

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: P821234

Luminaire Tested: **TT-D4-735-24VDC-CQ-UPL**

Issue Date: 7/23/2020

Test Information

Test Method: LM-79-08
Report Number: P821234
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-D4-735-24VDC-CQ-UPL
Description: TOPTIER LED PARKING GARAGE LUMINAIRE WITH UPLIGHT
3500K, 70 CRI LEDS AND CONCENTRATED DISTRIBUTION
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

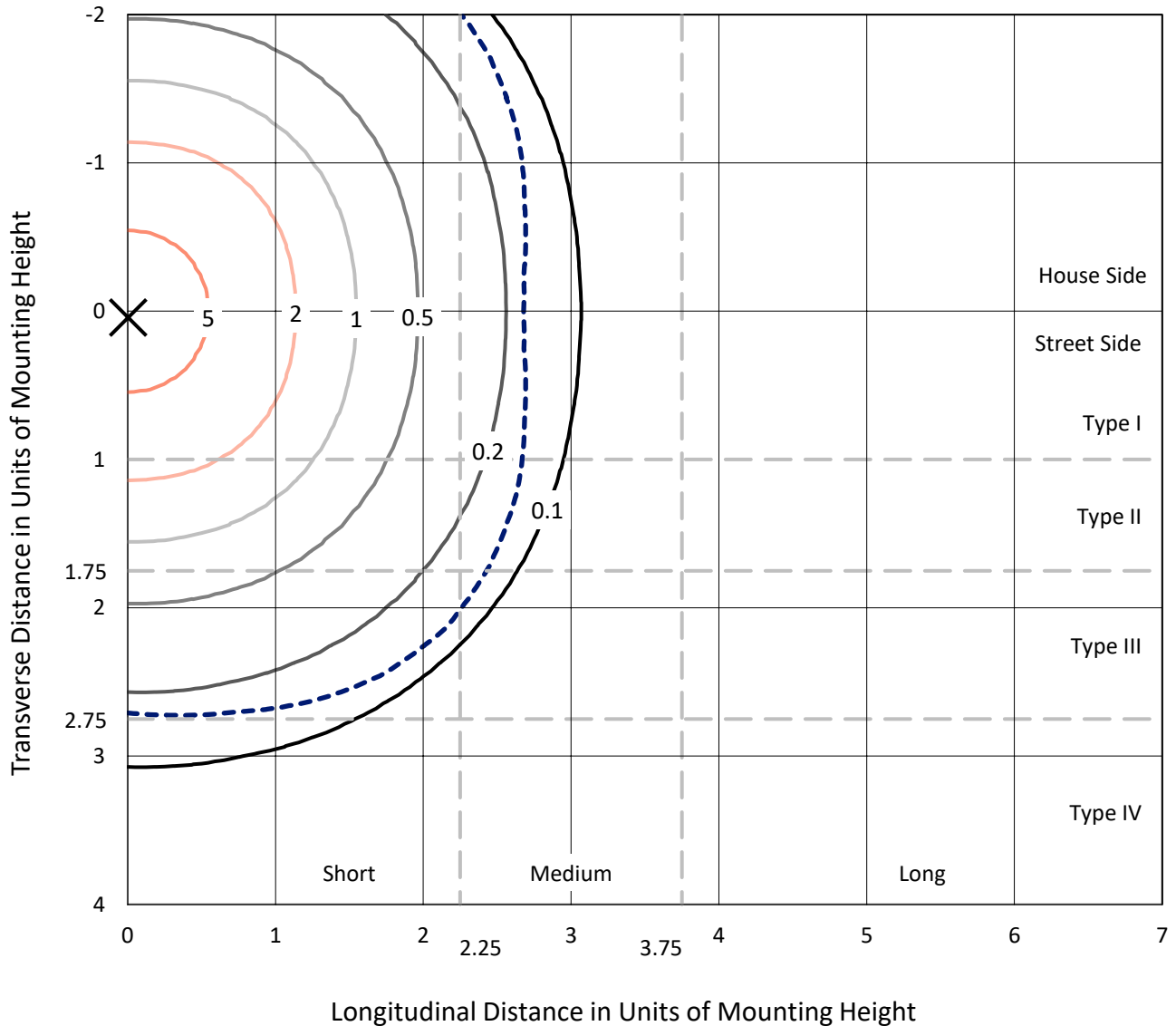
Lumens per Lamp: N/A
Luminaire Lumens: 7905.7 lumens
Efficiency: N/A
Efficacy: 138.7 lumens/watt
Luminous Opening: Vertical Cylinder (Dia: 1.12' x H: 0.1')
IES Classification: Type V - Short
BUG Rating: B2 - U4 - G1

Input Watts (W): 57
Input Voltage (V): NR
Input Current (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: P821234
 CATALOG NUMBER: TT-D4-735-24VDC-CQ-UPL

Iso-Footcandle Lines of Horizontal Illumination

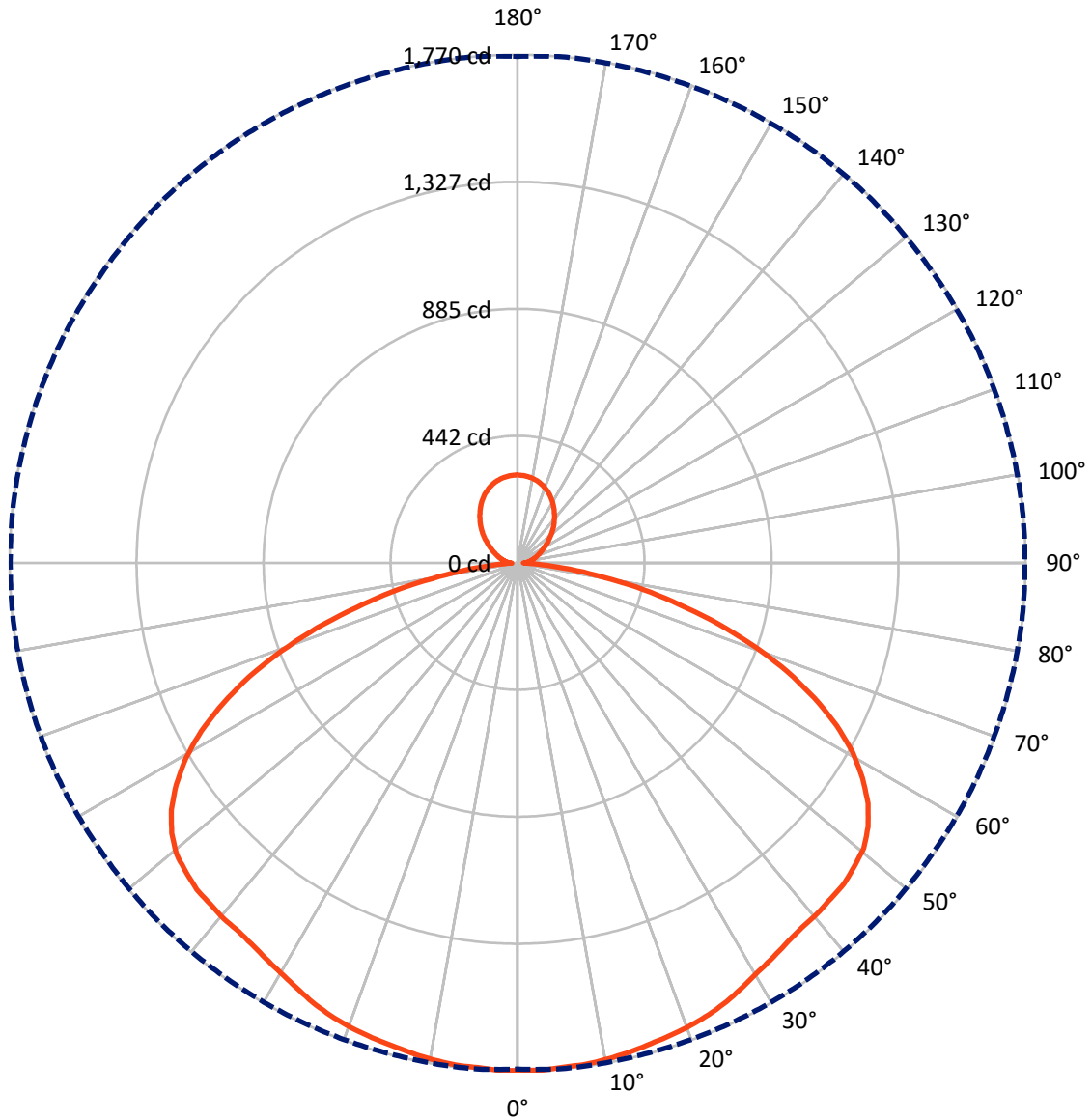
✕ Max cd
 - - - 1/2 Max cd



Based on 15 foot mounting height. Maximum calculated value = 7.9 fc
 Type V - Short - N/A

REPORT NUMBER: P821234
CATALOG NUMBER: TT-D4-735-24VDC-CQ-UPL

Luminous Intensity Polar Plot



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

REPORT NUMBER: P821234
 CATALOG NUMBER: TT-D4-735-24VDC-CQ-UPL

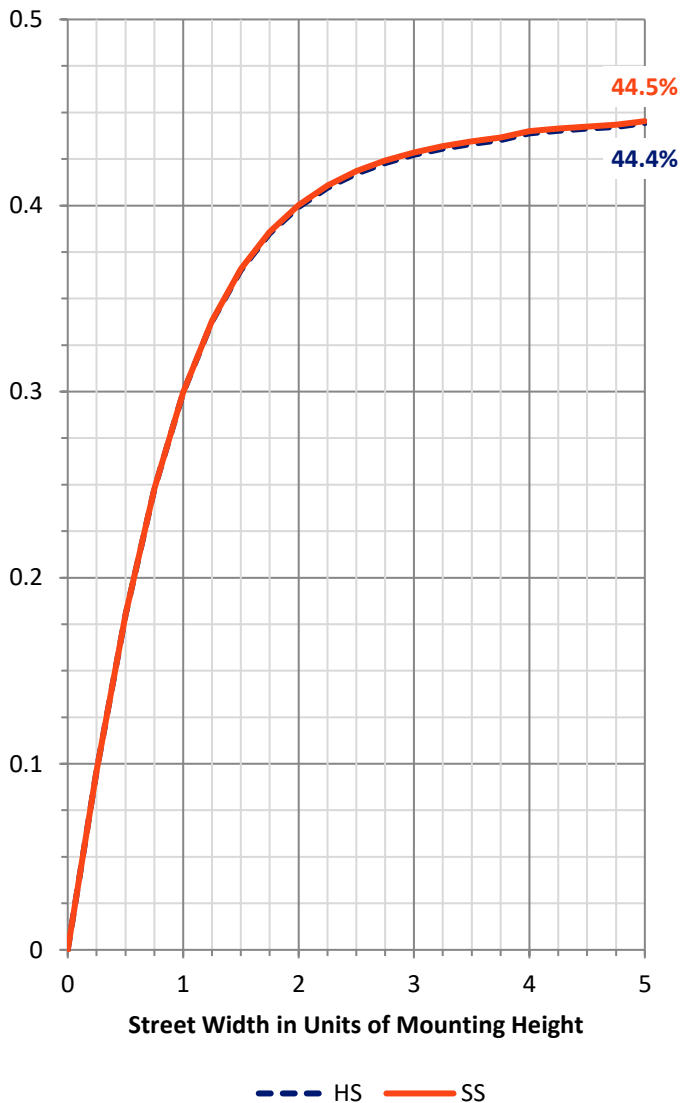
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	3537.0	415.9	3952.9
	% Fixture	44.7	5.3	50.0
Street Side	Lumens	3537.0	415.9	3952.9
	% Fixture	44.7	5.3	50.0
Total	Lumens	7074.0	831.7	7905.7
	% Fixture	89.5	10.5	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	168.2	2.1
10°-20°	492.7	6.2
20°-30°	783.5	9.9
30°-40°	1030.6	13.0
40°-50°	1261.4	16.0
50°-60°	1366.3	17.3
60°-70°	1175.4	14.9
70°-80°	660.8	8.4
80°-90°	135.0	1.7
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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	1.8
140°-150°	140.5	1.8
150°-160°	121.9	1.5
160°-170°	82.2	1.0
170°-180°	28.9	0.4
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0°-90°	7074.0	89.5
0°-180°	7905.7	100.0

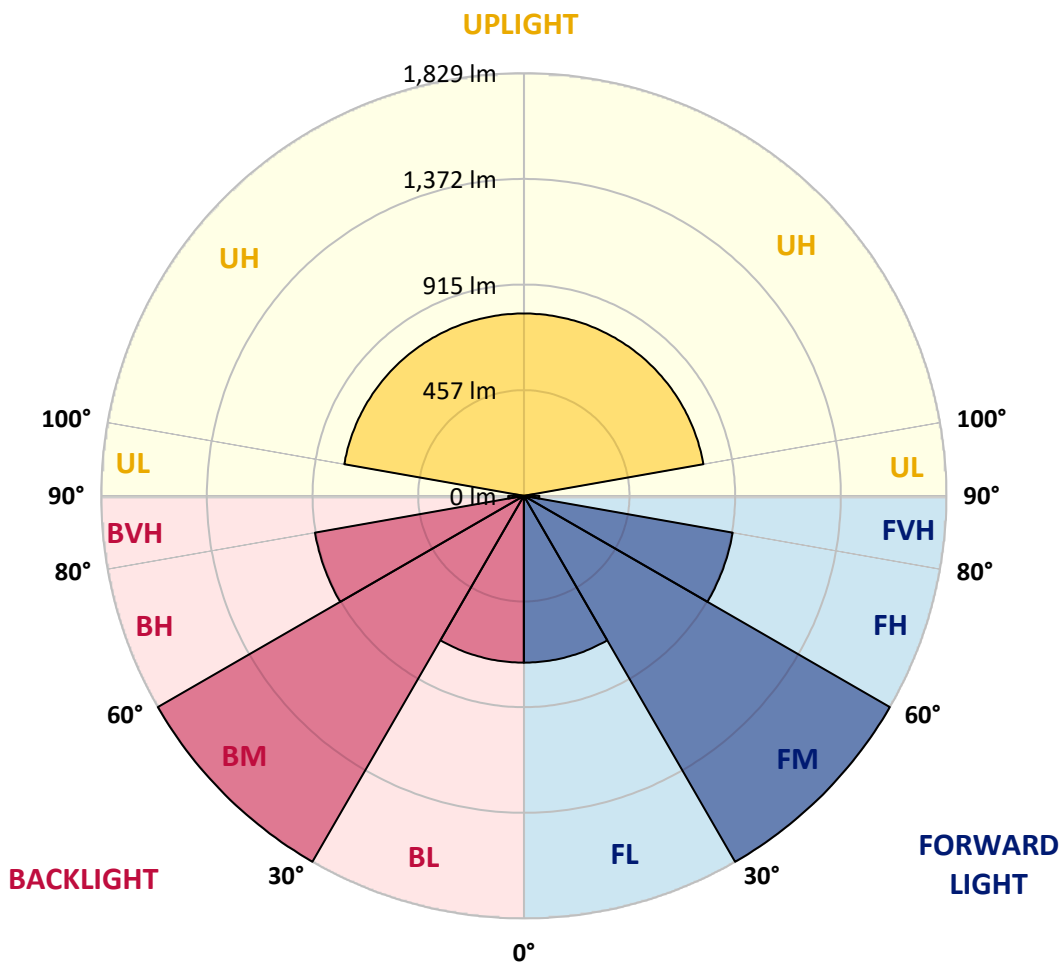


REPORT NUMBER: P821234
 CATALOG NUMBER: TT-D4-735-24VDC-CQ-UPL

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	722.2	9.1			
FM (30°-60°)	1829.2	23.1			
FH (60°-80°)	918.1	11.6			G1/1800
FVH (80°-90°)	67.5	0.9			G1/100
BL (0°-30°)	722.2	9.1	B2/1000		
BM (30°-60°)	1829.2	23.1	B2/2500		
BH (60°-80°)	918.1	11.6	B2/1000		G1/1800
BVH (80°-90°)	67.5	0.9			G1/100
UL (90°-100°)	42.6	0.5		U2/50	
UH (100°-180°)	789.1	10.0		U4/1000	

BUG Rating: B2-U4-G1
 Type V Short





REPORT NUMBER: P821234

CATALOG NUMBER: TT-D4-735-24VDC-CQ-UPL

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	1768.7	1768.7	1768.7	1768.7	1768.7	1768.7	1768.7	1768.7	1768.7	1768.7	1768.7
2.5°	1764.2	1769.8	1767.6	1767.6	1767.6	1767.6	1765.3	1767.6	1767.6	1768.7	1767.6
5°	1765.3	1764.2	1764.2	1765.3	1765.3	1766.5	1764.2	1765.3	1766.5	1766.5	1767.6
7.5°	1762.0	1763.1	1760.8	1763.1	1760.8	1762.0	1762.0	1763.1	1762.0	1763.1	1765.3
10°	1755.2	1756.3	1755.2	1755.2	1755.2	1757.5	1753.0	1756.3	1755.2	1756.3	1755.2
12.5°	1742.8	1748.5	1746.2	1748.5	1748.5	1748.5	1745.1	1747.3	1748.5	1748.5	1748.5
15°	1737.2	1738.3	1735.0	1739.5	1740.6	1741.7	1737.2	1739.5	1739.5	1740.6	1741.7
17.5°	1724.8	1730.5	1729.3	1732.7	1731.6	1735.0	1733.8	1732.7	1731.6	1733.8	1731.6
20°	1715.8	1721.5	1720.3	1723.7	1724.8	1728.2	1724.8	1724.8	1721.5	1722.6	1726.0
22.5°	1706.8	1709.1	1709.1	1712.5	1712.5	1715.8	1712.5	1711.3	1711.3	1710.2	1713.6
25°	1692.2	1693.3	1692.2	1695.6	1697.8	1700.1	1698.9	1696.7	1695.6	1695.6	1694.4
27.5°	1668.6	1673.1	1675.3	1679.8	1680.9	1684.3	1679.8	1679.8	1677.6	1675.3	1676.4
30°	1650.6	1652.8	1652.8	1662.9	1662.9	1668.6	1662.9	1661.8	1660.7	1659.6	1657.3
32.5°	1633.7	1637.1	1640.4	1648.3	1653.9	1656.2	1652.8	1650.6	1644.9	1641.6	1640.4
35°	1620.2	1621.3	1628.1	1639.3	1646.1	1651.7	1647.2	1641.6	1633.7	1628.1	1632.6
37.5°	1610.1	1611.2	1621.3	1635.9	1648.3	1652.8	1646.1	1637.1	1624.7	1617.9	1615.7
40°	1601.1	1607.8	1619.1	1639.3	1652.8	1659.6	1653.9	1641.6	1623.6	1610.1	1608.9
42.5°	1596.6	1599.9	1616.8	1640.4	1659.6	1668.6	1660.7	1643.8	1621.3	1605.6	1604.4
45°	1585.3	1595.4	1611.2	1641.6	1662.9	1674.2	1662.9	1641.6	1614.6	1596.6	1593.2
47.5°	1576.3	1579.7	1604.4	1639.3	1665.2	1674.2	1662.9	1635.9	1602.2	1578.6	1576.3
50°	1554.9	1562.8	1587.6	1624.7	1655.1	1664.1	1650.6	1614.6	1576.3	1550.4	1545.9
52.5°	1522.3	1529.1	1558.3	1604.4	1633.7	1643.8	1623.6	1585.3	1540.3	1508.8	1508.8
55°	1471.7	1481.8	1512.2	1559.4	1596.6	1605.6	1581.9	1541.4	1490.8	1459.3	1458.2
57.5°	1410.9	1417.7	1450.3	1502.1	1538.1	1551.6	1527.9	1482.9	1432.3	1395.2	1391.8
60°	1332.2	1341.2	1376.0	1425.5	1462.7	1473.9	1453.7	1408.7	1356.9	1317.5	1317.5
62.5°	1237.6	1247.8	1282.7	1333.3	1371.5	1388.4	1360.3	1317.5	1263.5	1225.3	1221.9
65°	1127.4	1136.4	1167.9	1220.8	1260.1	1272.5	1251.1	1206.1	1154.4	1118.4	1115.0
67.5°	1003.6	1016.0	1047.5	1092.5	1126.3	1142.0	1128.5	1088.0	1034.0	996.9	993.5
70°	869.7	878.7	903.5	945.1	983.4	994.6	974.4	947.4	896.7	863.0	858.5
72.5°	726.8	734.7	755.0	794.3	821.3	836.0	824.7	789.8	749.3	721.2	725.7
75°	582.8	581.7	604.2	632.3	657.1	667.2	659.3	636.8	599.7	576.1	574.9
77.5°	438.8	450.1	457.9	481.6	501.8	509.7	498.4	480.4	452.3	433.2	436.6
80°	308.3	301.5	316.2	330.8	344.3	352.2	345.4	335.3	316.2	301.5	299.3
82.5°	189.0	183.4	190.1	203.6	212.6	214.9	216.0	203.6	195.8	184.5	186.8
85°	83.3	84.4	90.0	99.0	100.1	101.3	101.3	99.0	90.0	88.9	86.6
87.5°	20.3	20.3	21.4	24.8	24.8	25.9	25.9	22.5	21.4	19.1	20.3
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



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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)