

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: P198299

Luminaire Tested: **TT-C2-LED-E1-CQ-MS/DIM-UPL**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P198299
REPORT IS FROM IESNA LM-79-08 TEST DATA - UPLIGHT (P27139) AND DOWNLIGHT
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: McGRAW-EDISON
Catalog Number: TT-C2-LED-E1-CQ-MS/DIM-UPL
Description: TOPTIER LED PARKING GARAGE LUMINAIRE WITH UPLIGHT
CONCENTRATED DISTRIBUTION WITH DIMMING OCCUPANCY SENSOR
Light Source: (168) 4000K CCT, 70 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5551.2 lumens
Efficiency: N/A
Efficacy: 108.0 lumens/watt
Luminous Opening: Vertical Cylinder (Dia: 1.12' x H: 0.1')
IES Classification: Type V - Short - Semi-Cutoff
BUG Rating: B2 - U4 - G1

Input Watts (W): 51.4
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

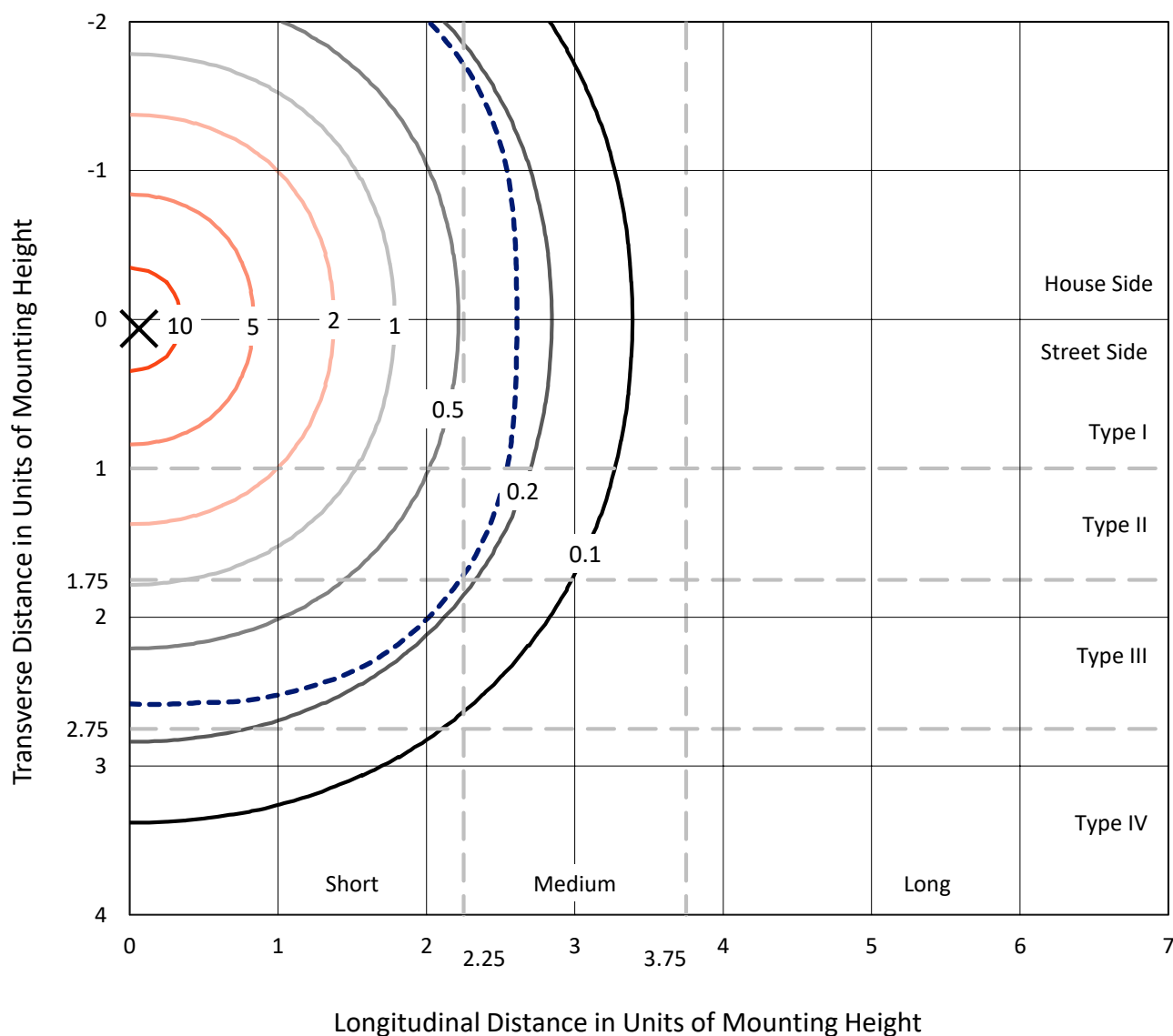


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
- - - 1/2 Max cd

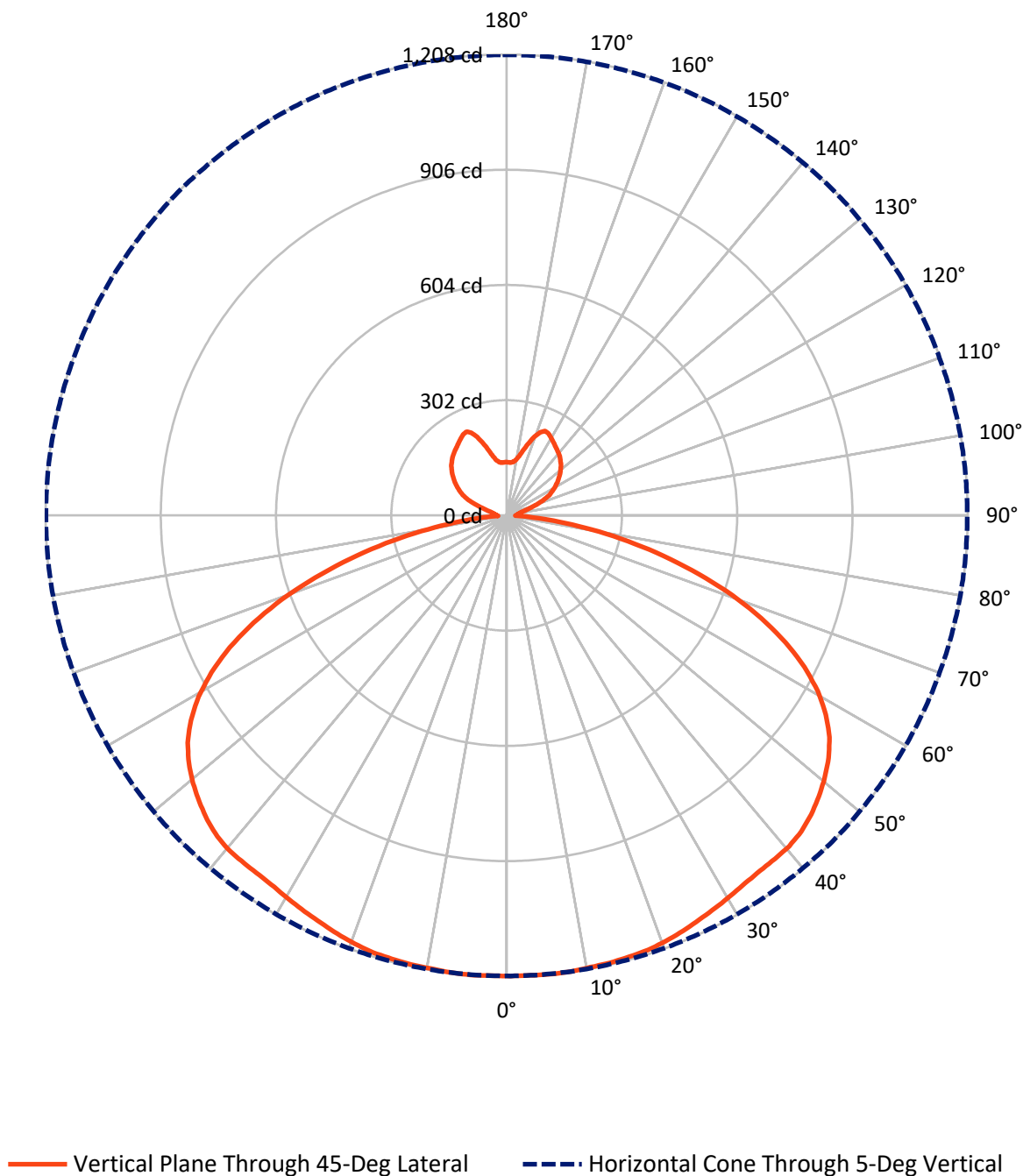


Based on 10 foot mounting height. Maximum calculated value = 12.1 fc
Type V - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



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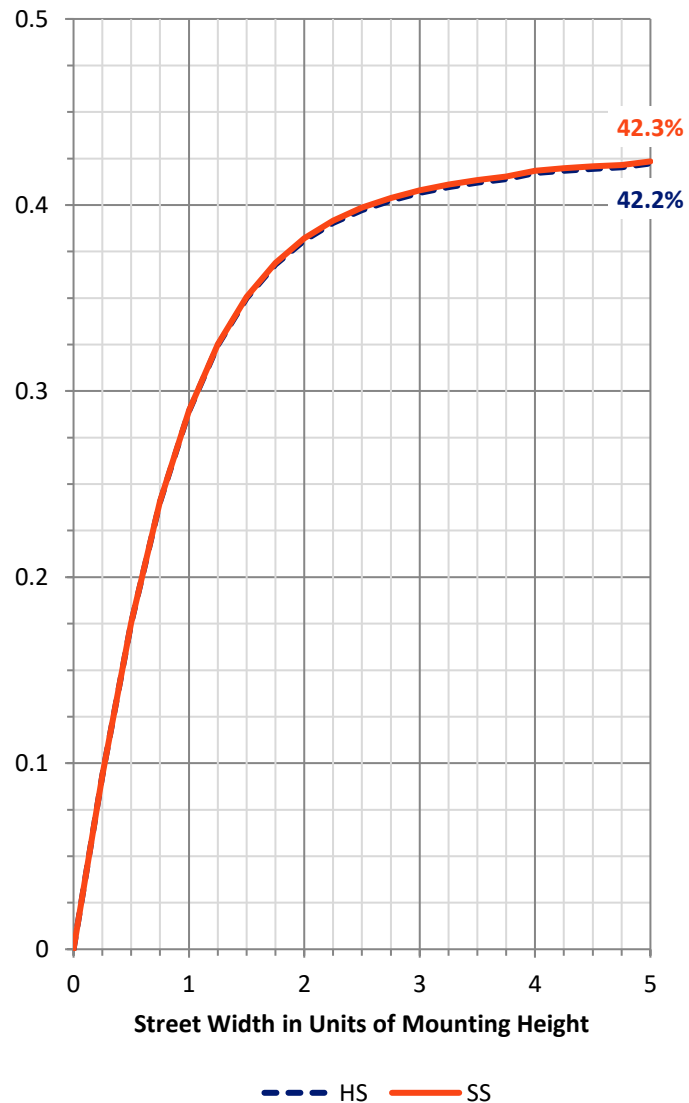
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2363.6	412.0	2775.6
	% Fixture	42.6	7.4	50.0
Street Side	Lumens	2363.6	412.0	2775.6
	% Fixture	42.6	7.4	50.0
Total	Lumens	4727.2	824.0	5551.2
	% Fixture	85.2	14.8	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	115.1	2.1
10°-20°	339.5	6.1
20°-30°	541.7	9.8
30°-40°	713.5	12.9
40°-50°	848.8	15.3
50°-60°	888.3	16.0
60°-70°	755.4	13.6
70°-80°	429.3	7.7
80°-90°	95.7	1.7
90°-100°	38.3	0.7
100°-110°	59.4	1.1
110°-120°	119.3	2.1
120°-130°	148.7	2.7
130°-140°	153.2	2.8
140°-150°	136.0	2.5
150°-160°	103.7	1.9
160°-170°	51.8	0.9
170°-180°	13.6	0.2
0°-90°	4727.2	85.2
0°-180°	5551.2	100.0

Coefficient of Utilization



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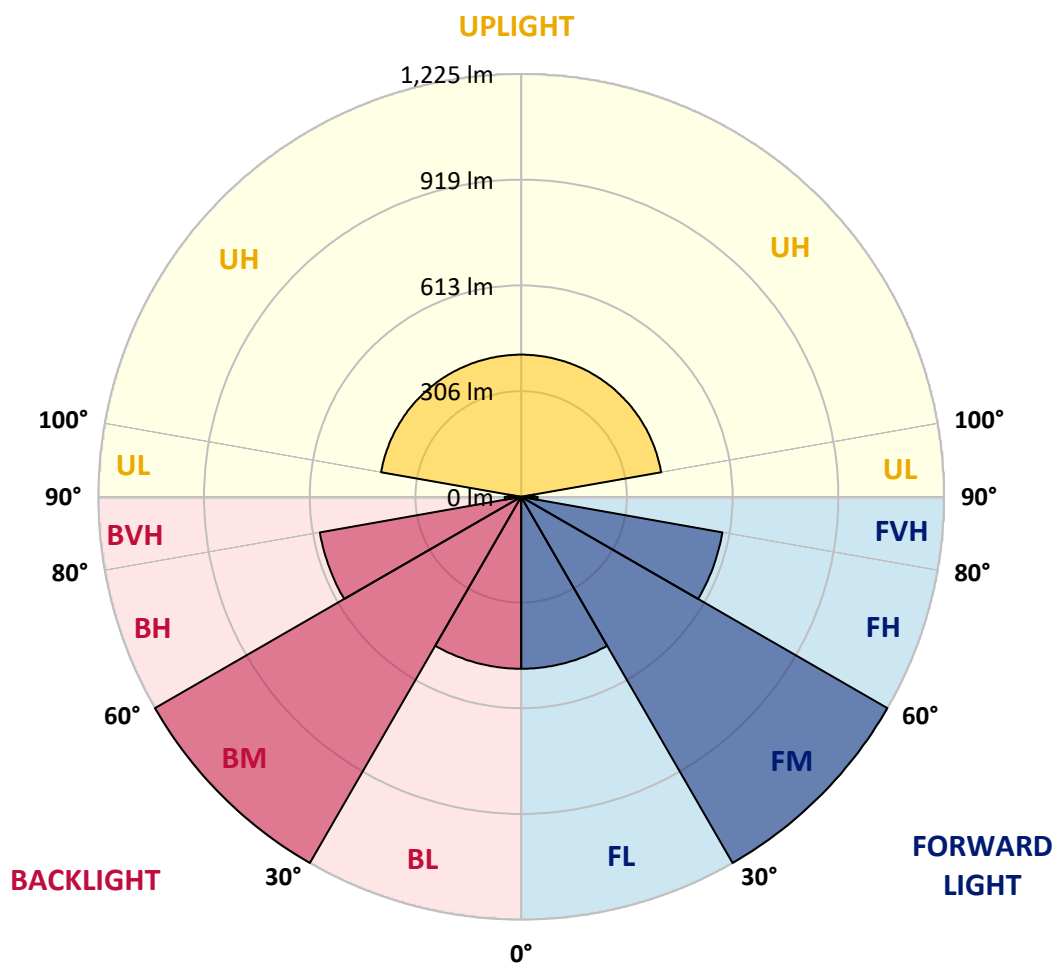
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	498.1	9.0			
FM	(30°-60°)	1225.3	22.1			
FH	(60°-80°)	592.3	10.7			G0/660
FVH	(80°-90°)	47.8	0.9			G1/100
BL	(0°-30°)	498.1	9.0	B1/500		
BM	(30°-60°)	1225.3	22.1	B2/2500		
BH	(60°-80°)	592.3	10.7	B2/1000		G0/660
BVH	(80°-90°)	47.8	0.9			G1/100
UL	(90°-100°)	38.3	0.7		U2/50	
UH	(100°-180°)	412.0	7.4		U3/500	

BUG Rating: B2-U4-G1

Type V Short



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1206.6	1206.6	1206.6	1206.6	1206.6	1206.6	1206.6	1206.6	1206.6	1206.6	1206.6
2.5°	1206.6	1206.6	1206.6	1206.6	1206.6	1206.6	1206.6	1206.6	1206.6	1206.6	1206.6
5°	1206.6	1206.6	1206.6	1206.6	1206.6	1206.6	1206.6	1206.6	1206.6	1207.6	1206.6
7.5°	1205.7	1205.7	1205.7	1205.7	1206.6	1205.7	1205.7	1206.6	1206.6	1206.6	1206.6
10°	1203.9	1202.9	1202.9	1203.9	1203.9	1203.9	1203.9	1203.9	1204.8	1203.9	1203.9
12.5°	1201.1	1200.1	1201.1	1201.1	1201.1	1202.0	1202.0	1202.0	1202.9	1202.9	1202.0
15°	1198.3	1198.3	1198.3	1198.3	1198.3	1199.2	1199.2	1200.1	1200.1	1200.1	1200.1
17.5°	1194.5	1194.5	1194.5	1195.5	1195.5	1196.4	1196.4	1196.4	1197.3	1197.3	1197.3
20°	1188.0	1187.1	1188.0	1188.0	1189.0	1189.9	1189.9	1190.8	1190.8	1190.8	1190.8
22.5°	1178.7	1178.7	1179.6	1179.6	1180.6	1181.5	1181.5	1182.4	1182.4	1182.4	1182.4
25°	1169.4	1170.3	1170.3	1171.3	1171.3	1172.2	1173.1	1173.1	1173.1	1173.1	1173.1
27.5°	1160.1	1161.0	1161.0	1161.0	1162.0	1162.9	1163.8	1164.7	1165.7	1164.7	1164.7
30°	1149.9	1149.9	1150.8	1151.7	1152.6	1153.6	1155.4	1156.4	1157.3	1156.4	1156.4
32.5°	1138.7	1139.6	1140.5	1141.5	1143.3	1145.2	1147.1	1148.0	1148.9	1148.0	1148.0
35°	1130.3	1130.3	1132.2	1134.0	1135.9	1138.7	1140.5	1142.4	1144.3	1143.3	1142.4
37.5°	1121.9	1121.9	1123.8	1126.6	1130.3	1134.0	1137.7	1140.5	1141.5	1141.5	1140.5
40°	1111.7	1112.6	1114.5	1119.1	1124.7	1129.4	1134.0	1137.7	1139.6	1139.6	1137.7
42.5°	1100.5	1101.4	1104.2	1108.9	1115.4	1121.0	1126.6	1129.4	1132.2	1132.2	1130.3
45°	1084.7	1085.6	1089.3	1094.0	1100.5	1106.1	1112.6	1115.4	1119.1	1118.2	1117.3
47.5°	1064.2	1065.1	1068.9	1073.5	1080.0	1086.5	1093.1	1097.7	1100.5	1100.5	1099.6
50°	1039.1	1040.0	1043.7	1048.4	1056.7	1064.2	1070.7	1075.4	1080.0	1080.0	1079.1
52.5°	1007.4	1009.3	1012.1	1018.6	1027.9	1036.3	1044.6	1052.1	1054.9	1055.8	1054.9
55°	968.3	970.2	973.9	981.3	991.6	1001.8	1011.1	1019.5	1023.2	1026.0	1024.2
57.5°	922.7	924.5	929.2	937.6	948.7	959.0	971.1	980.4	983.2	986.0	985.1
60°	868.7	871.5	876.1	885.4	896.6	907.8	919.0	930.1	932.9	936.6	934.8
62.5°	805.4	808.2	812.8	823.1	835.2	845.4	858.4	868.7	871.5	875.2	874.3
65°	732.7	735.5	740.2	751.4	762.5	773.7	785.8	797.0	799.8	803.5	802.6
67.5°	649.9	652.7	657.3	670.4	681.5	692.7	702.9	714.1	716.0	719.7	718.8
70°	562.4	566.1	569.8	581.9	592.2	601.5	612.6	621.9	625.7	627.5	625.7
72.5°	474.8	477.6	481.4	489.7	497.2	505.6	516.7	523.3	526.0	527.0	527.0
75°	384.5	387.3	387.3	396.6	402.2	406.9	416.2	420.8	422.7	424.6	424.6
77.5°	298.9	297.0	298.9	302.6	306.3	310.0	315.6	318.4	320.3	324.0	322.1
80°	209.5	210.4	211.3	214.1	216.0	216.9	220.7	221.6	222.5	226.2	224.4
82.5°	135.0	133.1	135.0	134.1	135.9	133.1	135.0	137.8	135.9	137.8	138.7
85°	70.8	68.0	68.0	68.9	69.8	68.0	68.9	68.0	68.0	69.8	68.9
87.5°	22.3	21.4	22.3	21.4	22.3	21.4	22.3	23.3	22.3	22.3	23.3
90°	36.0	36.0	36.0	36.0	35.0	34.0	31.0	29.0	27.0	26.0	26.0
92.5°	40.0	39.0	39.0	38.0	36.0	34.0	32.0	29.0	27.0	27.0	27.0
95°	44.0	43.0	42.0	41.0	38.0	36.0	34.0	32.0	31.0	30.0	30.0
97.5°	42.0	42.0	41.0	40.0	38.0	37.0	36.0	35.0	34.0	33.0	32.0
100°	45.0	45.0	45.0	44.0	42.0	40.0	39.0	38.0	36.0	36.0	35.0
102.5°	51.0	51.0	50.0	49.0	47.0	46.0	45.0	44.0	42.0	42.0	42.0
105°	60.0	60.0	59.0	57.0	55.0	54.0	53.0	53.0	51.0	52.0	52.0
107.5°	72.0	72.0	72.0	70.0	68.0	67.0	66.0	66.0	66.0	68.0	68.0
110°	86.0	86.0	87.0	89.0	86.0	85.0	85.0	86.0	86.0	87.0	86.0

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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	101.0	102.0	104.0	108.0	106.0	107.0	107.0	110.0	108.0	107.0	103.0
115°	121.0	122.0	123.0	128.0	126.0	128.0	127.0	129.0	126.0	124.0	120.0
117.5°	140.0	141.0	141.0	144.0	141.0	141.0	140.0	141.0	138.0	136.0	135.0
120°	152.0	153.0	154.0	155.0	151.0	149.0	147.0	149.0	147.0	147.0	148.0
122.5°	161.0	162.0	163.0	164.0	159.0	154.0	153.0	155.0	156.0	158.0	158.0
125°	169.0	169.0	170.0	172.0	168.0	163.0	160.0	165.0	166.0	168.0	167.0
127.5°	177.0	177.0	179.0	181.0	177.0	171.0	170.0	176.0	177.0	178.0	175.0
130°	187.0	188.0	190.0	191.0	185.0	179.0	179.0	186.0	187.0	186.0	183.0
132.5°	198.0	199.0	200.0	201.0	193.0	186.0	187.0	193.0	195.0	195.0	191.0
135°	210.0	210.0	211.0	209.0	199.0	192.0	193.0	199.0	202.0	201.0	197.0
137.5°	221.0	219.0	217.0	213.0	203.0	197.0	198.0	205.0	207.0	208.0	203.0
140°	229.0	226.0	222.0	216.0	205.0	200.0	201.0	207.0	210.0	213.0	212.0
142.5°	235.0	231.0	225.0	218.0	206.0	201.0	202.0	208.0	212.0	218.0	218.0
145°	235.0	230.0	225.0	218.0	207.0	202.0	204.0	211.0	215.0	223.0	225.0
147.5°	230.0	227.0	223.0	219.0	210.0	207.0	209.0	216.0	220.0	229.0	233.0
150°	224.0	221.0	219.0	220.0	215.0	214.0	216.0	222.0	227.0	235.0	239.0
152.5°	216.0	214.0	216.0	221.0	220.0	220.0	224.0	230.0	234.0	241.0	241.0
155°	208.0	207.0	211.0	219.0	222.0	224.0	229.0	237.0	239.0	243.0	239.0
157.5°	203.0	203.0	207.0	216.0	220.0	224.0	229.0	234.0	232.0	235.0	230.0
160°	199.0	198.0	203.0	210.0	212.0	213.0	216.0	219.0	216.0	219.0	216.0
162.5°	185.0	184.0	188.0	193.0	194.0	193.0	196.0	198.0	195.0	198.0	196.0
165°	169.0	167.0	169.0	173.0	173.0	173.0	175.0	176.0	174.0	177.0	175.0
167.5°	154.0	152.0	153.0	156.0	156.0	155.0	157.0	159.0	157.0	159.0	158.0
170°	142.0	141.0	142.0	145.0	144.0	144.0	146.0	147.0	146.0	147.0	147.0
172.5°	137.0	135.0	136.0	139.0	139.0	138.0	140.0	141.0	140.0	141.0	140.0
175°	136.0	134.0	135.0	137.0	137.0	137.0	138.0	139.0	138.0	139.0	138.0
177.5°	137.0	136.0	136.0	139.0	138.0	138.0	139.0	140.0	139.0	139.0	138.0
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):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1206.6	1206.6	1206.6	1206.6	1206.6	1206.6	1206.6	1206.6
2.5°	1206.6	1206.6	1206.6	1206.6	1206.6	1206.6	1206.6	1206.6
5°	1206.6	1206.6	1206.6	1206.6	1206.6	1206.6	1206.6	1206.6
7.5°	1205.7	1205.7	1205.7	1205.7	1205.7	1205.7	1204.8	1205.7
10°	1203.9	1203.9	1203.9	1203.9	1202.9	1202.9	1202.9	1202.9
12.5°	1202.0	1202.0	1201.1	1201.1	1201.1	1201.1	1200.1	1200.1
15°	1200.1	1199.2	1199.2	1198.3	1198.3	1198.3	1197.3	1198.3
17.5°	1197.3	1196.4	1196.4	1195.5	1195.5	1194.5	1194.5	1194.5
20°	1190.8	1189.9	1189.9	1189.0	1189.0	1188.0	1187.1	1187.1
22.5°	1181.5	1181.5	1181.5	1180.6	1179.6	1179.6	1178.7	1178.7
25°	1173.1	1172.2	1172.2	1171.3	1170.3	1170.3	1169.4	1169.4
27.5°	1164.7	1163.8	1162.9	1161.0	1161.0	1160.1	1159.2	1158.2
30°	1155.4	1153.6	1151.7	1150.8	1149.9	1148.0	1147.1	1146.1
32.5°	1146.1	1144.3	1142.4	1140.5	1137.7	1136.8	1135.0	1135.0
35°	1140.5	1137.7	1135.0	1131.2	1128.4	1125.6	1123.8	1122.9
37.5°	1137.7	1134.0	1129.4	1124.7	1120.1	1116.3	1113.5	1113.5
40°	1134.0	1129.4	1123.8	1117.3	1111.7	1107.0	1104.2	1103.3
42.5°	1126.6	1121.9	1114.5	1108.9	1101.4	1096.8	1093.1	1092.1
45°	1113.5	1108.9	1102.4	1094.9	1087.5	1081.9	1078.2	1077.2
47.5°	1096.8	1091.2	1083.7	1076.3	1068.9	1062.3	1058.6	1057.7
50°	1075.4	1069.8	1062.3	1054.9	1046.5	1040.0	1035.3	1035.3
52.5°	1051.2	1044.6	1036.3	1027.9	1018.6	1012.1	1007.4	1006.5
55°	1019.5	1012.1	1003.7	994.4	984.1	976.7	971.1	970.2
57.5°	980.4	972.0	962.7	952.5	942.2	933.8	927.3	926.4
60°	931.1	921.7	912.4	902.2	891.0	881.7	875.2	873.3
62.5°	870.5	860.3	850.1	840.7	828.6	819.3	812.8	810.9
65°	798.8	790.5	780.2	769.1	756.0	746.7	740.2	739.3
67.5°	715.1	706.7	696.4	686.2	673.2	664.8	658.3	656.4
70°	622.9	615.4	607.0	596.8	585.6	577.3	570.7	569.8
72.5°	525.1	518.6	511.1	503.7	492.5	486.0	480.4	479.5
75°	424.6	418.0	412.5	406.9	398.5	393.8	388.2	388.2
77.5°	322.1	320.3	316.6	310.0	305.4	301.7	298.9	297.0
80°	225.3	223.5	221.6	217.9	215.1	214.1	212.3	210.4
82.5°	137.8	136.9	137.8	135.9	135.0	135.0	134.1	132.2
85°	69.8	70.8	69.8	68.9	68.9	68.9	68.9	68.0
87.5°	22.3	23.3	22.3	21.4	21.4	21.4	21.4	20.5
90°	28.0	30.0	32.0	33.0	34.0	34.0	34.0	34.0
92.5°	28.0	30.0	32.0	33.0	35.0	36.0	36.0	36.0
95°	30.0	32.0	34.0	35.0	37.0	38.0	39.0	38.0
97.5°	33.0	34.0	34.0	35.0	36.0	36.0	36.0	36.0
100°	36.0	37.0	38.0	38.0	38.0	38.0	37.0	37.0
102.5°	43.0	44.0	44.0	42.0	42.0	41.0	41.0	41.0
105°	54.0	54.0	53.0	51.0	49.0	48.0	48.0	49.0
107.5°	68.0	68.0	66.0	63.0	60.0	59.0	59.0	60.0
110°	84.0	83.0	84.0	81.0	78.0	76.0	74.0	75.0

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CATALOG NUMBER: TT-C2-LED-E1-CQ-MS/DIM-UPL

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	102.0	102.0	105.0	103.0	100.0	98.0	95.0	94.0
115°	121.0	123.0	125.0	124.0	123.0	121.0	116.0	113.0
117.5°	138.0	140.0	141.0	139.0	139.0	139.0	133.0	129.0
120°	150.0	151.0	153.0	148.0	148.0	148.0	145.0	142.0
122.5°	159.0	160.0	162.0	156.0	155.0	156.0	153.0	150.0
125°	167.0	167.0	168.0	164.0	163.0	164.0	160.0	158.0
127.5°	176.0	175.0	175.0	173.0	173.0	173.0	166.0	163.0
130°	183.0	182.0	183.0	181.0	184.0	181.0	171.0	169.0
132.5°	190.0	189.0	192.0	189.0	192.0	190.0	179.0	176.0
135°	196.0	197.0	201.0	199.0	199.0	195.0	185.0	184.0
137.5°	203.0	205.0	210.0	207.0	204.0	198.0	191.0	190.0
140°	212.0	214.0	217.0	214.0	209.0	202.0	195.0	195.0
142.5°	220.0	222.0	223.0	217.0	211.0	204.0	198.0	198.0
145°	230.0	230.0	227.0	217.0	211.0	205.0	201.0	202.0
147.5°	239.0	236.0	229.0	218.0	212.0	207.0	204.0	206.0
150°	242.0	240.0	232.0	220.0	214.0	211.0	210.0	211.0
152.5°	242.0	241.0	235.0	223.0	219.0	217.0	215.0	216.0
155°	238.0	237.0	234.0	227.0	224.0	223.0	220.0	219.0
157.5°	228.0	229.0	229.0	226.0	226.0	225.0	222.0	219.0
160°	215.0	217.0	219.0	219.0	221.0	222.0	218.0	215.0
162.5°	196.0	199.0	200.0	201.0	204.0	208.0	207.0	207.0
165°	176.0	179.0	181.0	181.0	185.0	189.0	190.0	192.0
167.5°	160.0	163.0	165.0	164.0	168.0	171.0	172.0	174.0
170°	148.0	150.0	152.0	152.0	155.0	158.0	159.0	160.0
172.5°	141.0	144.0	145.0	144.0	146.0	149.0	149.0	151.0
175°	138.0	140.0	141.0	140.0	141.0	143.0	143.0	144.0
177.5°	138.0	140.0	140.0	138.0	140.0	141.0	141.0	141.0
180°	140.0	140.0	140.0	140.0	140.0	140.0	140.0	140.0

(END OF REPORT)