0
32.5°	438.6	437.9	446.4	459.9	468.3	466.2	465.5	450.7	417.4	375.0	325.4
35°	480.4	481.8	491.7	512.2	525.7	529.9	529.2	513.6	480.4	427.3	365.8
37.5°	525.7	527.8	546.9	571.6	593.6	604.2	604.2	597.1	552.5	481.1	410.3
40°	570.2	580.1	602.1	633.9	670.7	688.4	687.7	676.3	635.3	555.4	457.0
42.5°	624.0	633.9	657.9	703.2	749.2	783.2	783.2	779.6	728.0	642.4	524.9
45°	677.0	685.5	715.3	772.6	839.8	879.4	884.3	897.1	861.0	740.7	603.5
47.5°	733.6	740.7	778.9	851.1	935.3	1012.4	1017.3	1027.2	969.2	836.9	665.0
50°	790.2	793.1	849.0	945.9	1065.5	1139.0	1155.3	1175.1	1094.5	953.0	734.4
52.5°	855.3	856.7	921.8	1045.6	1194.9	1302.5	1305.3	1319.4	1274.9	1095.2	863.8
55°	912.6	914.8	998.2	1157.4	1352.0	1455.3	1483.6	1524.6	1415.6	1190.7	902.0
57.5°	965.7	974.2	1088.8	1292.5	1504.1	1660.4	1655.5	1653.4	1498.4	1228.9	909.8
60°	1017.3	1032.9	1179.4	1402.2	1615.9	1717.0	1722.7	1682.4	1520.4	1244.4	902.0
62.5°	1061.9	1083.1	1258.6	1492.1	1687.3	1750.3	1746.7	1689.4	1556.4	1298.9	944.5
65°	1093.7	1122.8	1294.7	1530.3	1681.7	1742.5	1747.5	1717.0	1587.6	1301.7	931.7
67.5°	1110.0	1151.1	1294.0	1504.8	1639.2	1668.2	1670.3	1614.4	1492.1	1232.4	852.5
70°	1114.3	1141.1	1259.3	1411.4	1492.1	1489.2	1485.7	1443.9	1326.5	1099.4	757.7
72.5°	1068.3	1092.3	1149.6	1243.0	1275.6	1268.5	1255.1	1208.4	1129.1	945.2	645.9
75°	967.1	975.6	977.7	1003.9	1005.3	1007.4	991.9	961.5	905.6	764.1	515.7
77.5°	778.9	791.7	764.1	734.4	733.6	730.8	727.3	689.1	662.2	573.1	383.4
80°	567.4	561.7	539.1	505.1	482.5	475.4	471.2	460.6	444.3	392.6	266.7
82.5°	342.4	348.8	325.4	301.4	289.4	277.3	283.7	272.4	263.9	239.8	163.4
85°	153.5	153.5	148.6	142.2	132.3	133.0	134.4	130.2	124.5	112.5	78.5
87.5°	29.7	26.9	29.0	29.7	27.6	28.3	30.4	31.8	33.3	31.1	23.3
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°	157.8	157.8	157.8	157.8	157.8	157.8	157.8	157.8	157.8	157.8	157.8
2.5°	160.6	159.9	159.2	157.8	156.4	155.6	154.9	154.2	154.2	153.5	153.5
5°	162.7	162.0	160.6	159.2	157.8	155.6	154.2	153.5	152.1	152.1	152.1
7.5°	166.3	164.8	162.0	159.9	157.8	155.6	154.2	152.8	152.1	150.7	150.7
10°	171.2	169.1	165.5	161.3	158.5	156.4	154.2	152.8	152.1	151.4	151.4
12.5°	178.3	174.7	169.1	164.8	160.6	157.8	155.6	154.2	153.5	152.8	152.8
15°	185.4	181.8	174.7	168.4	163.4	160.6	157.8	157.1	155.6	155.6	155.6
17.5°	195.3	189.6	181.1	174.0	168.4	164.1	162.0	159.9	159.9	160.6	160.6
20°	206.6	200.2	189.6	180.4	174.0	169.8	167.7	166.3	165.5	166.3	167.0
22.5°	220.0	210.8	197.4	188.9	181.8	176.9	174.7	173.3	172.6	174.0	173.3
25°	233.5	224.3	208.7	197.4	188.9	185.4	183.2	182.5	181.1	182.5	181.8
27.5°	256.1	243.4	222.1	207.3	199.5	195.3	192.4	191.0	191.0	191.0	190.3
30°	275.9	261.1	236.3	221.4	210.1	205.2	202.3	201.6	201.6	202.3	201.6
32.5°	303.5	285.1	256.1	236.3	225.7	217.9	215.1	214.4	214.4	213.7	214.4
35°	338.9	316.9	278.7	255.4	241.2	234.2	231.3	230.6	228.5	228.5	228.5
37.5°	377.1	348.1	305.6	280.2	262.5	253.3	249.0	246.2	244.8	243.4	243.4
40°	418.8	385.6	338.2	304.9	286.5	274.5	266.7	262.5	260.3	258.2	256.8
42.5°	473.3	436.5	375.7	335.3	312.0	298.6	287.2	283.0	277.3	275.2	271.0
45°	544.8	498.1	422.4	377.1	343.1	324.0	312.7	303.5	296.4	292.9	289.4
47.5°	600.6	545.5	467.6	413.2	379.9	355.2	339.6	324.7	316.2	309.9	308.5
50°	657.2	599.2	515.7	450.7	413.9	391.9	371.4	353.0	337.5	330.4	331.8
52.5°	766.9	696.9	580.1	501.6	450.0	425.2	404.0	381.3	363.6	352.3	353.0
55°	798.0	726.6	621.9	551.1	501.6	469.1	440.8	416.0	390.5	374.3	375.0
57.5°	795.9	725.2	625.4	564.6	532.0	508.7	482.5	448.5	418.8	397.6	394.8
60°	785.3	713.8	619.0	557.5	533.4	527.8	514.3	483.2	442.9	418.8	413.9
62.5°	811.5	740.7	630.4	557.5	528.5	529.2	526.4	507.3	469.1	435.8	430.1
65°	800.1	723.7	623.3	562.4	537.7	532.0	530.6	512.2	486.0	448.5	443.6
67.5°	732.9	666.4	575.2	521.4	510.8	515.7	522.8	510.8	484.6	456.3	450.0
70°	643.1	586.5	509.4	462.7	457.7	467.6	483.9	485.3	470.5	448.5	449.2
72.5°	542.6	497.4	432.3	400.4	394.8	404.0	424.5	434.4	435.1	427.3	426.6
75°	435.8	394.8	348.1	321.2	322.6	336.8	352.3	369.3	375.0	379.9	384.2
77.5°	324.7	302.8	263.2	245.5	249.0	264.6	274.5	285.1	297.1	302.8	307.0
80°	227.1	208.0	181.8	171.2	175.5	184.6	193.1	202.3	217.9	218.6	227.1
82.5°	142.2	129.5	116.0	112.5	113.2	116.7	126.6	132.3	139.4	141.5	140.1
85°	69.3	66.5	62.3	60.1	60.8	64.4	70.7	75.0	79.2	78.5	74.3
87.5°	21.9	22.6	23.3	24.1	24.1	26.2	28.3	28.3	29.7	29.0	29.0
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-LWR-LW-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)