

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: LUMARK

Report Number: P146863

Luminaire Tested: **LDRL-T4-F03-E-8030**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P146863
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (P33696)
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: LDRL-T4-F03-E-8030
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE
(3) LIGHTBARS WITH AccuLED OPTICS - TYPE 4 SHORT
Light Source: (21) 3000K CCT, 80 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6142.3 lumens
Efficiency: N/A
Efficacy: 78.4 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type IV - Short - Semi-Cutoff
BUG Rating: B1 - U0 - G2

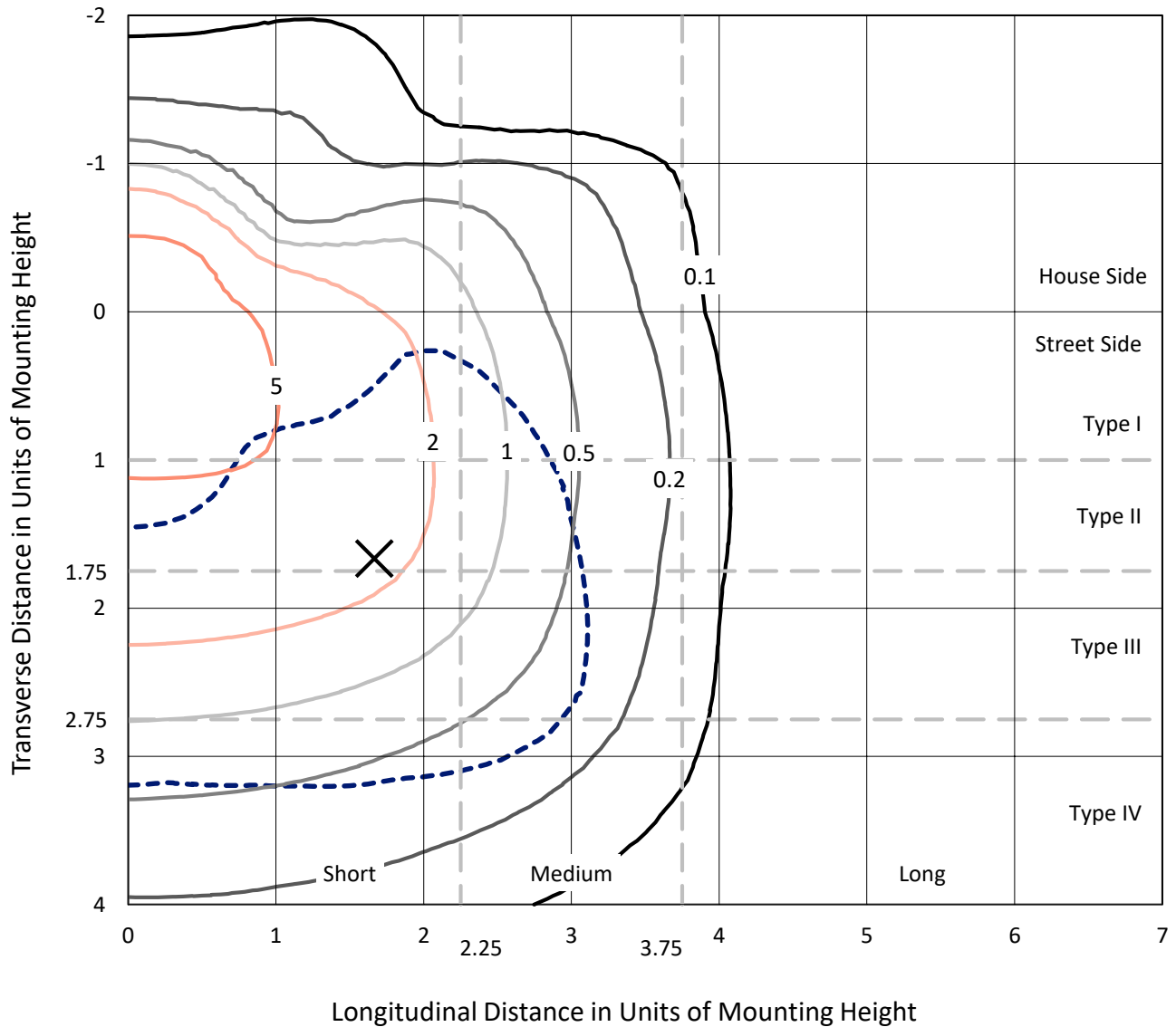
Input Watts (W): 78.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

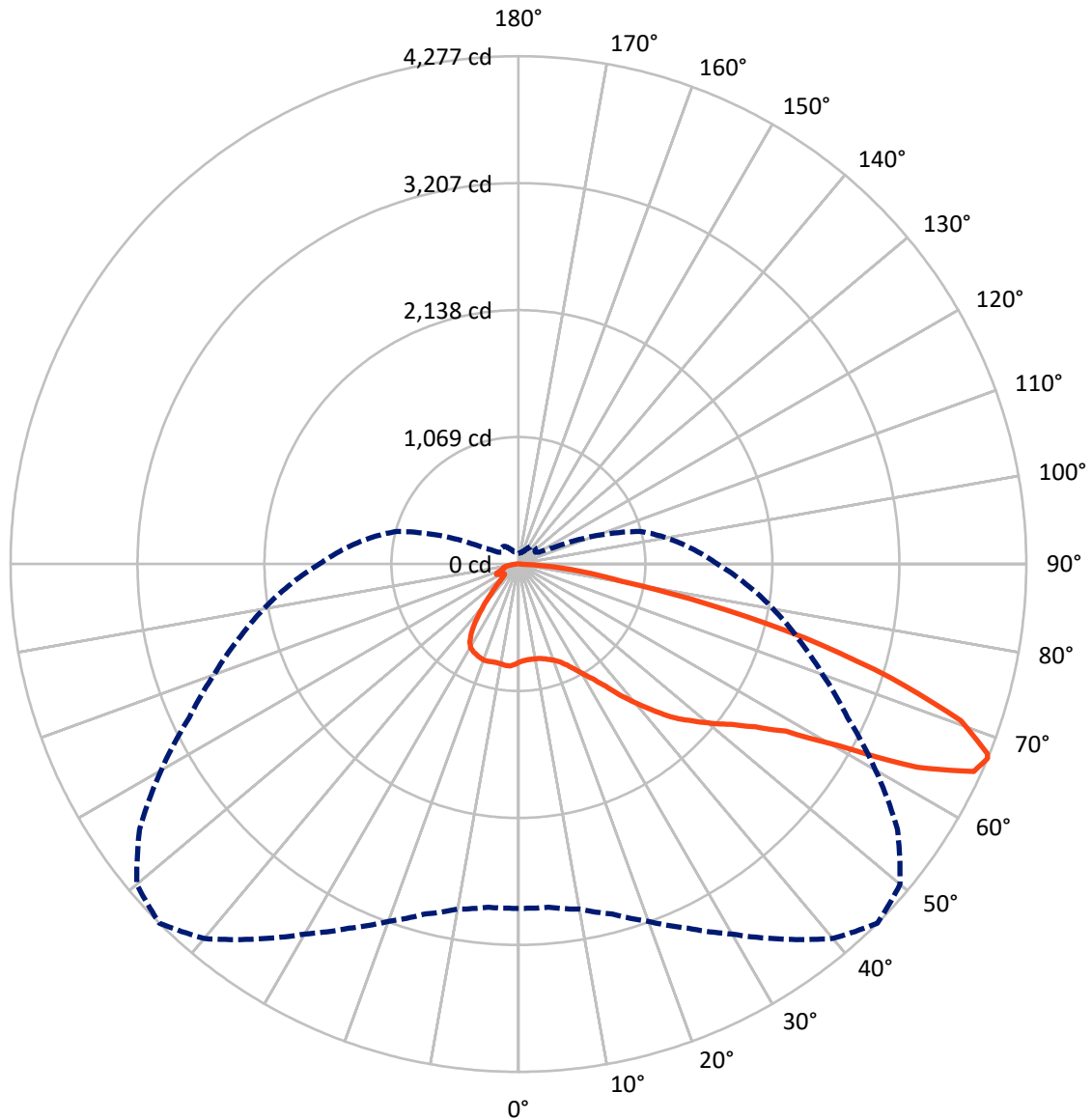
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 8.4 fc
 Type IV - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 45-Deg Lateral - - - Horizontal Cone Through 67-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1244.6	0.0	1244.6
	% Fixture	20.3	0.0	20.3
Street Side	Lumens	4897.7	0.0	4897.7
	% Fixture	79.7	0.0	79.7
Total	Lumens	6142.3	0.0	6142.3
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	79.7	1.3
10°-20°	239.3	3.9
20°-30°	406.7	6.6
30°-40°	611.3	10.0
40°-50°	794.8	12.9
50°-60°	1091.3	17.8
60°-70°	1721.5	28.0
70°-80°	1040.1	16.9
80°-90°	157.6	2.6
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-90°	6142.3	100.0
0°-180°	6142.3	100.0

Coefficient of Utilization



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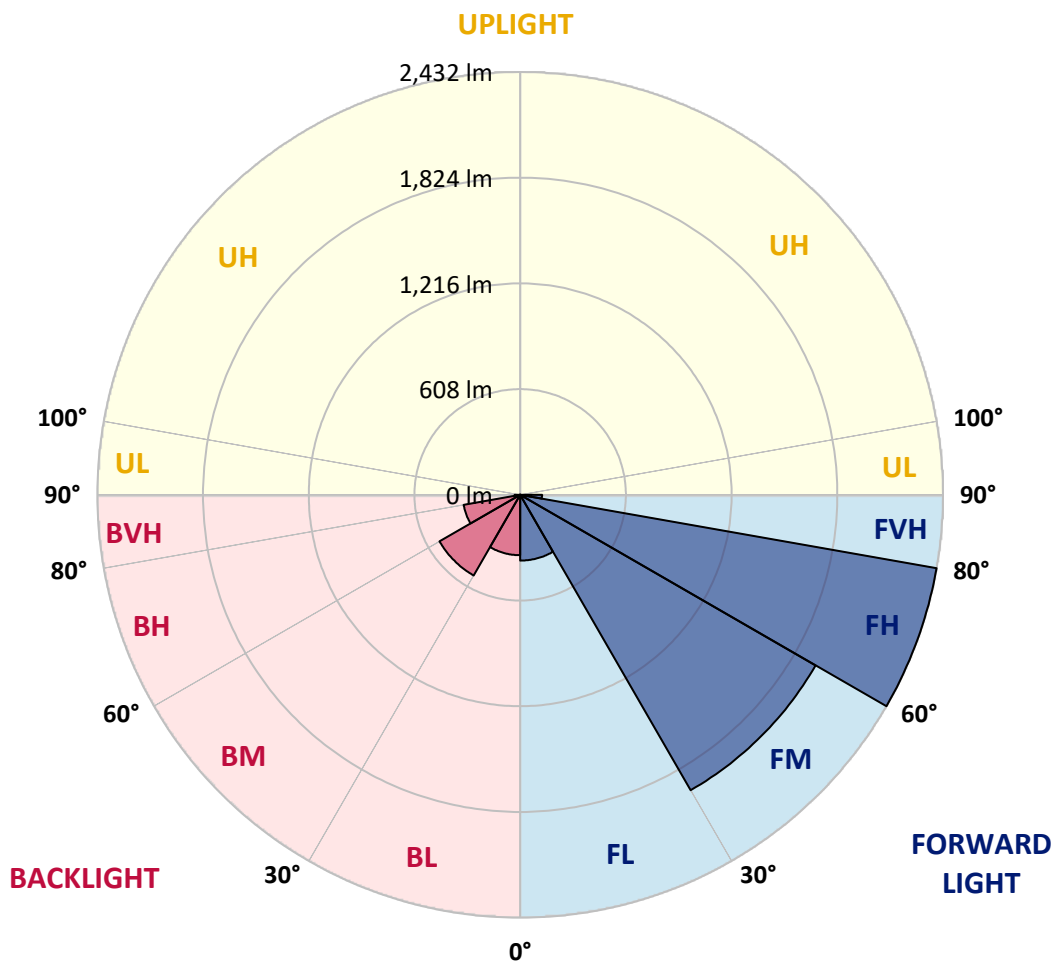
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	378.2	6.2			
FM	(30°-60°)	1961.8	31.9			
FH	(60°-80°)	2431.9	39.6			G2/5000
FVH	(80°-90°)	125.8	2.0			G2/225
BL	(0°-30°)	347.5	5.7	B1/500		
BM	(30°-60°)	535.6	8.7	B1/1000		
BH	(60°-80°)	329.8	5.4	B1/500		G1/500
BVH	(80°-90°)	31.7	0.5			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G2

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	826.9	826.9	826.9	826.9	826.9	826.9	826.9	826.9	826.9	826.9	826.9
2.5°	808.5	810.2	808.9	808.9	809.3	809.7	810.6	812.3	812.7	815.2	815.6
5°	792.2	792.6	792.6	793.0	795.5	797.6	799.7	802.6	805.1	809.7	812.7
7.5°	786.3	788.0	787.6	788.4	790.9	793.0	795.5	799.7	806.0	809.7	813.9
10°	796.0	797.2	796.0	796.4	796.8	798.9	799.7	802.6	807.7	811.0	814.8
12.5°	818.1	818.1	816.9	816.0	814.8	815.2	813.5	813.1	815.6	816.0	816.4
15°	847.4	850.7	846.5	843.2	841.5	839.8	834.4	832.3	831.9	828.1	824.4
17.5°	877.1	877.9	875.4	871.6	869.1	865.3	860.7	856.6	851.6	845.7	838.2
20°	910.1	910.5	907.1	901.7	898.8	894.2	888.3	881.2	875.0	865.8	857.4
22.5°	956.1	955.6	949.0	944.4	940.2	934.7	926.4	916.8	906.7	895.9	884.2
25°	1008.7	1008.7	1004.1	996.6	994.5	986.6	977.4	966.1	955.6	940.2	926.0
27.5°	1068.9	1069.3	1061.0	1056.8	1052.2	1043.8	1037.6	1028.8	1014.6	999.1	984.5
30°	1140.4	1138.3	1131.6	1122.9	1121.2	1114.5	1105.7	1099.4	1081.9	1071.0	1054.7
32.5°	1208.1	1211.5	1209.8	1199.8	1201.5	1194.8	1187.2	1182.6	1164.2	1153.8	1138.7
35°	1309.3	1312.2	1314.7	1311.0	1313.1	1309.3	1303.0	1290.9	1275.9	1262.1	1241.2
37.5°	1387.9	1390.8	1392.5	1401.7	1415.1	1428.0	1433.9	1427.6	1428.4	1407.5	1379.5
40°	1452.3	1459.4	1469.4	1487.0	1513.7	1538.4	1551.8	1562.2	1567.7	1548.0	1511.6
42.5°	1516.7	1524.2	1538.0	1566.0	1602.8	1638.3	1666.3	1698.5	1704.4	1699.3	1668.4
45°	1584.0	1592.7	1609.9	1641.6	1684.7	1731.1	1776.3	1821.8	1844.8	1848.6	1811.0
47.5°	1665.1	1677.6	1693.5	1729.4	1771.2	1823.5	1879.9	1938.5	1974.4	1974.4	1930.9
50°	1766.2	1780.4	1793.8	1829.8	1871.6	1925.5	1990.7	2055.9	2104.8	2107.8	2055.1
52.5°	1907.9	1910.0	1918.0	1951.0	1987.4	2047.6	2109.4	2185.1	2241.5	2244.0	2183.4
55°	2080.2	2080.2	2089.4	2117.0	2150.8	2200.6	2264.5	2348.6	2407.9	2420.9	2343.1
57.5°	2306.8	2315.1	2319.7	2351.9	2374.9	2427.6	2481.1	2572.6	2648.3	2656.7	2577.6
60°	2675.5	2659.6	2685.1	2713.5	2767.4	2805.9	2897.0	2989.0	3085.6	3108.6	3023.7
62.5°	3038.7	3055.9	3087.2	3138.7	3231.0	3317.2	3447.6	3587.2	3737.3	3768.2	3703.4
65°	3061.3	3071.8	3115.2	3203.9	3330.1	3483.5	3663.3	3873.6	4097.2	4213.0	4104.3
67°	2899.1	2902.0	2951.4	3052.1	3203.5	3385.3	3598.1	3854.8	4117.3	4276.6	4195.5
67.5°	2847.7	2853.1	2901.6	3004.5	3157.5	3343.5	3560.5	3824.2	4093.0	4259.4	4186.3
70°	2545.9	2545.9	2598.1	2701.8	2845.2	3026.6	3253.6	3519.9	3812.1	3952.2	3889.9
72.5°	2167.1	2153.3	2212.3	2290.9	2407.9	2566.4	2749.0	2959.3	3179.2	3281.2	3256.5
75°	1575.2	1601.1	1631.6	1689.7	1791.3	1916.3	2023.3	2211.0	2383.7	2496.5	2466.9
77.5°	859.5	869.5	954.0	988.7	1077.7	1170.5	1288.0	1419.7	1555.5	1626.6	1597.8
80°	510.8	530.5	580.7	622.0	670.1	740.8	826.0	854.9	881.6	880.0	827.7
82.5°	322.7	346.6	400.9	436.4	461.5	502.5	548.9	585.3	593.2	553.9	493.3
85°	52.3	86.5	226.2	265.9	281.8	303.9	338.2	353.7	330.3	288.4	298.9
87.5°	20.5	24.7	69.0	87.4	92.4	48.5	84.0	98.7	50.2	25.5	57.7
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	826.9	826.9	826.9	826.9	826.9	826.9	826.9	826.9	826.9	826.9	826.9
2.5°	818.1	820.2	822.3	824.8	825.6	827.7	831.5	831.1	834.0	835.2	837.3
5°	816.4	821.0	824.4	829.0	830.6	835.2	840.3	841.9	845.7	848.6	851.1
7.5°	819.8	824.8	829.0	834.4	838.2	841.9	845.7	850.3	853.6	855.7	857.4
10°	821.0	826.5	831.5	836.1	840.3	843.2	847.4	851.1	854.5	855.7	856.1
12.5°	821.5	825.2	830.2	835.2	839.0	842.8	845.7	849.9	852.4	852.8	852.0
15°	824.8	825.2	828.6	834.4	838.2	841.9	844.0	846.1	847.8	846.5	845.3
17.5°	834.8	831.9	831.9	834.8	836.9	838.6	839.0	838.6	836.9	834.4	832.3
20°	851.1	845.3	840.7	839.0	835.7	831.5	826.0	821.0	814.8	811.8	811.4
22.5°	876.6	867.9	859.5	851.1	840.3	828.1	815.6	804.7	796.0	791.4	791.8
25°	920.1	907.1	897.5	882.9	865.3	848.2	831.9	817.3	806.8	798.5	800.1
27.5°	978.6	964.0	955.6	938.9	918.9	897.1	877.9	857.8	842.8	832.3	834.4
30°	1047.2	1043.0	1029.2	1012.5	993.7	969.0	940.2	910.1	882.9	865.8	862.4
32.5°	1130.0	1125.4	1110.3	1096.1	1071.9	1044.7	1007.1	959.4	916.8	884.2	869.9
35°	1232.0	1220.7	1202.3	1188.5	1161.3	1126.2	1077.7	1013.3	948.5	899.6	864.1
37.5°	1359.1	1331.0	1300.5	1264.6	1224.4	1181.8	1125.8	1050.5	970.3	900.9	837.8
40°	1480.3	1435.1	1384.6	1327.7	1278.8	1227.4	1169.3	1083.1	984.9	892.1	798.0
42.5°	1615.3	1545.1	1476.5	1398.3	1334.0	1272.9	1206.5	1106.1	987.8	868.3	746.6
45°	1745.3	1655.0	1563.1	1466.5	1384.6	1316.8	1241.2	1125.8	987.0	843.2	695.6
47.5°	1861.1	1753.3	1639.6	1530.9	1435.6	1361.1	1278.4	1152.5	998.3	836.1	661.8
50°	1969.4	1844.8	1711.5	1590.6	1487.0	1410.9	1325.6	1194.8	1033.0	852.4	656.7
52.5°	2081.0	1945.6	1793.0	1663.0	1554.7	1466.5	1380.4	1248.7	1081.5	885.8	668.0
55°	2226.5	2071.0	1908.4	1764.1	1640.0	1545.1	1445.6	1313.9	1133.7	924.7	689.4
57.5°	2443.0	2261.2	2076.4	1921.3	1777.9	1659.6	1550.5	1399.6	1220.3	983.2	736.2
60°	2831.8	2630.3	2416.3	2213.5	2048.4	1910.0	1771.2	1584.0	1380.0	1116.2	843.6
62.5°	3466.8	3188.0	2892.0	2625.3	2398.3	2211.0	2015.4	1790.5	1552.6	1277.5	1006.2
65°	3848.5	3463.9	3087.2	2777.9	2509.5	2269.5	2032.9	1791.3	1561.0	1320.6	1079.4
67°	3895.7	3473.9	3057.1	2727.7	2440.1	2178.8	1922.2	1675.1	1469.0	1267.5	1059.3
67.5°	3881.5	3453.9	3028.7	2695.9	2405.4	2152.5	1900.0	1647.1	1446.4	1244.9	1044.3
70°	3601.4	3183.0	2762.4	2438.9	2160.4	1901.7	1663.0	1409.6	1254.5	1110.3	936.8
72.5°	2989.0	2662.5	2310.1	2040.5	1800.1	1576.0	1366.2	1154.2	1029.6	927.6	805.6
75°	2216.5	1917.1	1619.1	1456.9	1270.4	1091.1	928.9	772.1	724.0	699.8	627.9
77.5°	1368.7	1099.9	875.4	728.6	579.4	454.0	361.2	293.9	306.4	356.6	379.6
80°	681.4	503.3	389.6	309.8	250.4	202.3	148.4	108.7	130.0	154.3	174.7
82.5°	410.1	324.0	256.3	217.0	176.4	136.3	96.6	73.6	81.5	109.5	120.4
85°	254.6	204.0	163.0	136.3	112.9	83.6	54.8	54.3	57.7	72.7	83.2
87.5°	74.8	50.6	40.1	41.8	46.4	38.5	28.8	24.7	30.5	41.8	46.8
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	826.9	826.9	826.9	826.9	826.9	826.9	826.9	826.9	826.9	826.9	826.9
2.5°	837.8	840.7	841.9	842.4	842.8	845.3	845.3	847.8	848.6	848.6	849.5
5°	853.6	856.6	857.8	858.2	859.1	860.3	859.9	861.6	862.4	862.0	862.0
7.5°	859.5	860.3	860.3	861.6	862.8	861.6	860.7	861.6	861.2	861.6	861.6
10°	857.4	856.6	856.6	855.7	857.0	854.5	854.5	855.3	854.9	855.7	857.0
12.5°	852.4	852.0	850.7	850.3	852.0	850.3	850.7	852.0	852.8	854.5	856.6
15°	845.3	844.0	844.0	845.7	849.9	851.1	852.8	854.9	855.3	856.1	857.0
17.5°	833.2	835.2	840.3	846.1	854.1	857.0	857.8	856.6	852.4	849.0	845.7
20°	816.4	825.6	838.6	851.1	860.7	860.3	854.9	847.0	836.9	829.8	825.2
22.5°	802.2	820.2	840.3	855.3	861.6	853.6	841.1	829.0	817.3	806.8	797.6
25°	812.3	829.4	846.5	855.7	855.3	841.5	824.8	811.4	795.5	780.9	765.4
27.5°	844.9	855.3	860.3	857.4	848.6	830.2	811.8	793.0	772.5	755.0	737.0
30°	867.0	867.0	862.0	850.3	834.8	814.3	791.8	767.5	743.3	722.8	702.3
32.5°	859.9	843.6	829.0	813.1	795.5	773.4	747.5	721.1	693.5	669.7	652.1
35°	829.0	793.9	763.3	740.8	722.4	696.0	665.9	635.8	613.3	597.0	586.9
37.5°	773.8	717.8	673.5	645.9	617.4	590.3	555.6	541.8	521.7	511.7	507.9
40°	706.9	625.0	569.4	533.8	503.7	469.9	446.5	437.7	430.2	428.1	426.4
42.5°	630.0	527.6	461.5	424.7	388.4	363.7	353.2	347.8	346.6	346.6	348.6
45°	550.1	428.5	352.4	322.7	292.6	279.7	277.2	274.7	275.1	273.8	274.7
47.5°	488.3	344.0	265.9	238.7	223.2	219.1	216.1	215.3	215.3	213.2	210.7
50°	456.1	287.6	208.6	187.3	178.5	175.6	175.6	173.9	170.6	168.5	163.0
52.5°	447.7	258.3	180.6	162.2	154.7	152.2	149.7	147.2	142.1	137.5	131.3
55°	454.4	249.2	171.8	154.7	146.3	143.4	141.3	137.1	130.0	123.3	116.2
57.5°	482.4	255.0	175.2	156.8	149.2	147.2	145.1	138.8	130.0	120.4	112.5
60°	558.9	282.6	189.4	168.1	161.8	162.2	159.3	151.3	138.8	125.0	113.3
62.5°	657.6	321.1	207.8	183.9	183.1	187.3	187.3	173.5	153.0	132.1	116.2
65°	714.0	333.2	210.3	186.0	193.1	205.3	204.4	186.0	158.0	132.1	115.0
67°	699.8	320.2	199.8	173.9	182.3	196.1	194.4	176.8	150.5	126.7	111.6
67.5°	688.5	316.0	197.3	171.0	179.3	190.6	190.6	173.1	147.2	125.0	110.4
70°	606.2	279.3	184.8	159.7	159.7	162.6	160.5	148.0	130.4	115.0	105.3
72.5°	505.4	244.1	174.7	151.7	143.8	142.1	139.2	130.4	119.1	108.3	99.9
75°	391.7	216.1	166.8	143.4	132.9	129.2	126.2	119.6	110.8	101.6	94.5
77.5°	274.2	185.2	156.3	136.3	125.0	122.1	117.5	109.9	102.8	94.9	88.2
80°	170.1	153.0	136.3	122.9	111.2	107.0	101.2	94.5	88.6	84.0	79.0
82.5°	121.2	112.5	101.6	94.5	82.4	69.8	74.8	75.2	71.5	68.6	67.3
85°	81.1	73.2	67.7	61.5	54.3	48.9	50.2	53.9	54.3	53.1	53.1
87.5°	44.3	37.6	36.4	37.6	32.6	30.9	31.4	34.7	35.1	35.1	35.5
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	826.9	826.9	826.9	826.9
2.5°	849.9	851.1	850.7	851.6
5°	862.8	863.7	863.3	863.7
7.5°	860.7	862.4	863.3	862.0
10°	857.4	859.9	861.6	861.6
12.5°	858.2	862.4	864.9	864.9
15°	857.4	860.7	861.6	861.6
17.5°	844.4	844.4	844.9	843.2
20°	821.9	819.4	818.5	815.6
22.5°	789.7	783.8	780.1	778.0
25°	752.9	743.7	737.8	734.5
27.5°	722.4	714.4	708.6	705.2
30°	688.5	679.3	676.0	673.5
32.5°	639.6	630.8	628.3	626.2
35°	576.1	573.1	566.4	561.8
37.5°	502.5	498.7	496.2	494.5
40°	425.6	426.0	423.9	420.1
42.5°	348.6	352.8	348.6	347.8
45°	273.8	278.4	278.4	279.7
47.5°	211.1	210.3	211.9	212.4
50°	159.7	157.2	156.3	155.1
52.5°	126.7	123.7	122.1	120.0
55°	111.6	108.3	106.6	106.2
57.5°	106.6	102.4	99.9	99.5
60°	105.3	99.5	96.1	95.3
62.5°	105.3	98.2	94.5	93.2
65°	104.1	97.0	93.6	92.4
67°	102.4	96.1	92.8	92.0
67.5°	101.6	95.7	92.8	91.6
70°	99.5	94.5	91.1	89.9
72.5°	94.9	90.7	87.4	86.5
75°	89.9	86.1	84.0	83.2
77.5°	84.0	80.7	78.2	76.1
80°	75.2	71.5	67.7	66.9
82.5°	64.0	59.8	56.9	56.4
85°	51.4	48.1	44.7	44.7
87.5°	36.0	33.9	31.8	29.7
90°	0.0	0.0	0.0	0.0

(END OF REPORT)