

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: P198443

Luminaire Tested: **TT-C4-LED-E1-MQ-MS/DIM-UPL**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P198443
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-MS/DIM-UPL
Description: TOPTIER LED PARKING GARAGE LUMINAIRE WITH UPLIGHT
MEDIUM DISTRIBUTION WITH DIMMING OCCUPANCY SENSOR
Light Source: (160) 4000K CCT, 70 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8075.7 lumens
Efficiency: N/A
Efficacy: 107.1 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

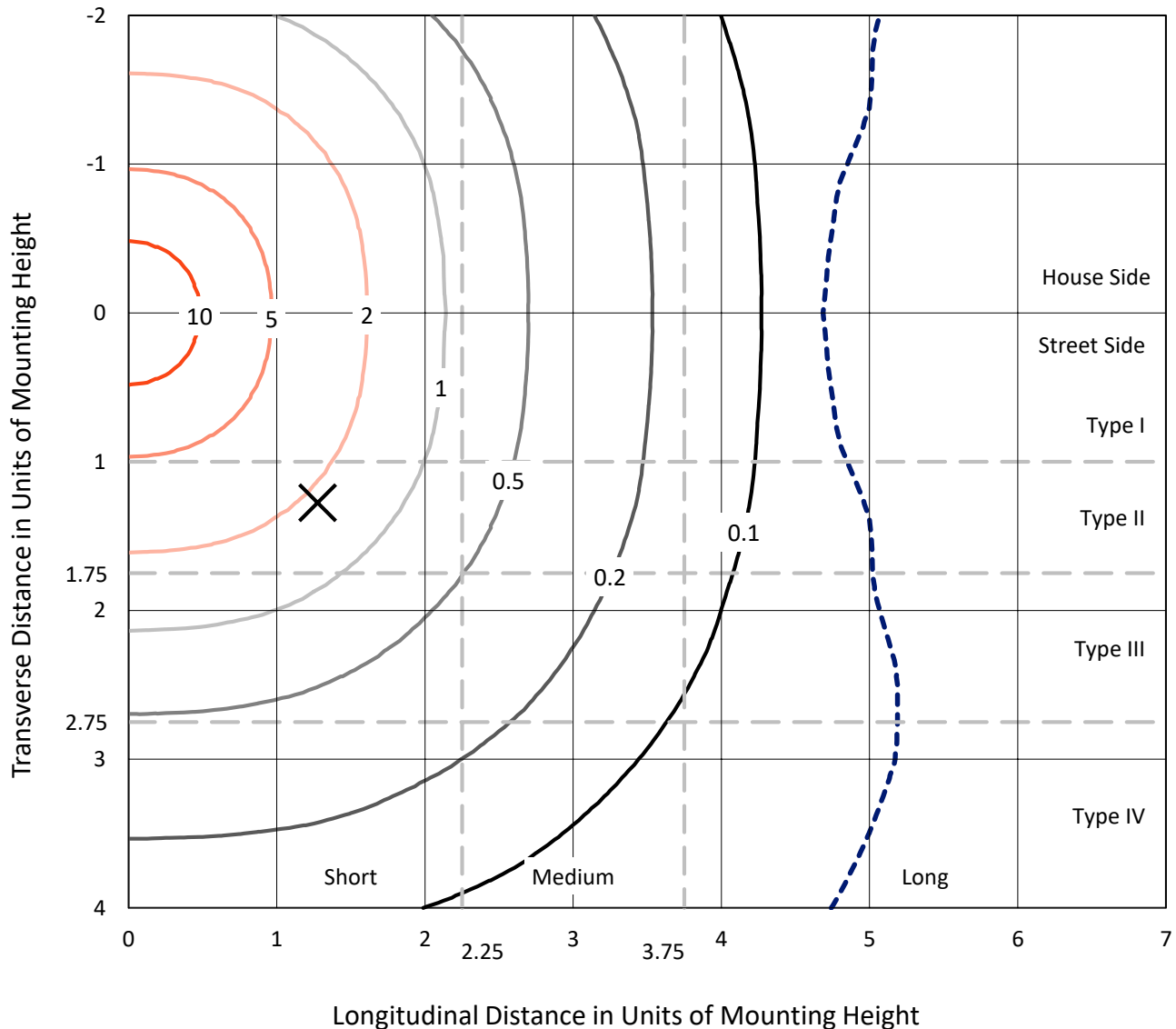
Input Watts (W): 75.4
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

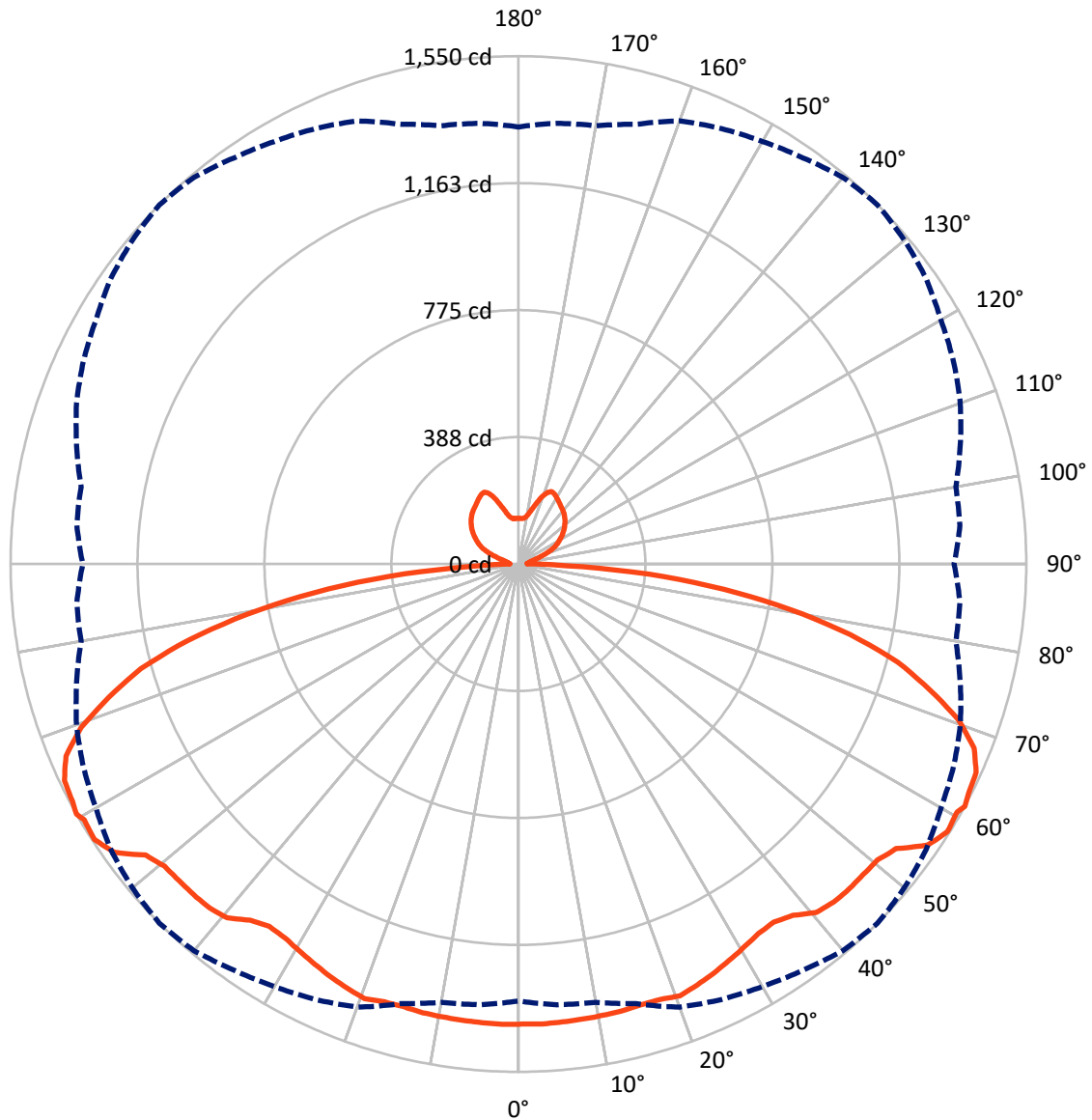
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 14 fc
 Type V - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 45-Deg Lateral - - - Horizontal Cone Through 61-Deg Vertical

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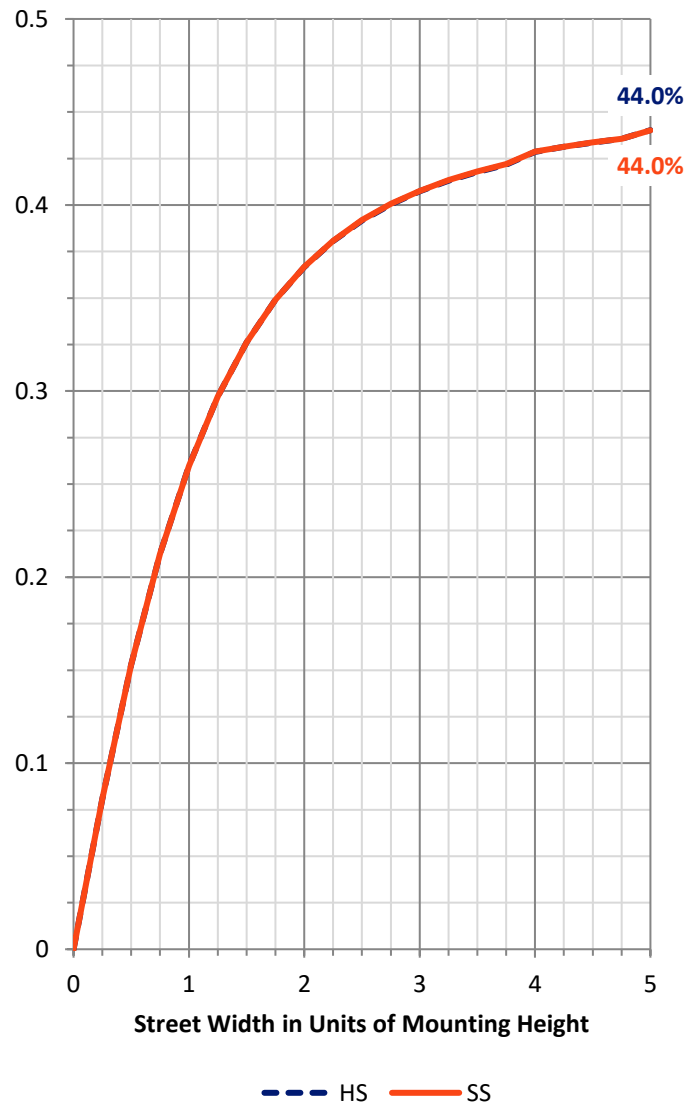
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	3625.9	412.0	4037.8
	% Fixture	44.9	5.1	50.0
Street Side	Lumens	3625.9	412.0	4037.8
	% Fixture	44.9	5.1	50.0
Total	Lumens	7251.7	824.0	8075.7
	% Fixture	89.8	10.2	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	133.9	1.7
10°-20°	396.0	4.9
20°-30°	637.2	7.9
30°-40°	844.1	10.5
40°-50°	1066.0	13.2
50°-60°	1277.3	15.8
60°-70°	1396.6	17.3
70°-80°	1118.0	13.8
80°-90°	382.6	4.7
90°-100°	38.3	0.5
100°-110°	59.4	0.7
110°-120°	119.3	1.5
120°-130°	148.7	1.8
130°-140°	153.2	1.9
140°-150°	136.0	1.7
150°-160°	103.7	1.3
160°-170°	51.8	0.6
170°-180°	13.6	0.2
0°-90°	7251.7	89.8
0°-180°	8075.7	100.0



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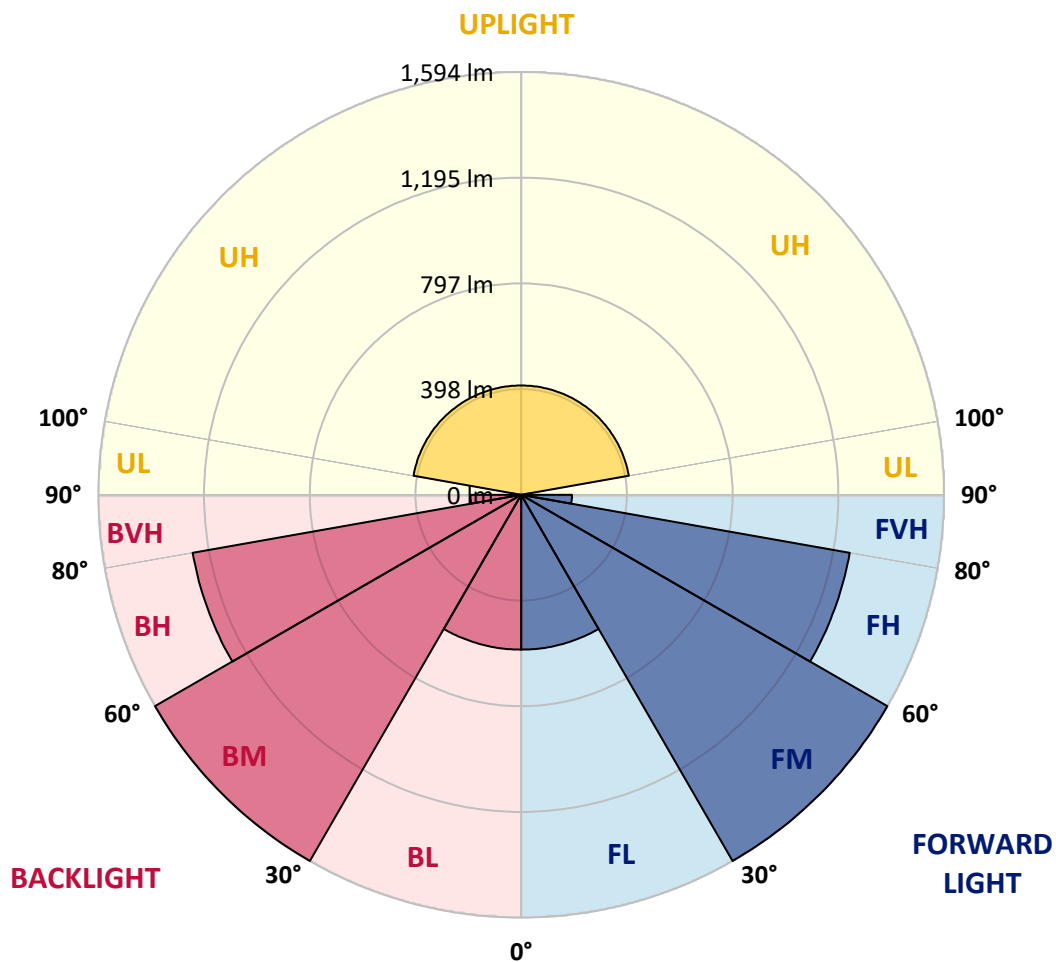
CATALOG NUMBER: TT-C4-LED-E1-MQ-MS/DIM-UPL

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	583.6	7.2			
FM (30°-60°)	1593.7	19.7			
FH (60°-80°)	1257.3	15.6			G1/1800
FVH (80°-90°)	191.3	2.4			G2/225
BL (0°-30°)	583.6	7.2	B2/1000		
BM (30°-60°)	1593.7	19.7	B2/2500		
BH (60°-80°)	1257.3	15.6	B3/2500		G1/1800
BVH (80°-90°)	191.3	2.4			G2/225
UL (90°-100°)	38.3	0.5		U2/50	
UH (100°-180°)	412.0	5.1		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°	1404.1	1404.1	1404.1	1404.1	1404.1	1404.1	1404.1	1404.1	1404.1	1404.1	1404.1
2.5°	1405.5	1404.1	1405.5	1405.5	1405.5	1405.5	1405.5	1405.5	1405.5	1405.5	1405.5
5°	1404.1	1404.1	1404.1	1404.1	1404.1	1404.1	1404.1	1404.1	1404.1	1404.1	1404.1
7.5°	1402.8	1402.8	1402.8	1402.8	1402.8	1402.8	1402.8	1402.8	1404.1	1402.8	1404.1
10°	1400.1	1400.1	1400.1	1400.1	1401.4	1401.4	1401.4	1401.4	1401.4	1401.4	1401.4
12.5°	1397.4	1397.4	1397.4	1397.4	1398.8	1398.8	1398.8	1398.8	1400.1	1400.1	1398.8
15°	1394.6	1393.4	1393.4	1394.6	1394.6	1396.0	1396.0	1396.0	1397.4	1396.0	1396.0
17.5°	1392.0	1390.6	1392.0	1393.4	1393.4	1394.6	1396.0	1396.0	1397.4	1397.4	1397.4
20°	1396.0	1394.6	1396.0	1397.4	1398.8	1401.4	1402.8	1404.1	1405.5	1406.8	1406.8
22.5°	1388.0	1386.6	1388.0	1388.0	1389.2	1390.6	1393.4	1394.6	1396.0	1396.0	1396.0
25°	1375.8	1375.8	1377.1	1377.1	1378.5	1379.8	1381.2	1382.5	1382.5	1383.8	1382.5
27.5°	1362.3	1362.3	1363.7	1363.7	1366.3	1366.3	1367.7	1369.1	1370.3	1370.3	1370.3
30°	1346.0	1346.0	1347.4	1348.8	1351.5	1352.8	1354.2	1355.5	1356.9	1356.9	1356.9
32.5°	1331.2	1329.8	1331.2	1333.9	1338.0	1340.6	1343.4	1344.8	1344.8	1344.8	1346.0
35°	1319.1	1320.5	1323.1	1325.8	1331.2	1333.9	1336.6	1340.6	1342.0	1342.0	1342.0
37.5°	1321.7	1323.1	1327.2	1332.6	1339.4	1347.4	1352.8	1358.2	1362.3	1360.9	1359.5
40°	1339.4	1342.0	1348.8	1356.9	1367.7	1378.5	1386.6	1393.4	1397.4	1398.8	1397.4
42.5°	1342.0	1344.8	1350.1	1362.3	1374.5	1386.6	1397.4	1404.1	1409.5	1410.9	1409.5
45°	1340.6	1340.6	1348.8	1362.3	1374.5	1386.6	1400.1	1409.5	1414.9	1414.9	1414.9
47.5°	1331.2	1335.2	1340.6	1354.2	1370.3	1382.5	1396.0	1405.5	1412.2	1416.3	1412.2
50°	1331.2	1331.2	1340.6	1350.1	1364.9	1386.6	1405.5	1414.9	1421.7	1420.3	1421.7
52.5°	1328.5	1336.6	1342.0	1355.5	1382.5	1404.1	1418.9	1432.5	1442.0	1443.2	1440.6
55°	1352.8	1354.2	1366.3	1392.0	1417.7	1442.0	1468.9	1489.2	1505.4	1514.9	1501.4
57.5°	1371.7	1364.9	1389.2	1410.9	1440.6	1477.1	1517.5	1533.7	1545.8	1543.2	1547.2
60°	1346.0	1355.5	1373.1	1396.0	1443.2	1479.7	1501.4	1518.9	1533.7	1537.8	1532.4
61°	1333.9	1350.1	1358.2	1389.2	1439.2	1466.3	1489.2	1513.5	1540.4	1550.0	1537.8
62.5°	1313.7	1339.4	1336.6	1386.6	1417.7	1448.6	1491.8	1520.3	1539.2	1541.8	1539.2
65°	1315.1	1310.9	1342.0	1378.5	1409.5	1464.9	1501.4	1518.9	1529.7	1535.1	1532.4
67.5°	1271.8	1258.3	1296.2	1321.7	1374.5	1417.7	1452.8	1478.4	1494.6	1500.0	1493.2
70°	1171.9	1181.4	1208.3	1247.5	1290.8	1343.4	1375.8	1409.5	1423.1	1424.3	1424.3
72.5°	1076.0	1081.4	1108.5	1144.9	1194.8	1240.8	1273.1	1300.2	1312.3	1313.7	1316.3
75°	949.1	954.5	985.6	1019.3	1069.3	1108.5	1131.4	1163.9	1181.4	1196.2	1184.0
77.5°	801.9	811.4	835.7	872.2	918.1	939.7	980.2	1018.0	1030.2	1034.2	1030.2
80°	635.9	648.1	669.6	718.2	738.5	773.6	812.8	829.0	839.8	842.5	843.8
82.5°	457.6	467.2	490.1	523.8	546.9	575.2	602.1	622.4	634.5	631.9	630.5
85°	270.0	272.7	297.0	320.0	337.5	355.0	376.7	391.5	394.3	399.6	398.3
87.5°	81.1	82.3	93.2	105.4	113.4	121.5	135.1	152.6	156.6	145.8	147.2
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



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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



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1404.1	1404.1	1404.1	1404.1	1404.1	1404.1	1404.1	1404.1
2.5°	1405.5	1405.5	1405.5	1405.5	1405.5	1405.5	1404.1	1405.5
5°	1404.1	1404.1	1404.1	1404.1	1404.1	1404.1	1404.1	1404.1
7.5°	1404.1	1402.8	1402.8	1402.8	1402.8	1402.8	1402.8	1402.8
10°	1401.4	1401.4	1401.4	1401.4	1400.1	1400.1	1400.1	1400.1
12.5°	1398.8	1398.8	1398.8	1398.8	1397.4	1397.4	1397.4	1397.4
15°	1396.0	1396.0	1396.0	1396.0	1394.6	1394.6	1394.6	1394.6
17.5°	1397.4	1396.0	1394.6	1394.6	1393.4	1392.0	1392.0	1392.0
20°	1405.5	1404.1	1401.4	1398.8	1397.4	1396.0	1396.0	1396.0
22.5°	1394.6	1393.4	1390.6	1389.2	1389.2	1388.0	1386.6	1386.6
25°	1382.5	1379.8	1379.8	1378.5	1378.5	1375.8	1375.8	1374.5
27.5°	1369.1	1367.7	1366.3	1364.9	1364.9	1363.7	1362.3	1360.9
30°	1356.9	1354.2	1351.5	1350.1	1348.8	1347.4	1347.4	1347.4
32.5°	1344.8	1342.0	1340.6	1336.6	1333.9	1332.6	1331.2	1331.2
35°	1340.6	1336.6	1333.9	1329.8	1325.8	1323.1	1321.7	1319.1
37.5°	1356.9	1351.5	1347.4	1340.6	1331.2	1327.2	1323.1	1321.7
40°	1392.0	1386.6	1378.5	1367.7	1356.9	1348.8	1342.0	1339.4
42.5°	1404.1	1397.4	1386.6	1375.8	1362.3	1350.1	1344.8	1342.0
45°	1408.1	1401.4	1386.6	1373.1	1360.9	1350.1	1342.0	1339.4
47.5°	1404.1	1394.6	1381.2	1370.3	1352.8	1339.4	1333.9	1329.8
50°	1413.5	1405.5	1388.0	1363.7	1348.8	1340.6	1331.2	1329.8
52.5°	1432.5	1417.7	1401.4	1383.8	1355.5	1339.4	1333.9	1327.2
55°	1489.2	1468.9	1440.6	1412.2	1394.6	1369.1	1352.8	1352.8
57.5°	1532.4	1516.1	1479.7	1442.0	1409.5	1390.6	1366.3	1367.7
60°	1520.3	1498.6	1481.1	1443.2	1397.4	1371.7	1362.3	1344.8
61°	1518.9	1489.2	1464.9	1435.2	1396.0	1355.5	1352.8	1329.8
62.5°	1521.5	1494.6	1448.6	1417.7	1388.0	1335.2	1333.9	1312.3
65°	1518.9	1493.2	1470.3	1412.2	1371.7	1350.1	1304.2	1321.7
67.5°	1477.1	1454.1	1412.2	1379.8	1317.7	1290.8	1265.1	1265.1
70°	1410.9	1377.1	1336.6	1296.2	1254.3	1208.3	1185.4	1171.9
72.5°	1300.2	1271.8	1239.4	1196.2	1144.9	1103.1	1081.4	1072.0
75°	1161.1	1130.0	1101.7	1069.3	1015.3	980.2	957.3	950.5
77.5°	1015.3	988.3	938.4	907.3	870.8	830.4	810.1	801.9
80°	829.0	814.1	779.0	729.0	711.5	661.6	648.1	635.9
82.5°	622.4	606.2	573.8	538.7	517.2	488.7	464.4	461.8
85°	391.5	380.7	360.4	334.9	307.8	291.7	270.0	275.4
87.5°	145.8	139.1	126.9	110.8	98.6	87.7	76.9	81.1
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



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CATALOG NUMBER: TT-C4-LED-E1-MQ-MS/DIM-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)