

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: P821166

Luminaire Tested: **TT-D4-830-24VDC-MQ-UPL**

Issue Date: 7/23/2020

Test Information

Test Method: LM-79-08
Report Number: P821166
REPORT IS FROM IESNA LM-79-08 TEST DATA - UPLIGHT (G2-2002-677-2) AND
Test Lab: INNOVATION CENTER
Issue Date: 7/23/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: MCGRAW-EDISON
Catalog Number: TT-D4-830-24VDC-MQ-UPL
Description: TOPTIER LED PARKING GARAGE LUMINAIRE WITH UPLIGHT
3000K, 80 CRI LEDS AND MEDIUM DISTRIBUTION
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

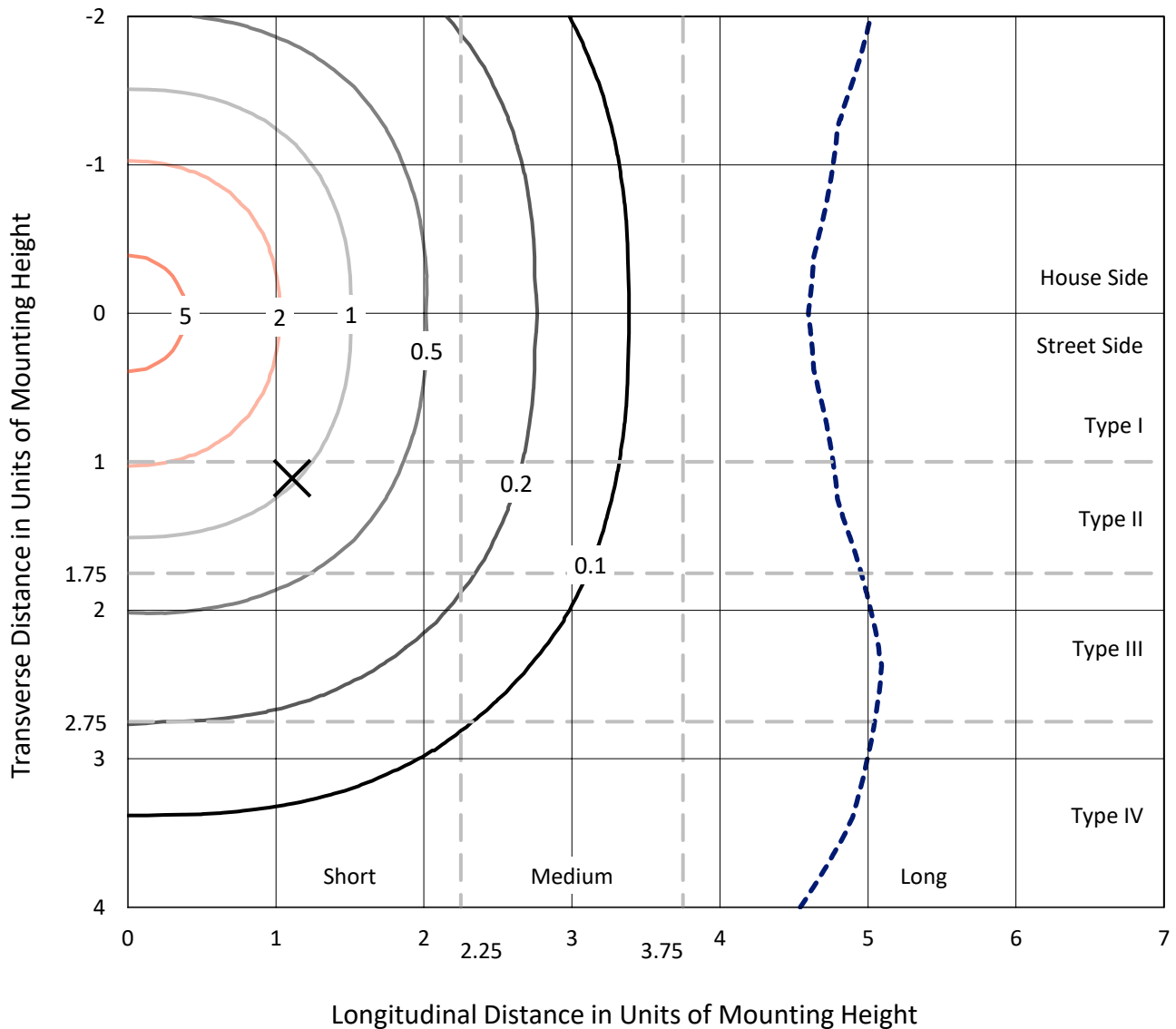
Lumens per Lamp: N/A
Luminaire Lumens: 7960.7 lumens
Efficiency: N/A
Efficacy: 139.7 lumens/watt
Luminous Opening: Vertical Cylinder (Dia: 1.12' x H: 0.1')
IES Classification: Type V - Short
BUG Rating: B3 - U4 - G2

Input Watts (W): 57
Input Voltage (V): NR
Input Current (A_{in}): 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: P821166
 CATALOG NUMBER: TT-D4-830-24VDC-MQ-UPL

Iso-Footcandle Lines of Horizontal Illumination

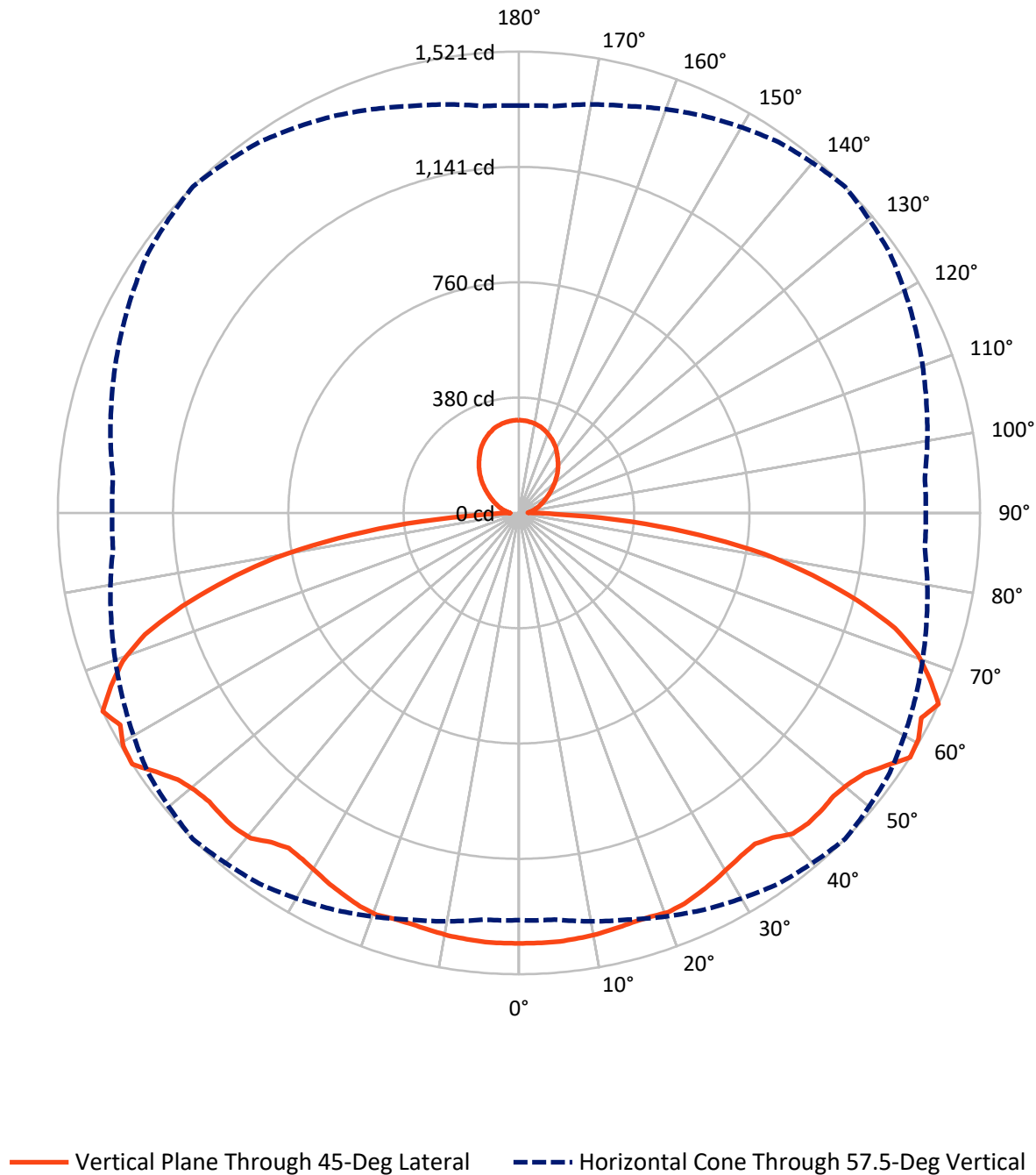
✕ Max cd
 - - - 1/2 Max cd



Based on 15 foot mounting height. Maximum calculated value = 6.3 fc
 Type V - Short - N/A

REPORT NUMBER: P821166
CATALOG NUMBER: TT-D4-830-24VDC-MQ-UPL

Luminous Intensity Polar Plot



REPORT NUMBER: P821166

CATALOG NUMBER: TT-D4-830-24VDC-MQ-UPL

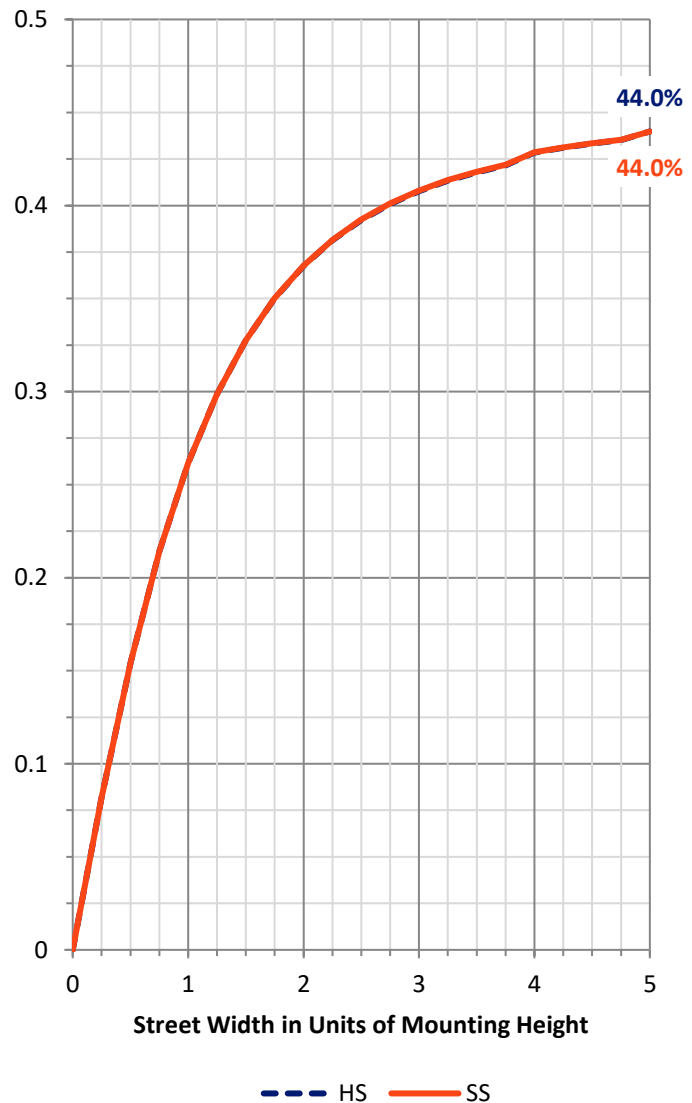
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	3564.5	415.9	3980.4
	% Fixture	44.8	5.2	50.0
Street Side	Lumens	3564.5	415.9	3980.4
	% Fixture	44.8	5.2	50.0
Total	Lumens	7129.0	831.7	7960.7
	% Fixture	89.6	10.4	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	135.2	1.7
10°-20°	397.7	5.0
20°-30°	639.1	8.0
30°-40°	843.7	10.6
40°-50°	1055.6	13.3
50°-60°	1255.5	15.8
60°-70°	1361.8	17.1
70°-80°	1083.9	13.6
80°-90°	356.3	4.5
90°-100°	42.6	0.5
100°-110°	66.0	0.8
110°-120°	91.9	1.2
120°-130°	119.0	1.5
130°-140°	138.7	1.7
140°-150°	140.5	1.8
150°-160°	121.9	1.5
160°-170°	82.2	1.0
170°-180°	28.9	0.4
0°-90°	7129.0	89.6
0°-180°	7960.7	100.0

Coefficient of Utilization



REPORT NUMBER: P821166

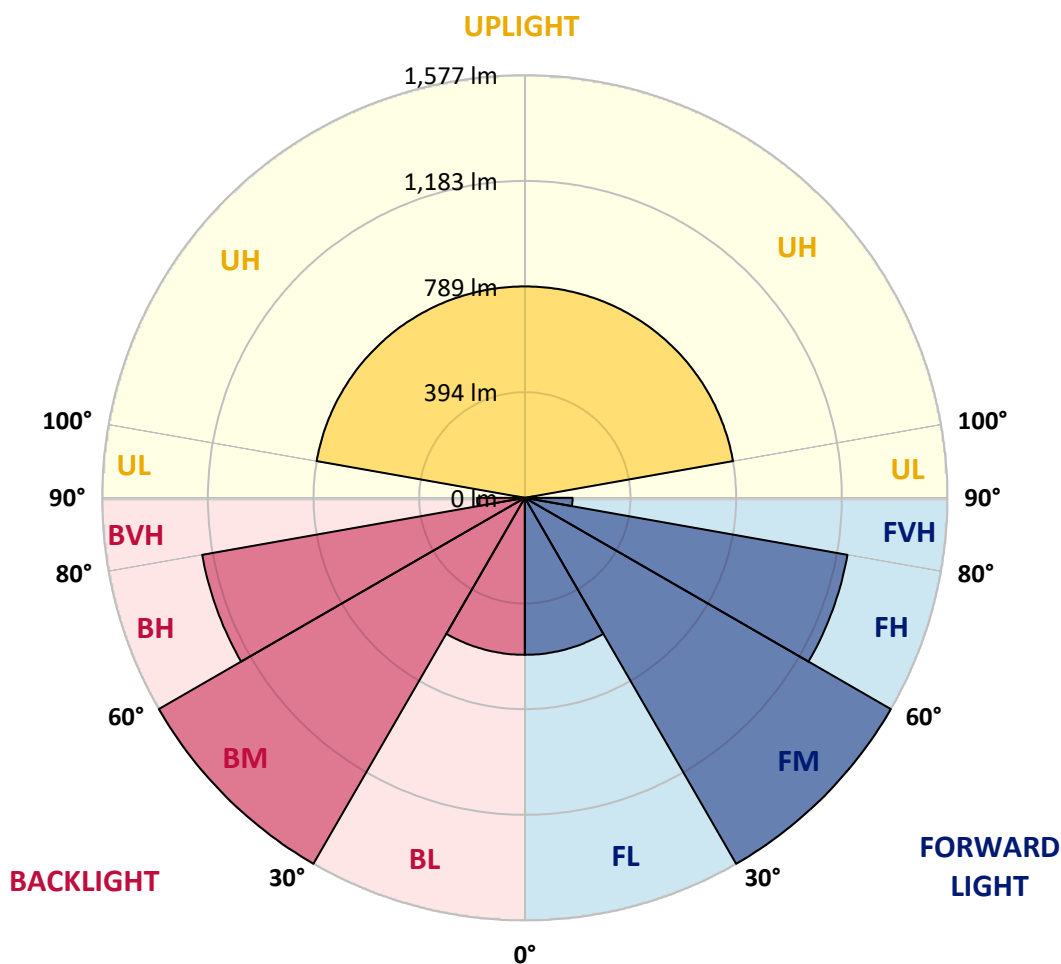
CATALOG NUMBER: TT-D4-830-24VDC-MQ-UPL

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	586.0	7.4			
FM	(30°-60°)	1577.4	19.8			
FH	(60°-80°)	1222.8	15.4			G1/1800
FVH	(80°-90°)	178.2	2.2			G2/225
BL	(0°-30°)	586.0	7.4	B2/1000		
BM	(30°-60°)	1577.4	19.8	B2/2500		
BH	(60°-80°)	1222.8	15.4	B3/2500		G1/1800
BVH	(80°-90°)	178.2	2.2			G2/225
UL	(90°-100°)	42.6	0.5		U2/50	
UH	(100°-180°)	789.1	9.9		U4/1000	

BUG Rating: B3-U4-G2

Type V Short





REPORT NUMBER: P821166

CATALOG NUMBER: TT-D4-830-24VDC-MQ-UPL

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	1419.1	1419.1	1419.1	1419.1	1419.1	1419.1	1419.1	1419.1	1419.1	1419.1	1419.1
2.5°	1421.2	1420.1	1421.2	1420.1	1420.1	1419.1	1420.1	1420.1	1420.1	1420.1	1420.1
5°	1420.1	1419.1	1419.1	1420.1	1419.1	1419.1	1419.1	1419.1	1419.1	1419.1	1419.1
7.5°	1415.9	1415.9	1417.0	1415.9	1415.9	1415.9	1415.9	1415.9	1415.9	1417.0	1417.0
10°	1412.7	1411.7	1412.7	1412.7	1411.7	1412.7	1411.7	1412.7	1412.7	1412.7	1412.7
12.5°	1408.5	1407.4	1408.5	1408.5	1407.4	1406.4	1407.4	1407.4	1408.5	1408.5	1408.5
15°	1401.1	1401.1	1403.2	1402.1	1402.1	1401.1	1403.2	1402.1	1401.1	1402.1	1402.1
17.5°	1395.8	1395.8	1397.9	1400.0	1400.0	1400.0	1400.0	1398.9	1396.8	1397.9	1395.8
20°	1396.8	1397.9	1398.9	1402.1	1404.2	1405.3	1405.3	1402.1	1398.9	1400.0	1398.9
22.5°	1393.6	1392.6	1393.6	1395.8	1398.9	1398.9	1398.9	1394.7	1393.6	1392.6	1392.6
25°	1380.9	1380.9	1383.0	1385.2	1387.3	1386.2	1387.3	1385.2	1383.0	1380.9	1380.9
27.5°	1366.1	1366.1	1369.3	1371.4	1373.5	1373.5	1372.4	1370.3	1369.3	1367.1	1366.1
30°	1351.3	1351.3	1354.4	1356.6	1359.7	1358.7	1358.7	1355.5	1352.3	1350.2	1350.2
32.5°	1335.4	1334.3	1337.5	1342.8	1347.0	1347.0	1347.0	1340.7	1336.4	1334.3	1333.2
35°	1321.6	1321.6	1325.8	1335.4	1340.7	1340.7	1338.5	1334.3	1324.8	1321.6	1321.6
37.5°	1317.3	1320.5	1332.2	1346.0	1356.6	1358.7	1355.5	1343.8	1331.1	1321.6	1318.4
40°	1331.1	1334.3	1349.1	1371.4	1387.3	1390.5	1387.3	1370.3	1348.1	1333.2	1332.2
42.5°	1333.2	1335.4	1353.4	1378.8	1393.6	1398.9	1393.6	1376.7	1352.3	1334.3	1333.2
45°	1325.8	1326.9	1348.1	1374.6	1392.6	1398.9	1392.6	1372.4	1347.0	1326.9	1325.8
47.5°	1316.3	1318.4	1341.7	1369.3	1391.5	1395.8	1390.5	1368.2	1339.6	1319.5	1316.3
50°	1308.9	1315.2	1336.4	1367.1	1393.6	1406.4	1393.6	1364.0	1335.4	1313.1	1308.9
52.5°	1313.1	1315.2	1342.8	1386.2	1422.3	1427.6	1421.2	1386.2	1340.7	1315.2	1312.0
55°	1325.8	1335.4	1365.0	1427.6	1460.4	1470.0	1456.2	1425.4	1366.1	1335.4	1325.8
57.5°	1342.8	1346.0	1388.3	1443.5	1492.2	1520.8	1493.3	1442.4	1391.5	1343.8	1341.7
60°	1329.0	1319.5	1372.4	1437.1	1502.8	1514.5	1498.6	1438.2	1370.3	1318.4	1327.9
62.5°	1291.9	1298.3	1341.7	1430.7	1476.3	1489.0	1472.1	1430.7	1339.6	1303.6	1288.7
65°	1262.2	1300.4	1348.1	1411.7	1484.8	1520.8	1485.8	1409.5	1350.2	1294.0	1259.0
67.5°	1220.9	1228.3	1299.3	1377.7	1443.5	1461.5	1442.4	1378.8	1293.0	1223.0	1228.3
70°	1150.9	1140.4	1212.4	1303.6	1366.1	1394.7	1368.2	1299.3	1209.2	1138.2	1147.8
72.5°	1035.4	1041.8	1108.6	1205.0	1269.6	1297.2	1270.7	1197.6	1106.4	1048.1	1041.8
75°	914.6	922.0	986.7	1074.6	1140.4	1152.0	1144.6	1069.3	988.8	921.0	914.6
77.5°	776.8	784.3	837.2	933.7	972.9	990.9	975.0	939.0	835.1	783.2	774.7
80°	624.2	622.1	668.7	751.4	800.2	820.3	800.2	753.5	666.6	626.3	612.6
82.5°	446.2	448.3	491.7	549.0	595.6	602.0	592.4	554.3	487.5	453.6	434.5
85°	248.0	257.5	289.3	331.7	362.5	373.1	357.2	321.1	288.3	261.8	253.3
87.5°	59.3	64.6	75.2	95.4	107.0	117.6	107.0	99.6	71.0	64.6	59.3
90°	30.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1
92.5°	34.8	34.2	34.2	33.8	33.8	33.8	33.8	33.8	33.8	33.8	33.8
95°	39.4	39.4	39.4	38.5	38.5	38.5	38.5	38.5	38.5	38.5	38.5
97.5°	44.6	44.6	44.6	44.2	44.2	44.2	44.2	44.2	44.2	44.2	44.2
100°	49.8	49.8	49.8	49.8	49.8	49.8	49.8	49.8	49.8	49.8	49.8
102.5°	55.9	55.9	55.9	55.9	55.9	55.9	55.9	56.4	55.9	55.9	55.9
105°	62.0	62.0	62.0	62.0	62.0	62.0	62.0	62.9	62.0	62.0	62.0
107.5°	68.6	68.6	69.0	69.0	69.0	69.0	69.0	69.5	69.0	69.0	69.0
110°	75.1	75.1	76.1	76.1	76.1	76.1	76.1	76.1	76.1	76.1	76.1



REPORT NUMBER: P821166

CATALOG NUMBER: TT-D4-830-24VDC-MQ-UPL

CANDELA DISTRIBUTION (continued):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
112.5°	83.1	83.1	84.0	84.0	84.0	84.0	84.6	84.6	84.0	84.0	84.0
115°	91.1	91.1	92.0	92.0	92.0	92.0	93.0	93.0	92.0	92.0	92.0
117.5°	100.5	100.5	101.0	101.4	101.4	101.4	102.4	102.4	101.4	101.4	101.4
120°	109.9	109.9	109.9	110.8	110.8	110.8	111.8	111.8	110.8	110.8	110.8
122.5°	120.7	120.7	121.2	121.6	121.6	121.6	122.6	122.6	122.1	122.1	121.6
125°	131.5	131.5	132.4	132.4	132.4	132.4	133.4	133.4	133.4	133.4	132.4
127.5°	143.2	143.2	144.2	144.2	144.2	144.2	145.1	145.1	145.1	145.1	144.2
130°	155.0	155.0	155.9	155.9	155.9	155.9	156.8	156.8	156.8	156.8	155.9
132.5°	167.2	167.2	167.6	167.6	167.6	168.1	168.6	168.6	168.6	168.6	168.1
135°	179.4	179.4	179.4	179.4	179.4	180.3	180.3	180.3	180.3	180.3	180.3
137.5°	191.2	190.6	191.2	190.6	191.2	191.6	191.6	191.6	191.6	191.6	191.6
140°	202.9	201.9	202.9	201.9	202.9	202.9	202.9	202.9	202.9	202.9	202.9
142.5°	213.7	213.2	213.7	212.7	213.7	213.7	213.7	213.7	213.7	213.7	213.7
145°	224.5	224.5	224.5	223.5	224.5	224.5	224.5	224.5	224.5	224.5	224.5
147.5°	235.8	235.3	235.8	234.8	235.8	235.8	235.8	235.8	235.8	235.8	235.8
150°	247.0	246.1	247.0	246.1	247.0	247.0	247.0	247.0	247.0	247.0	247.0
152.5°	256.0	255.5	256.4	255.5	256.0	256.0	256.4	256.0	256.0	256.0	256.0
155°	264.9	264.9	265.8	264.9	264.9	264.9	265.8	264.9	264.9	264.9	264.9
157.5°	272.4	272.4	273.3	272.4	272.4	272.4	273.3	272.4	272.4	272.4	272.4
160°	279.9	279.9	280.8	279.9	279.9	279.9	280.8	279.9	279.9	279.9	279.9
162.5°	286.0	286.0	286.9	286.0	286.0	286.0	286.9	286.0	286.0	286.0	286.0
165°	292.1	292.1	293.0	292.1	292.1	292.1	293.0	292.1	292.1	292.1	292.1
167.5°	295.8	295.8	296.8	295.8	295.8	295.8	296.8	295.8	295.8	295.8	295.8
170°	299.6	299.6	300.5	299.6	299.6	299.6	300.5	299.6	299.6	299.6	299.6
172.5°	302.0	302.0	302.8	302.0	302.4	302.0	302.8	302.0	302.0	302.0	302.0
175°	304.3	304.3	305.2	304.3	305.2	304.3	305.2	304.3	304.3	304.3	304.3
177.5°	305.2	305.2	305.7	305.2	305.7	305.2	305.7	305.2	305.2	305.2	305.2
180°	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2

(END OF REPORT)