

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: P198439

Luminaire Tested: **TT-C4-LED-E1-MQ-CG-UPL**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P198439
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-CG-UPL
Description: TOPTIER LED PARKING GARAGE LUMINAIRE WITH UPLIGHT
MEDIUM 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: 7408.1 lumens
Efficiency: N/A
Efficacy: 98.3 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



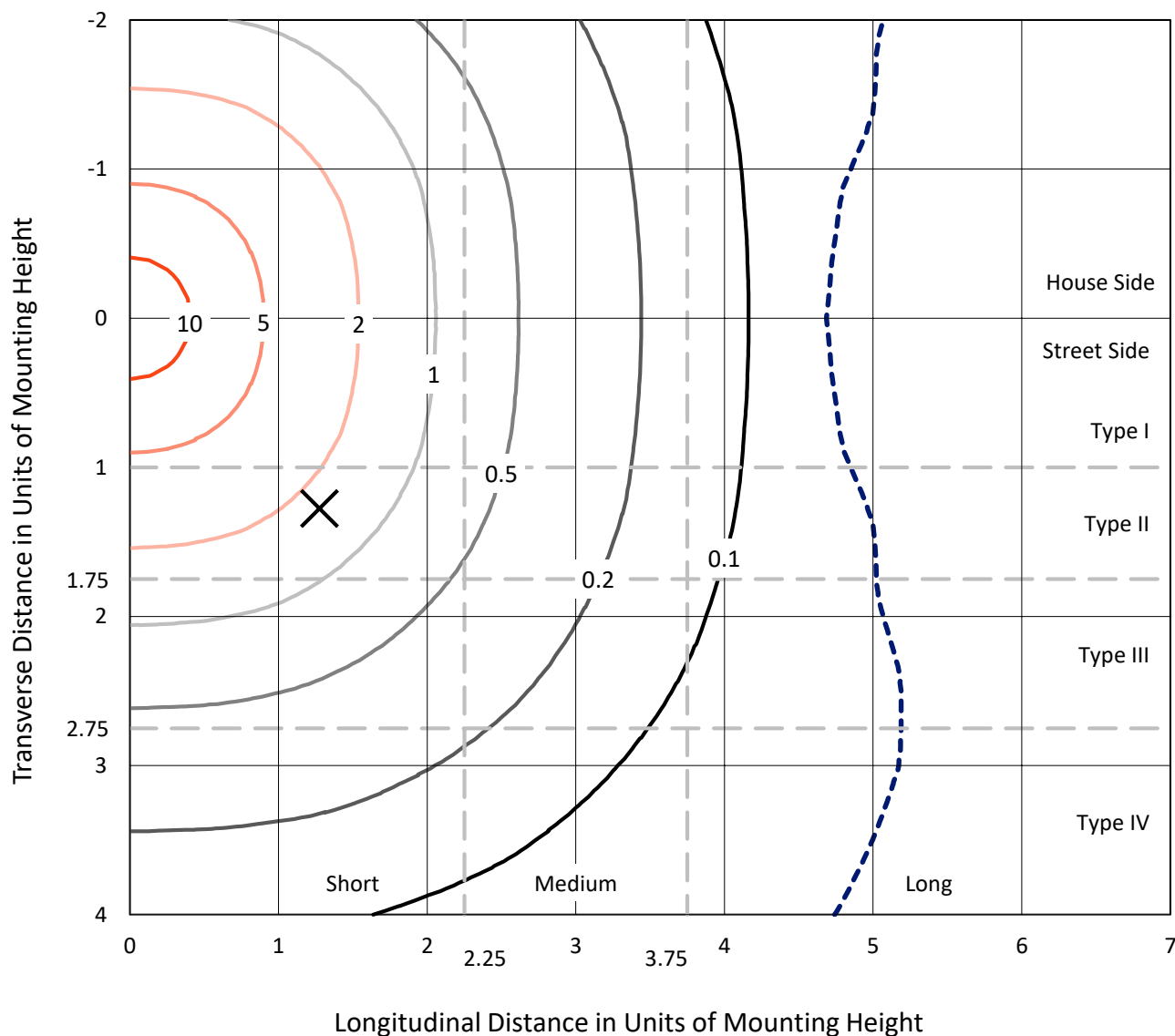
REPORT NUMBER: P198439

CATALOG NUMBER: TT-C4-LED-E1-MQ-CG-UPL

Iso-Footcandle Lines of Horizontal Illumination

✕ Max cd

--- 1/2 Max cd

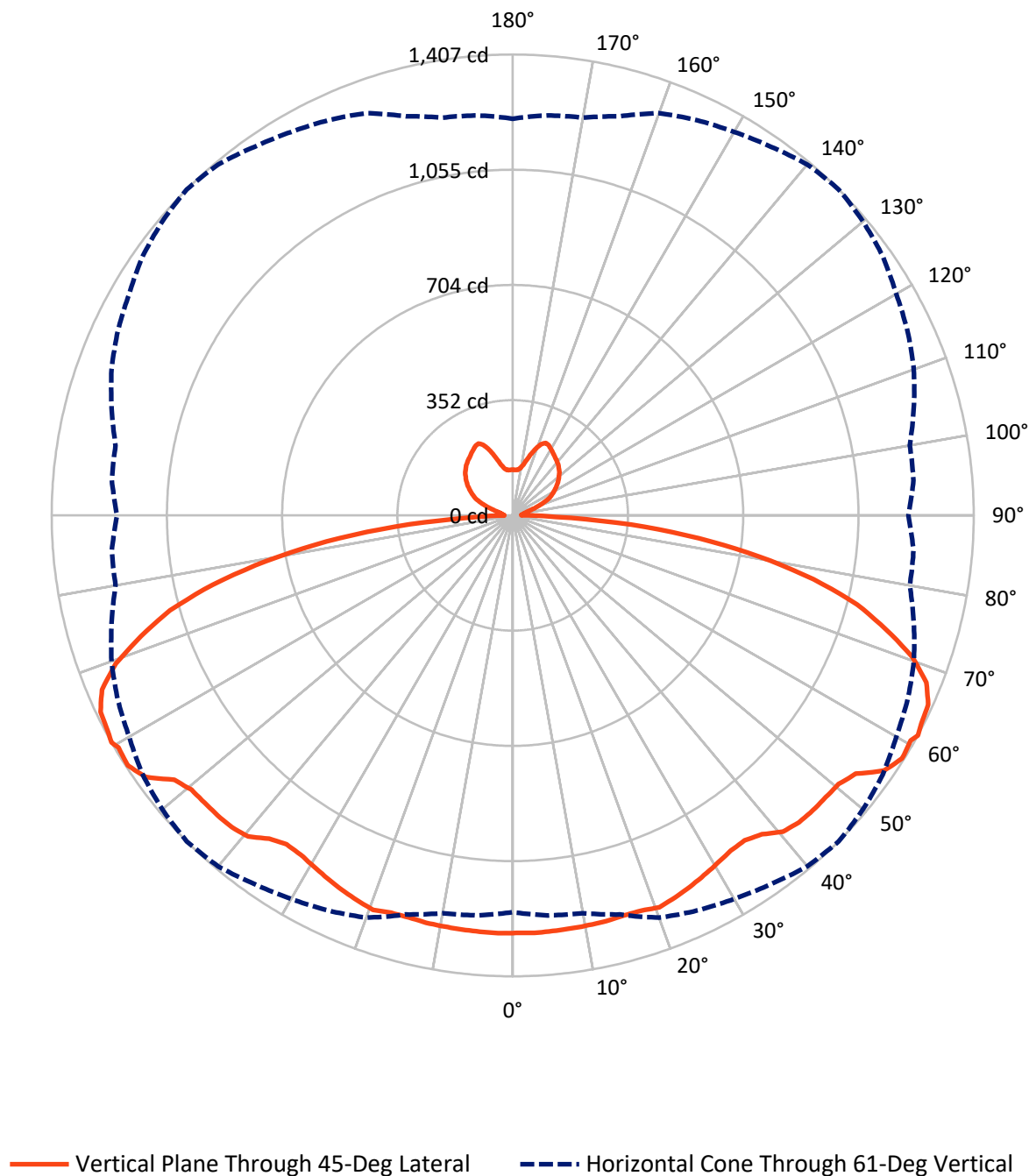


Based on 10 foot mounting height. Maximum calculated value = 12.7 fc
 Type V - Short - Semi-Cutoff

REPORT NUMBER: P198439

CATALOG NUMBER: TT-C4-LED-E1-MQ-CG-UPL

Luminous Intensity Polar Plot



REPORT NUMBER: P198439

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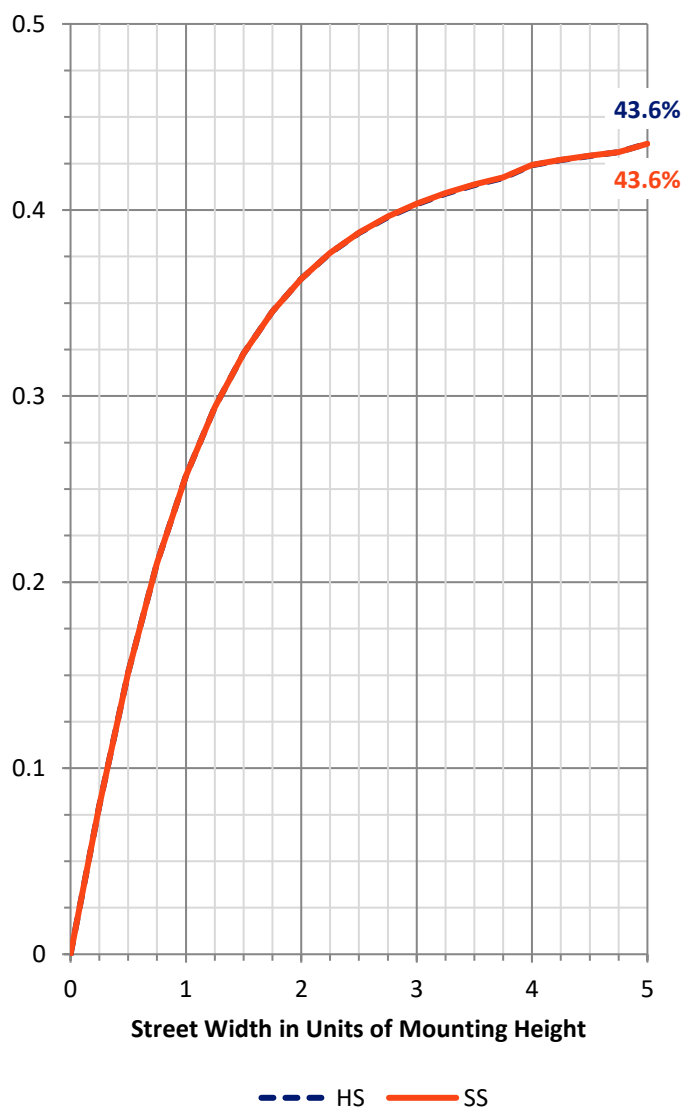
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	3292.1	412.0	3704.0
	% Fixture	44.4	5.6	50.0
Street Side	Lumens	3292.1	412.0	3704.0
	% Fixture	44.4	5.6	50.0
Total	Lumens	6584.1	824.0	7408.1
	% Fixture	88.9	11.1	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	121.6	1.6
10°-20°	359.5	4.9
20°-30°	578.5	7.8
30°-40°	766.4	10.3
40°-50°	967.8	13.1
50°-60°	1159.6	15.7
60°-70°	1267.9	17.1
70°-80°	1015.0	13.7
80°-90°	347.8	4.7
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°	6584.1	88.9
0°-180°	7408.1	100.0

Coefficient of Utilization



REPORT NUMBER: P198439

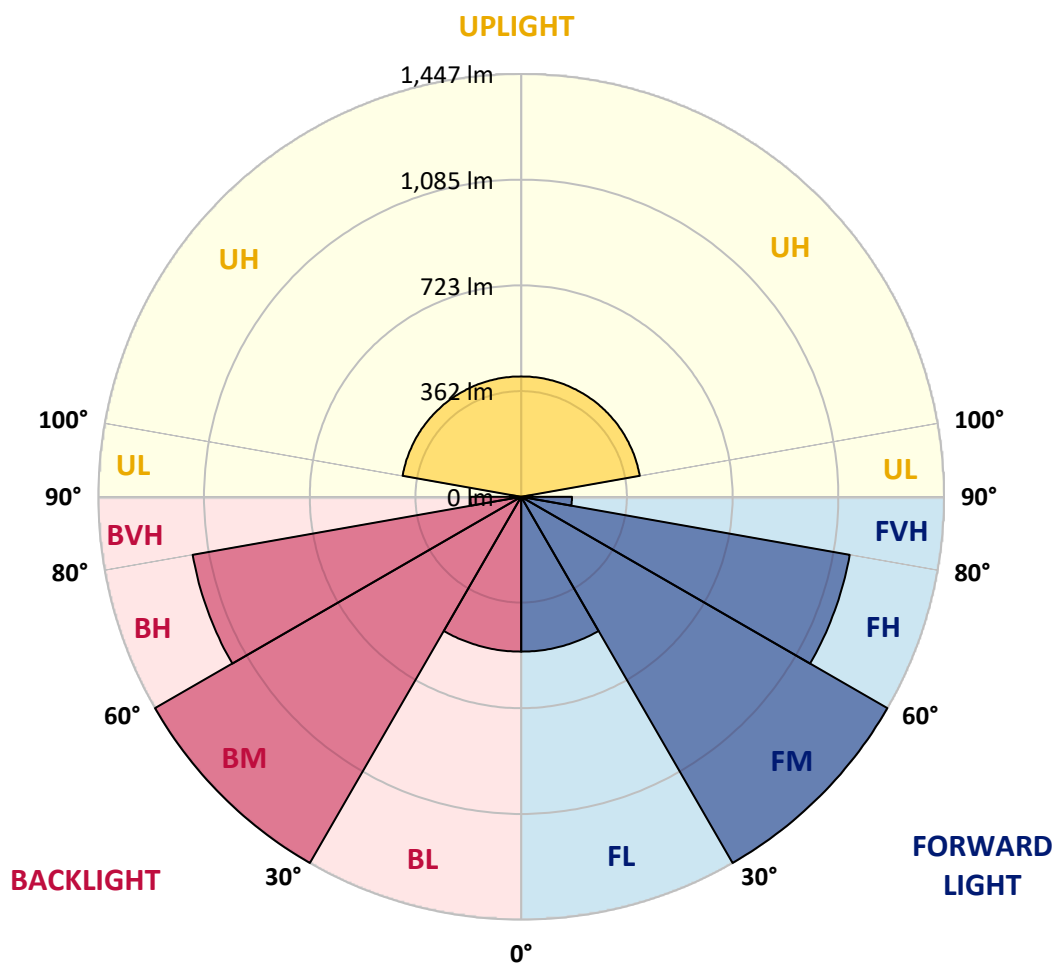
CATALOG NUMBER: TT-C4-LED-E1-MQ-CG-UPL

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	529.8	7.2			
FM	(30°-60°)	1446.9	19.5			
FH	(60°-80°)	1141.5	15.4			G1/1800
FVH	(80°-90°)	173.9	2.3			G2/225
BL	(0°-30°)	529.8	7.2	B2/1000		
BM	(30°-60°)	1446.9	19.5	B2/2500		
BH	(60°-80°)	1141.5	15.4	B3/2500		G1/1800
BVH	(80°-90°)	173.9	2.3			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



REPORT NUMBER: P198439

CATALOG NUMBER: TT-C4-LED-E1-MQ-CG-UPL

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1274.8	1274.8	1274.8	1274.8	1274.8	1274.8	1274.8	1274.8	1274.8	1274.8	1274.8
2.5°	1276.0	1274.8	1276.0	1276.0	1276.0	1276.0	1276.0	1276.0	1276.0	1276.0	1276.0
5°	1274.8	1274.8	1274.8	1274.8	1274.8	1274.8	1274.8	1274.8	1274.8	1274.8	1274.8
7.5°	1273.5	1273.5	1273.5	1273.5	1273.5	1273.5	1273.5	1273.5	1274.8	1273.5	1274.8
10°	1271.2	1271.2	1271.2	1271.2	1272.3	1272.3	1272.3	1272.3	1272.3	1272.3	1272.3
12.5°	1268.7	1268.7	1268.7	1268.7	1269.9	1269.9	1269.9	1269.9	1271.2	1271.2	1269.9
15°	1266.2	1264.9	1264.9	1266.2	1266.2	1267.4	1267.4	1267.4	1268.7	1267.4	1267.4
17.5°	1263.7	1262.5	1263.7	1264.9	1264.9	1266.2	1267.4	1267.4	1268.7	1268.7	1268.7
20°	1267.4	1266.2	1267.4	1268.7	1269.9	1272.3	1273.5	1274.8	1276.0	1277.2	1277.2
22.5°	1260.1	1258.9	1260.1	1260.1	1261.4	1262.5	1264.9	1266.2	1267.4	1267.4	1267.4
25°	1249.1	1249.1	1250.3	1250.3	1251.6	1252.7	1253.9	1255.1	1255.1	1256.4	1255.1
27.5°	1236.8	1236.8	1238.0	1238.0	1240.5	1240.5	1241.7	1242.9	1244.1	1244.1	1244.1
30°	1222.1	1222.1	1223.2	1224.5	1227.0	1228.2	1229.5	1230.7	1231.9	1231.9	1231.9
32.5°	1208.6	1207.4	1208.6	1211.1	1214.7	1217.2	1219.7	1220.9	1220.9	1220.9	1222.1
35°	1197.6	1198.8	1201.3	1203.6	1208.6	1211.1	1213.4	1217.2	1218.4	1218.4	1218.4
37.5°	1200.0	1201.3	1204.9	1209.8	1215.9	1223.2	1228.2	1233.0	1236.8	1235.5	1234.3
40°	1215.9	1218.4	1224.5	1231.9	1241.7	1251.6	1258.9	1264.9	1268.7	1269.9	1268.7
42.5°	1218.4	1220.9	1225.7	1236.8	1247.8	1258.9	1268.7	1274.8	1279.7	1281.0	1279.7
45°	1217.2	1217.2	1224.5	1236.8	1247.8	1258.9	1271.2	1279.7	1284.6	1284.6	1284.6
47.5°	1208.6	1212.3	1217.2	1229.5	1244.1	1255.1	1267.4	1276.0	1282.1	1285.8	1282.1
50°	1208.6	1208.6	1217.2	1225.7	1239.3	1258.9	1276.0	1284.6	1290.8	1289.5	1290.8
52.5°	1206.1	1213.4	1218.4	1230.7	1255.1	1274.8	1288.3	1300.6	1309.1	1310.4	1307.9
55°	1228.2	1229.5	1240.5	1263.7	1287.0	1309.1	1333.6	1351.9	1366.7	1375.3	1363.0
57.5°	1245.3	1239.3	1261.4	1281.0	1307.9	1341.0	1377.8	1392.4	1403.5	1401.0	1404.7
60°	1222.1	1230.7	1246.6	1267.4	1310.4	1343.4	1363.0	1379.0	1392.4	1396.1	1391.2
61°	1211.1	1225.7	1233.0	1261.4	1306.7	1331.2	1351.9	1374.0	1398.6	1407.2	1396.1
62.5°	1192.7	1215.9	1213.4	1258.9	1287.0	1315.2	1354.4	1380.3	1397.4	1399.9	1397.4
65°	1193.8	1190.2	1218.4	1251.6	1279.7	1330.0	1363.0	1379.0	1388.8	1393.7	1391.2
67.5°	1154.6	1142.5	1176.7	1200.0	1247.8	1287.0	1318.9	1342.1	1356.9	1361.8	1355.7
70°	1064.0	1072.6	1097.0	1132.7	1171.9	1219.7	1249.1	1279.7	1291.9	1293.1	1293.1
72.5°	976.9	981.9	1006.3	1039.4	1084.7	1126.4	1155.9	1180.4	1191.5	1192.7	1195.1
75°	861.7	866.5	894.9	925.5	970.8	1006.3	1027.1	1056.6	1072.6	1086.0	1074.9
77.5°	728.0	736.7	758.7	791.8	833.5	853.1	889.9	924.3	935.3	938.9	935.3
80°	577.4	588.4	608.0	652.1	670.4	702.3	737.8	752.6	762.4	764.9	766.1
82.5°	415.5	424.1	444.9	475.6	496.4	522.1	546.7	565.1	576.1	573.6	572.4
85°	245.1	247.6	269.7	290.6	306.4	322.3	341.9	355.5	357.9	362.8	361.5
87.5°	73.6	74.7	84.5	95.6	103.0	110.3	122.6	138.5	142.2	132.4	133.7
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

REPORT NUMBER: P198439

CATALOG NUMBER: TT-C4-LED-E1-MQ-CG-UPL

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
110°	86.0	86.0	87.0	89.0	86.0	85.0	85.0	86.0	86.0	87.0	86.0
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

REPORT NUMBER: P198439

CATALOG NUMBER: TT-C4-LED-E1-MQ-CG-UPL

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1274.8	1274.8	1274.8	1274.8	1274.8	1274.8	1274.8	1274.8
2.5°	1276.0	1276.0	1276.0	1276.0	1276.0	1276.0	1274.8	1276.0
5°	1274.8	1274.8	1274.8	1274.8	1274.8	1274.8	1274.8	1274.8
7.5°	1274.8	1273.5	1273.5	1273.5	1273.5	1273.5	1273.5	1273.5
10°	1272.3	1272.3	1272.3	1272.3	1271.2	1271.2	1271.2	1271.2
12.5°	1269.9	1269.9	1269.9	1269.9	1268.7	1268.7	1268.7	1268.7
15°	1267.4	1267.4	1267.4	1267.4	1266.2	1266.2	1266.2	1266.2
17.5°	1268.7	1267.4	1266.2	1266.2	1264.9	1263.7	1263.7	1263.7
20°	1276.0	1274.8	1272.3	1269.9	1268.7	1267.4	1267.4	1267.4
22.5°	1266.2	1264.9	1262.5	1261.4	1261.4	1260.1	1258.9	1258.9
25°	1255.1	1252.7	1252.7	1251.6	1251.6	1249.1	1249.1	1247.8
27.5°	1242.9	1241.7	1240.5	1239.3	1239.3	1238.0	1236.8	1235.5
30°	1231.9	1229.5	1227.0	1225.7	1224.5	1223.2	1223.2	1223.2
32.5°	1220.9	1218.4	1217.2	1213.4	1211.1	1209.8	1208.6	1208.6
35°	1217.2	1213.4	1211.1	1207.4	1203.6	1201.3	1200.0	1197.6
37.5°	1231.9	1227.0	1223.2	1217.2	1208.6	1204.9	1201.3	1200.0
40°	1263.7	1258.9	1251.6	1241.7	1231.9	1224.5	1218.4	1215.9
42.5°	1274.8	1268.7	1258.9	1249.1	1236.8	1225.7	1220.9	1218.4
45°	1278.5	1272.3	1258.9	1246.6	1235.5	1225.7	1218.4	1215.9
47.5°	1274.8	1266.2	1253.9	1244.1	1228.2	1215.9	1211.1	1207.4
50°	1283.3	1276.0	1260.1	1238.0	1224.5	1217.2	1208.6	1207.4
52.5°	1300.6	1287.0	1272.3	1256.4	1230.7	1215.9	1211.1	1204.9
55°	1351.9	1333.6	1307.9	1282.1	1266.2	1242.9	1228.2	1228.2
57.5°	1391.2	1376.5	1343.4	1309.1	1279.7	1262.5	1240.5	1241.7
60°	1380.3	1360.6	1344.6	1310.4	1268.7	1245.3	1236.8	1220.9
61°	1379.0	1351.9	1330.0	1302.9	1267.4	1230.7	1228.2	1207.4
62.5°	1381.4	1356.9	1315.2	1287.0	1260.1	1212.3	1211.1	1191.5
65°	1379.0	1355.7	1334.8	1282.1	1245.3	1225.7	1184.0	1200.0
67.5°	1341.0	1320.2	1282.1	1252.7	1196.3	1171.9	1148.5	1148.5
70°	1281.0	1250.3	1213.4	1176.7	1138.7	1097.0	1076.2	1064.0
72.5°	1180.4	1154.6	1125.2	1086.0	1039.4	1001.5	981.9	973.3
75°	1054.2	1025.9	1000.2	970.8	921.8	889.9	869.0	863.0
77.5°	921.8	897.2	851.9	823.7	790.6	753.9	735.5	728.0
80°	752.6	739.1	707.3	661.9	646.0	600.6	588.4	577.4
82.5°	565.1	550.3	520.9	489.1	469.5	443.7	421.6	419.3
85°	355.5	345.7	327.3	303.9	279.5	264.7	245.1	250.1
87.5°	132.4	126.2	115.2	100.5	89.5	79.7	69.9	73.6
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

REPORT NUMBER: P198439

CATALOG NUMBER: TT-C4-LED-E1-MQ-CG-UPL

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
110°	84.0	83.0	84.0	81.0	78.0	76.0	74.0	75.0
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)