

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: P198441

Luminaire Tested: **TT-C4-LED-E1-MQ-LWR-LW-UPL**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P198441
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-C4-LED-E1-MQ-LWR-LW-UPL
Description: TOPTIER LED PARKING GARAGE LUMINAIRE WITH UPLIGHT
MEDIUM DISTRIBUTION WITH LumaWatt WIRELESS SENSOR
Light Source: (160) 4000K CCT, 70 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7422.6 lumens
Efficiency: N/A
Efficacy: 98.4 lumens/watt
Luminous Opening: Vertical Cylinder (Dia: 1.12' x H: 0.1')
IES Classification: Type V - Short - Semi-Cutoff
BUG Rating: B3 - U4 - G2

Input Watts (W): 75.4
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



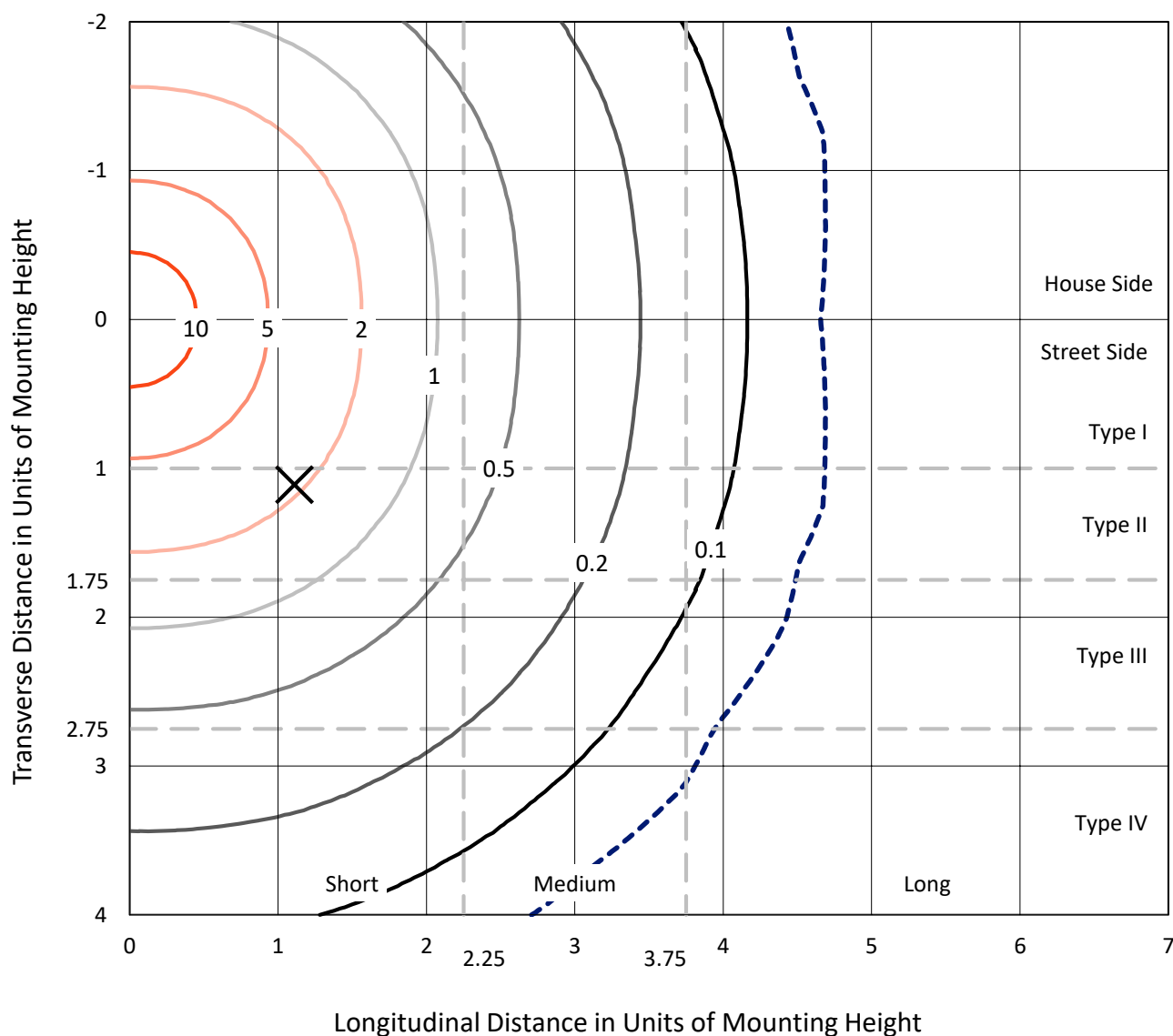
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Iso-Footcandle Lines of Horizontal Illumination

× Max cd

--- 1/2 Max cd

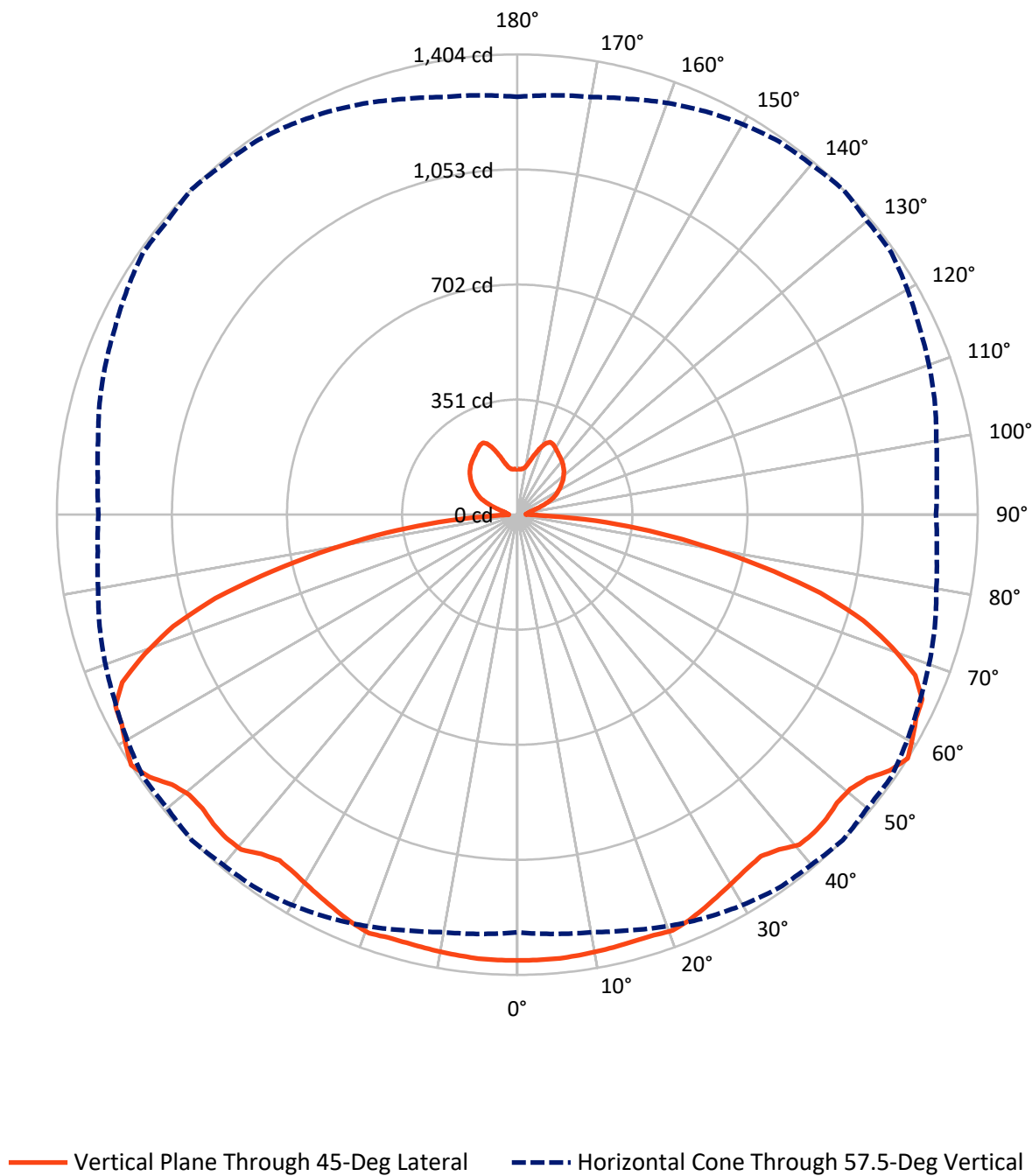


Based on 10 foot mounting height. Maximum calculated value = 13.6 fc
Type V - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



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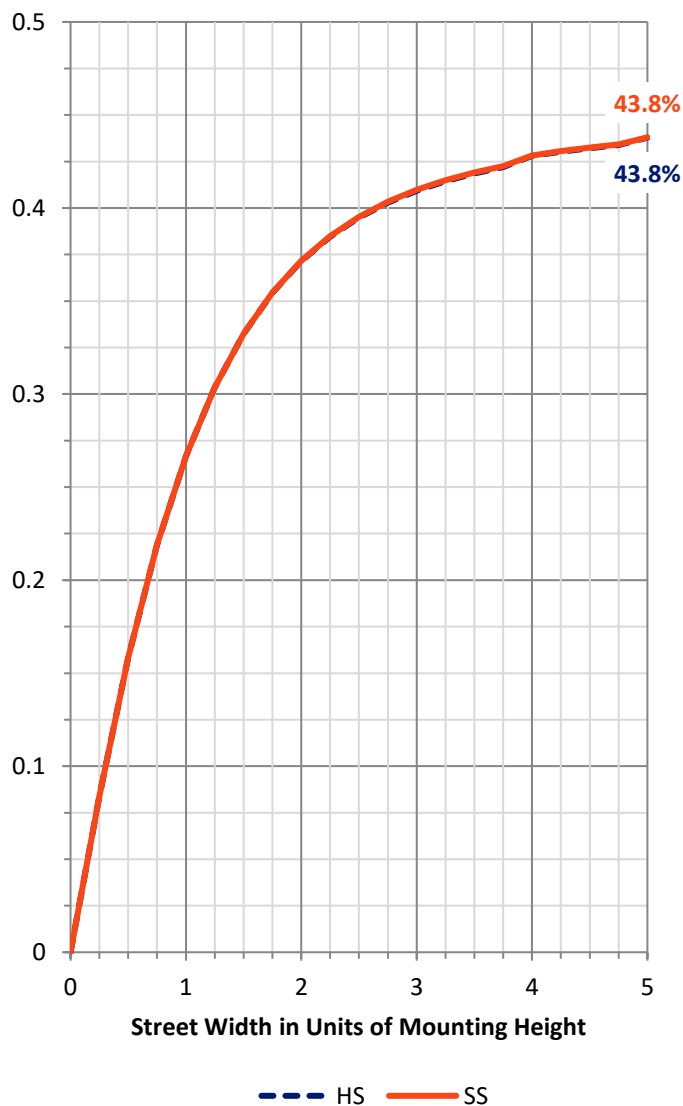
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	3299.3	412.0	3711.3
	% Fixture	44.4	5.6	50.0
Street Side	Lumens	3299.3	412.0	3711.3
	% Fixture	44.4	5.6	50.0
Total	Lumens	6598.7	824.0	7422.6
	% Fixture	88.9	11.1	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	129.6	1.7
10°-20°	382.3	5.2
20°-30°	612.4	8.3
30°-40°	806.1	10.9
40°-50°	1004.0	13.5
50°-60°	1182.7	15.9
60°-70°	1257.4	16.9
70°-80°	942.9	12.7
80°-90°	281.3	3.8
90°-100°	38.3	0.5
100°-110°	59.4	0.8
110°-120°	119.3	1.6
120°-130°	148.7	2.0
130°-140°	153.2	2.1
140°-150°	136.0	1.8
150°-160°	103.7	1.4
160°-170°	51.8	0.7
170°-180°	13.6	0.2
0°-90°	6598.7	88.9
0°-180°	7422.6	100.0

Coefficient of Utilization



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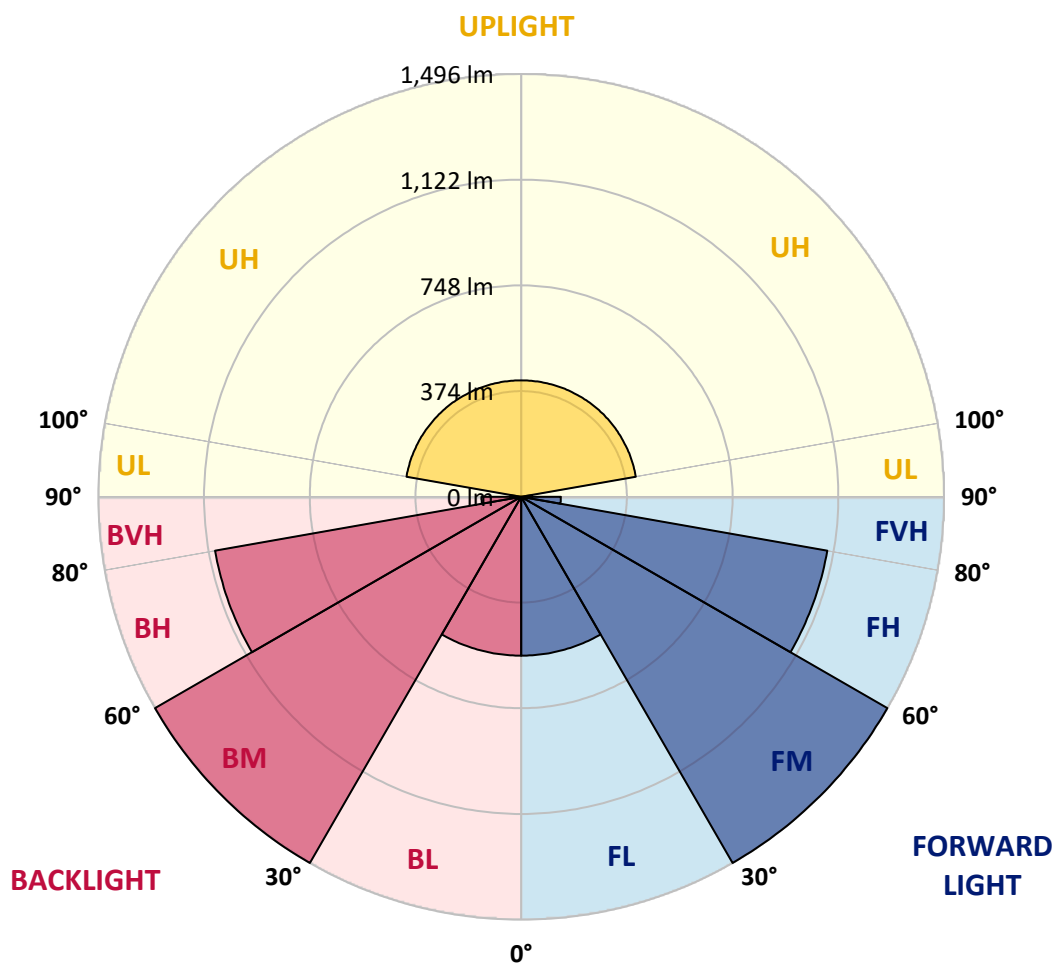
CATALOG NUMBER: TT-C4-LED-E1-MQ-LWR-LW-UPL

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	562.1	7.6			
FM	(30°-60°)	1496.4	20.2			
FH	(60°-80°)	1100.1	14.8			G1/1800
FVH	(80°-90°)	140.6	1.9			G2/225
BL	(0°-30°)	562.1	7.6	B2/1000		
BM	(30°-60°)	1496.4	20.2	B2/2500		
BH	(60°-80°)	1100.1	14.8	B3/2500		G1/1800
BVH	(80°-90°)	140.6	1.9			G2/225
UL	(90°-100°)	38.3	0.5		U2/50	
UH	(100°-180°)	412.0	5.6		U3/500	

BUG Rating: B3-U4-G2

Type V Short



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1360.2	1360.2	1360.2	1360.2	1360.2	1360.2	1360.2	1360.2	1360.2	1360.2	1360.2
2.5°	1358.9	1358.9	1358.9	1360.2	1360.2	1360.2	1360.2	1360.2	1360.2	1360.2	1360.2
5°	1358.9	1358.9	1358.9	1358.9	1358.9	1358.9	1360.2	1360.2	1360.2	1360.2	1360.2
7.5°	1356.1	1356.1	1356.1	1356.1	1356.1	1357.5	1357.5	1357.5	1357.5	1357.5	1357.5
10°	1353.3	1353.3	1353.3	1353.3	1354.7	1354.7	1354.7	1354.7	1354.7	1354.7	1354.7
12.5°	1350.6	1350.6	1349.2	1350.6	1350.6	1350.6	1351.9	1351.9	1351.9	1351.9	1351.9
15°	1345.0	1345.0	1346.4	1346.4	1347.8	1347.8	1347.8	1347.8	1349.2	1349.2	1349.2
17.5°	1342.3	1342.3	1343.7	1345.0	1345.0	1346.4	1347.8	1347.8	1349.2	1349.2	1349.2
20°	1346.4	1346.4	1346.4	1347.8	1349.2	1350.6	1351.9	1353.3	1353.3	1354.7	1353.3
22.5°	1338.1	1338.1	1338.1	1339.5	1339.5	1339.5	1340.9	1342.3	1342.3	1343.7	1342.3
25°	1322.9	1322.9	1324.3	1324.3	1325.7	1325.7	1327.1	1327.1	1327.1	1328.5	1328.5
27.5°	1307.8	1306.4	1309.1	1309.1	1310.5	1310.5	1311.9	1313.3	1313.3	1313.3	1314.7
30°	1291.2	1291.2	1292.6	1292.6	1293.9	1295.3	1296.7	1298.1	1298.1	1299.5	1299.5
32.5°	1273.2	1274.6	1276.0	1277.4	1278.8	1281.5	1282.9	1284.3	1285.7	1287.0	1285.7
35°	1260.8	1262.2	1263.6	1266.3	1270.5	1273.2	1276.0	1278.8	1280.1	1280.1	1280.1
37.5°	1263.6	1264.9	1267.7	1273.2	1280.1	1284.3	1289.8	1293.9	1295.3	1296.7	1296.7
40°	1278.8	1281.5	1285.7	1292.6	1300.9	1307.8	1316.0	1320.2	1322.9	1324.3	1322.9
42.5°	1277.4	1281.5	1285.7	1293.9	1303.6	1310.5	1318.8	1322.9	1325.7	1327.1	1325.7
45°	1273.2	1276.0	1280.1	1288.4	1295.3	1305.0	1313.3	1317.4	1321.6	1322.9	1321.6
47.5°	1263.6	1263.6	1264.9	1273.2	1282.9	1295.3	1302.2	1309.1	1313.3	1313.3	1313.3
50°	1251.1	1256.7	1259.4	1270.5	1280.1	1291.2	1303.6	1313.3	1314.7	1316.0	1314.7
52.5°	1251.1	1252.5	1262.2	1269.1	1288.4	1305.0	1317.4	1327.1	1335.4	1336.8	1336.8
55°	1273.2	1276.0	1281.5	1298.1	1313.3	1338.1	1358.9	1367.1	1372.7	1378.2	1372.7
57.5°	1274.6	1284.3	1293.9	1313.3	1336.8	1357.5	1375.4	1390.6	1394.8	1404.4	1393.4
60°	1258.0	1260.8	1270.5	1293.9	1324.3	1346.4	1363.0	1376.8	1390.6	1385.1	1390.6
62.5°	1231.8	1238.7	1252.5	1270.5	1295.3	1321.6	1346.4	1350.6	1371.3	1365.8	1374.0
65°	1211.1	1216.6	1230.4	1256.7	1287.0	1303.6	1331.2	1347.8	1346.4	1357.5	1345.0
67.5°	1160.0	1164.1	1176.6	1202.8	1231.8	1256.7	1264.9	1291.2	1293.9	1309.1	1295.3
70°	1075.8	1085.4	1103.4	1128.2	1151.7	1172.4	1187.6	1201.4	1209.7	1212.5	1209.7
72.5°	970.8	986.0	999.8	1023.3	1046.8	1060.6	1070.2	1089.6	1095.1	1103.4	1100.6
75°	863.1	863.1	876.9	894.9	912.8	921.1	926.6	939.0	945.9	955.6	947.3
77.5°	715.3	723.6	736.0	751.2	748.5	752.6	752.6	759.5	756.8	763.7	769.2
80°	560.7	569.0	580.0	591.0	589.7	580.0	586.9	578.6	575.9	577.2	581.4
82.5°	400.5	406.0	415.7	422.6	422.6	415.7	418.4	410.1	412.9	406.0	411.5
85°	229.2	236.1	243.0	250.0	250.0	245.8	250.0	238.9	240.3	240.3	240.3
87.5°	56.6	62.1	64.9	69.0	66.3	73.2	77.3	70.4	71.8	69.0	73.2
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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CATALOG NUMBER: TT-C4-LED-E1-MQ-LWR-LW-UPL

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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CATALOG NUMBER: TT-C4-LED-E1-MQ-LWR-LW-UPL

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1360.2	1360.2	1360.2	1360.2	1360.2	1360.2	1360.2	1360.2
2.5°	1360.2	1358.9	1360.2	1360.2	1360.2	1360.2	1358.9	1358.9
5°	1360.2	1360.2	1360.2	1358.9	1358.9	1358.9	1358.9	1358.9
7.5°	1357.5	1357.5	1357.5	1356.1	1356.1	1356.1	1356.1	1356.1
10°	1354.7	1354.7	1353.3	1353.3	1353.3	1353.3	1353.3	1353.3
12.5°	1351.9	1351.9	1350.6	1350.6	1350.6	1350.6	1350.6	1349.2
15°	1349.2	1349.2	1347.8	1347.8	1346.4	1346.4	1345.0	1345.0
17.5°	1349.2	1347.8	1346.4	1345.0	1345.0	1343.7	1342.3	1342.3
20°	1353.3	1351.9	1350.6	1349.2	1347.8	1346.4	1346.4	1345.0
22.5°	1342.3	1340.9	1339.5	1339.5	1338.1	1338.1	1338.1	1336.8
25°	1328.5	1327.1	1327.1	1324.3	1324.3	1322.9	1322.9	1321.6
27.5°	1313.3	1311.9	1311.9	1310.5	1309.1	1307.8	1306.4	1306.4
30°	1298.1	1296.7	1296.7	1295.3	1292.6	1292.6	1291.2	1289.8
32.5°	1284.3	1284.3	1282.9	1280.1	1277.4	1276.0	1273.2	1273.2
35°	1280.1	1277.4	1274.6	1270.5	1266.3	1263.6	1262.2	1260.8
37.5°	1295.3	1291.2	1284.3	1280.1	1274.6	1269.1	1266.3	1263.6
40°	1321.6	1314.7	1307.8	1300.9	1292.6	1285.7	1280.1	1278.8
42.5°	1322.9	1318.8	1311.9	1303.6	1293.9	1285.7	1280.1	1278.8
45°	1318.8	1313.3	1305.0	1295.3	1288.4	1278.8	1274.6	1273.2
47.5°	1309.1	1303.6	1295.3	1281.5	1271.9	1264.9	1263.6	1263.6
50°	1314.7	1303.6	1289.8	1281.5	1271.9	1260.8	1256.7	1253.9
52.5°	1327.1	1316.0	1307.8	1289.8	1269.1	1259.4	1253.9	1249.8
55°	1367.1	1361.6	1336.8	1311.9	1296.7	1284.3	1278.8	1276.0
57.5°	1393.4	1374.0	1353.3	1336.8	1318.8	1298.1	1284.3	1277.4
60°	1379.6	1358.9	1349.2	1327.1	1289.8	1267.7	1259.4	1255.3
62.5°	1349.2	1349.2	1322.9	1288.4	1274.6	1255.3	1240.1	1234.6
65°	1347.8	1329.9	1303.6	1291.2	1258.0	1229.0	1213.9	1211.1
67.5°	1289.8	1264.9	1258.0	1230.4	1202.8	1176.6	1165.5	1160.0
70°	1201.4	1193.1	1172.4	1154.5	1129.6	1102.0	1086.8	1081.3
72.5°	1089.6	1075.8	1066.1	1050.9	1027.4	992.9	980.5	973.6
75°	937.7	930.8	930.8	914.2	892.1	871.4	870.0	867.2
77.5°	754.0	756.8	763.7	745.7	752.6	741.6	731.9	725.0
80°	573.1	585.5	586.9	591.0	595.2	580.0	573.1	564.8
82.5°	407.4	414.3	422.6	424.0	426.7	415.7	410.1	401.9
85°	240.3	244.4	251.3	251.3	251.3	241.7	238.9	232.0
87.5°	70.4	70.4	74.6	70.4	70.4	70.4	63.5	67.7
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-C4-LED-E1-MQ-LWR-LW-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)