

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: P821160

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

Issue Date: 7/23/2020



Test Information

Test Method: LM-79-08
Report Number: P821160
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-CQ-UPL
Description: TOPTIER LED PARKING GARAGE LUMINAIRE WITH UPLIGHT
3000K, 80 CRI LEDS AND CONCENTRATED DISTRIBUTION
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

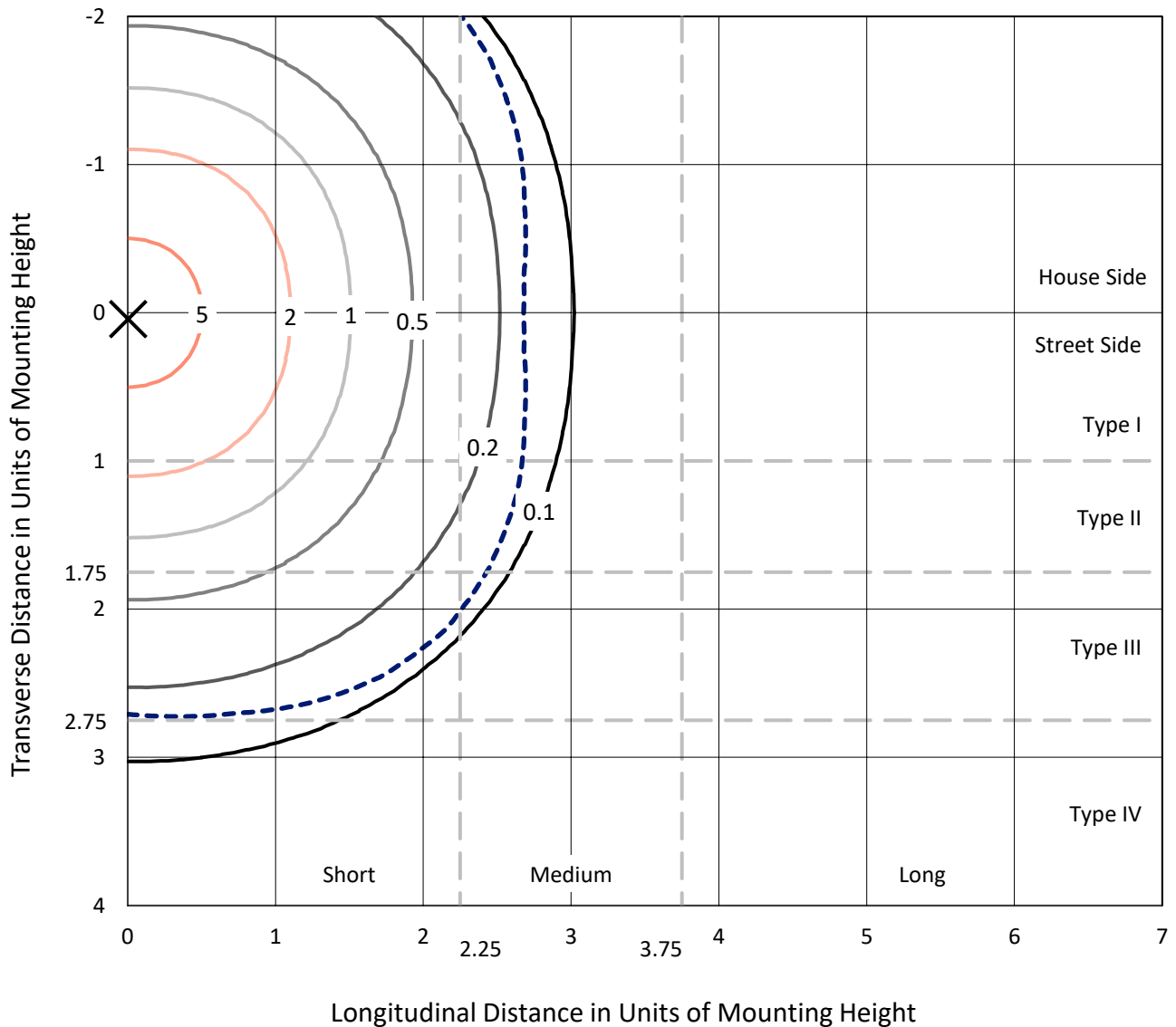
Lumens per Lamp: N/A
Luminaire Lumens: 7495.7 lumens
Efficiency: N/A
Efficacy: 131.5 lumens/watt
Luminous Opening: Vertical Cylinder (Dia: 1.12' x H: 0.1')
IES Classification: Type V - Short
BUG Rating: B2 - U4 - G1

Input Watts (W): 57
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

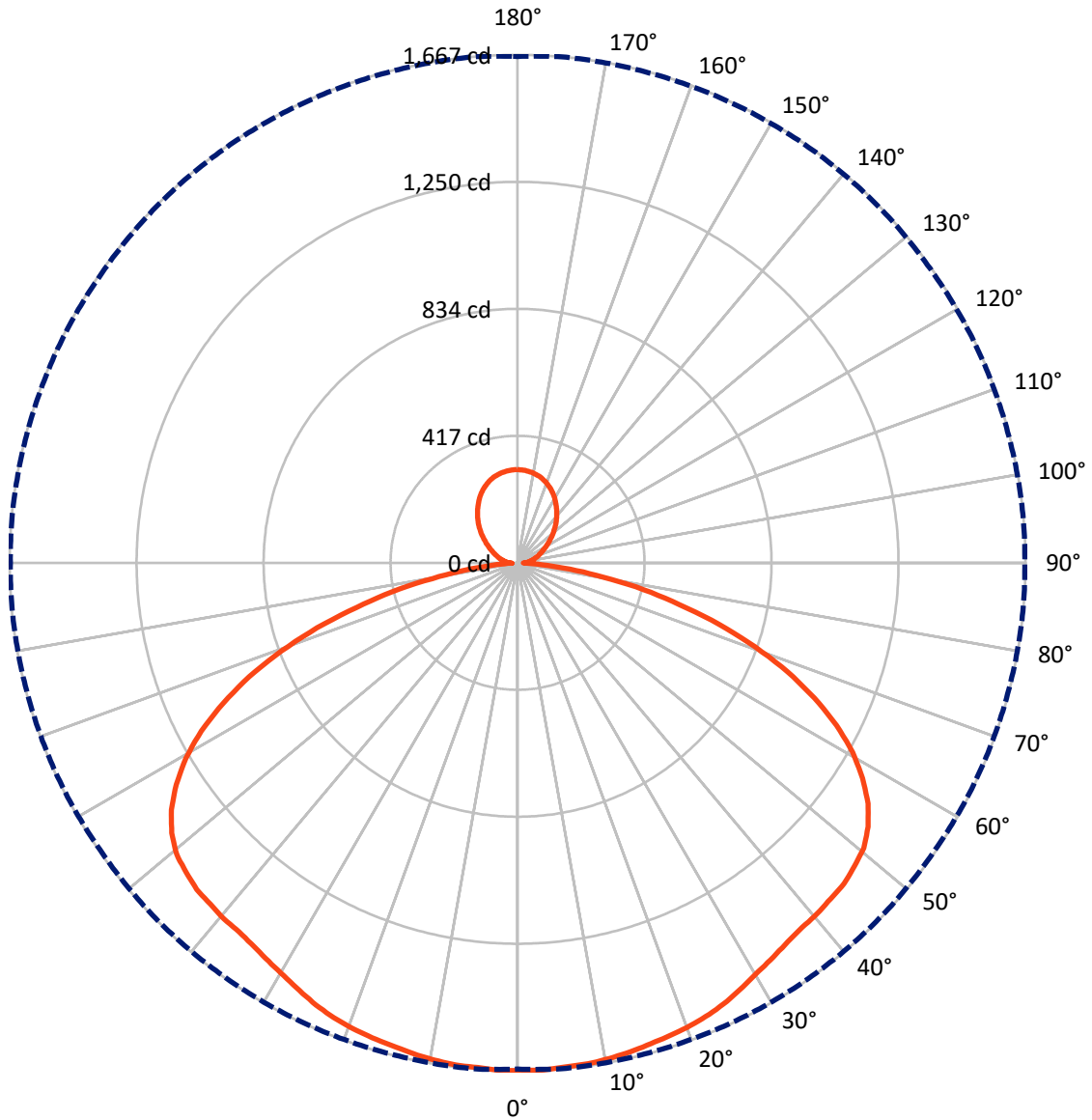
✕ Max cd
 - - - 1/2 Max cd



Based on 15 foot mounting height. Maximum calculated value = 7.4 fc
 Type V - Short - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 5-Deg Lateral - - - Horizontal Cone Through 2.5-Deg Vertical

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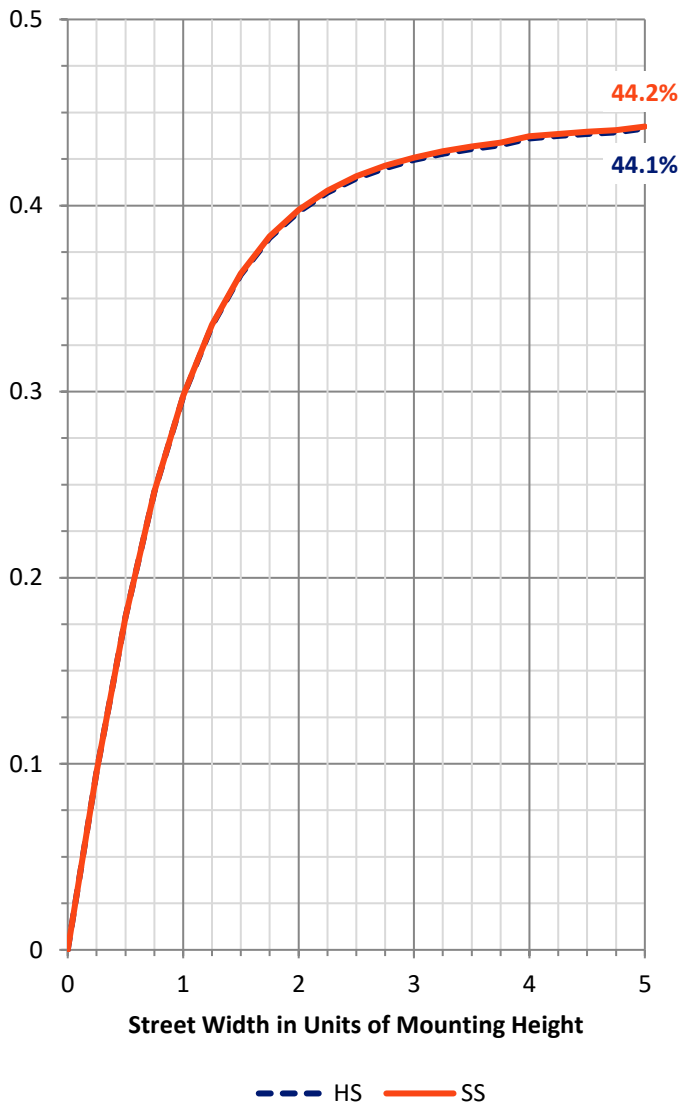
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	3332.0	415.9	3747.9
	% Fixture	44.5	5.5	50.0
Street Side	Lumens	3332.0	415.9	3747.9
	% Fixture	44.5	5.5	50.0
Total	Lumens	6664.0	831.7	7495.7
	% Fixture	88.9	11.1	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	158.5	2.1
10°-20°	464.1	6.2
20°-30°	738.0	9.8
30°-40°	970.9	13.0
40°-50°	1188.3	15.9
50°-60°	1287.1	17.2
60°-70°	1107.3	14.8
70°-80°	622.5	8.3
80°-90°	127.4	1.7
90°-100°	42.6	0.6
100°-110°	66.0	0.9
110°-120°	91.9	1.2
120°-130°	119.0	1.6
130°-140°	138.7	1.8
140°-150°	140.5	1.9
150°-160°	121.9	1.6
160°-170°	82.2	1.1
170°-180°	28.9	0.4
0°-90°	6664.0	88.9
0°-180°	7495.7	100.0

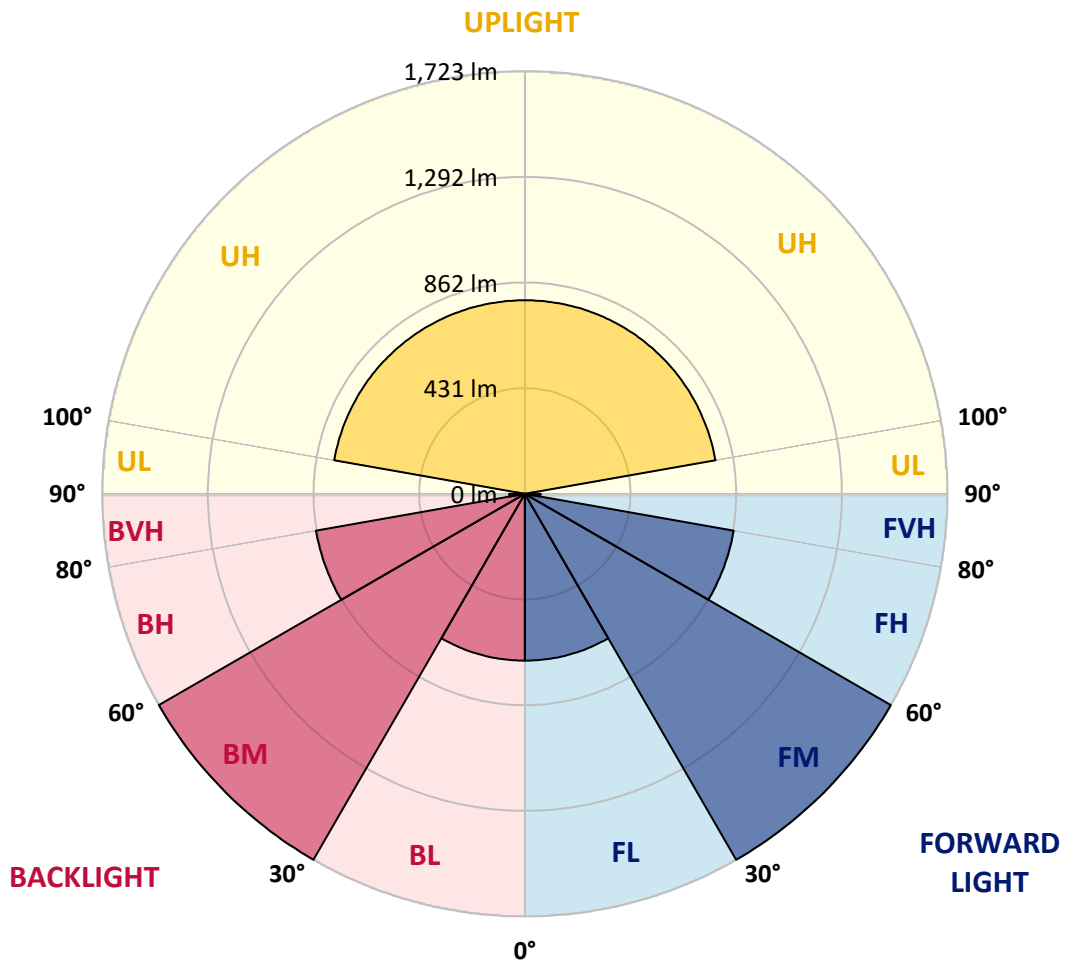


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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	680.3	9.1			
FM (30°-60°)	1723.1	23.0			
FH (60°-80°)	864.9	11.5			G1/1800
FVH (80°-90°)	63.7	0.8			G1/100
BL (0°-30°)	680.3	9.1	B2/1000		
BM (30°-60°)	1723.1	23.0	B2/2500		
BH (60°-80°)	864.9	11.5	B2/1000		G1/1800
BVH (80°-90°)	63.7	0.8			G1/100
UL (90°-100°)	42.6	0.6		U2/50	
UH (100°-180°)	789.1	10.5		U4/1000	

BUG Rating: B2-U4-G1
 Type V Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	1666.1	1666.1	1666.1	1666.1	1666.1	1666.1	1666.1	1666.1	1666.1	1666.1	1666.1
2.5°	1661.9	1667.2	1665.1	1665.1	1665.1	1665.1	1663.0	1665.1	1665.1	1666.1	1665.1
5°	1663.0	1661.9	1661.9	1663.0	1663.0	1664.0	1661.9	1663.0	1664.0	1664.0	1665.1
7.5°	1659.8	1660.8	1658.7	1660.8	1658.7	1659.8	1659.8	1660.8	1659.8	1660.8	1663.0
10°	1653.4	1654.5	1653.4	1653.4	1653.4	1655.5	1651.3	1654.5	1653.4	1654.5	1653.4
12.5°	1641.8	1647.1	1644.9	1647.1	1647.1	1647.1	1643.9	1646.0	1647.1	1647.1	1647.1
15°	1636.5	1637.5	1634.3	1638.6	1639.6	1640.7	1636.5	1638.6	1638.6	1639.6	1640.7
17.5°	1624.8	1630.1	1629.0	1632.2	1631.2	1634.3	1633.3	1632.2	1631.2	1633.3	1631.2
20°	1616.3	1621.6	1620.6	1623.7	1624.8	1628.0	1624.8	1624.8	1621.6	1622.7	1625.9
22.5°	1607.8	1610.0	1610.0	1613.1	1613.1	1616.3	1613.1	1612.1	1612.1	1611.0	1614.2
25°	1594.1	1595.1	1594.1	1597.2	1599.4	1601.5	1600.4	1598.3	1597.2	1597.2	1596.2
27.5°	1571.8	1576.0	1578.2	1582.4	1583.5	1586.6	1582.4	1582.4	1580.3	1578.2	1579.2
30°	1554.8	1557.0	1557.0	1566.5	1566.5	1571.8	1566.5	1565.4	1564.4	1563.3	1561.2
32.5°	1539.0	1542.1	1545.3	1552.7	1558.0	1560.1	1557.0	1554.8	1549.5	1546.4	1545.3
35°	1526.2	1527.3	1533.7	1544.3	1550.6	1555.9	1551.7	1546.4	1539.0	1533.7	1537.9
37.5°	1516.7	1517.8	1527.3	1541.1	1552.7	1557.0	1550.6	1542.1	1530.5	1524.1	1522.0
40°	1508.2	1514.6	1525.2	1544.3	1557.0	1563.3	1558.0	1546.4	1529.4	1516.7	1515.6
42.5°	1504.0	1507.2	1523.1	1545.3	1563.3	1571.8	1564.4	1548.5	1527.3	1512.5	1511.4
45°	1493.4	1502.9	1517.8	1546.4	1566.5	1577.1	1566.5	1546.4	1520.9	1504.0	1500.8
47.5°	1484.9	1488.1	1511.4	1544.3	1568.6	1577.1	1566.5	1541.1	1509.3	1487.0	1484.9
50°	1464.8	1472.2	1495.5	1530.5	1559.1	1567.6	1554.8	1520.9	1484.9	1460.5	1456.3
52.5°	1434.0	1440.4	1467.9	1511.4	1539.0	1548.5	1529.4	1493.4	1451.0	1421.3	1421.3
55°	1386.3	1395.9	1424.5	1469.0	1504.0	1512.5	1490.2	1452.0	1404.3	1374.7	1373.6
57.5°	1329.1	1335.5	1366.2	1414.9	1448.9	1461.6	1439.3	1396.9	1349.2	1314.3	1311.1
60°	1254.9	1263.4	1296.2	1342.9	1377.8	1388.4	1369.4	1327.0	1278.2	1241.1	1241.1
62.5°	1165.9	1175.4	1208.3	1256.0	1292.0	1307.9	1281.4	1241.1	1190.2	1154.2	1151.0
65°	1062.0	1070.5	1100.2	1150.0	1187.1	1198.7	1178.6	1136.2	1087.4	1053.5	1050.3
67.5°	945.4	957.1	986.8	1029.1	1060.9	1075.8	1063.1	1024.9	974.0	939.1	935.9
70°	819.3	827.8	851.1	890.3	926.3	936.9	917.9	892.4	844.7	812.9	808.7
72.5°	684.7	692.1	711.2	748.3	773.7	787.5	776.9	744.0	705.9	679.4	683.6
75°	549.0	548.0	569.2	595.7	619.0	628.5	621.1	599.9	564.9	542.7	541.6
77.5°	413.4	424.0	431.4	453.6	472.7	480.1	469.5	452.6	426.1	408.1	411.2
80°	290.4	284.0	297.8	311.6	324.3	331.7	325.4	315.8	297.8	284.0	281.9
82.5°	178.1	172.8	179.1	191.8	200.3	202.4	203.5	191.8	184.4	173.8	175.9
85°	78.4	79.5	84.8	93.3	94.3	95.4	95.4	93.3	84.8	83.7	81.6
87.5°	19.1	19.1	20.1	23.3	23.3	24.4	24.4	21.2	20.1	18.0	19.1
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



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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)