

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: P145420

Luminaire Tested: **LDRL-SL4-E01-E**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P145420
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (P33703)
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: LDRL-SL4-E01-E
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE
(1) LIGHTBARS WITH AccuLED OPTICS - TYPE 4 W/ SPILL LIGHT CONTROL
Light Source: (21) 4000K CCT, 70 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2882 lumens
Efficiency: N/A
Efficacy: 116.7 lumens/watt
Luminous Opening: Rectangular (W 0.17' x L: 1' x H: 0')
IES Classification: Type IV - Short - Semi-Cutoff
BUG Rating: B1 - U0 - G1

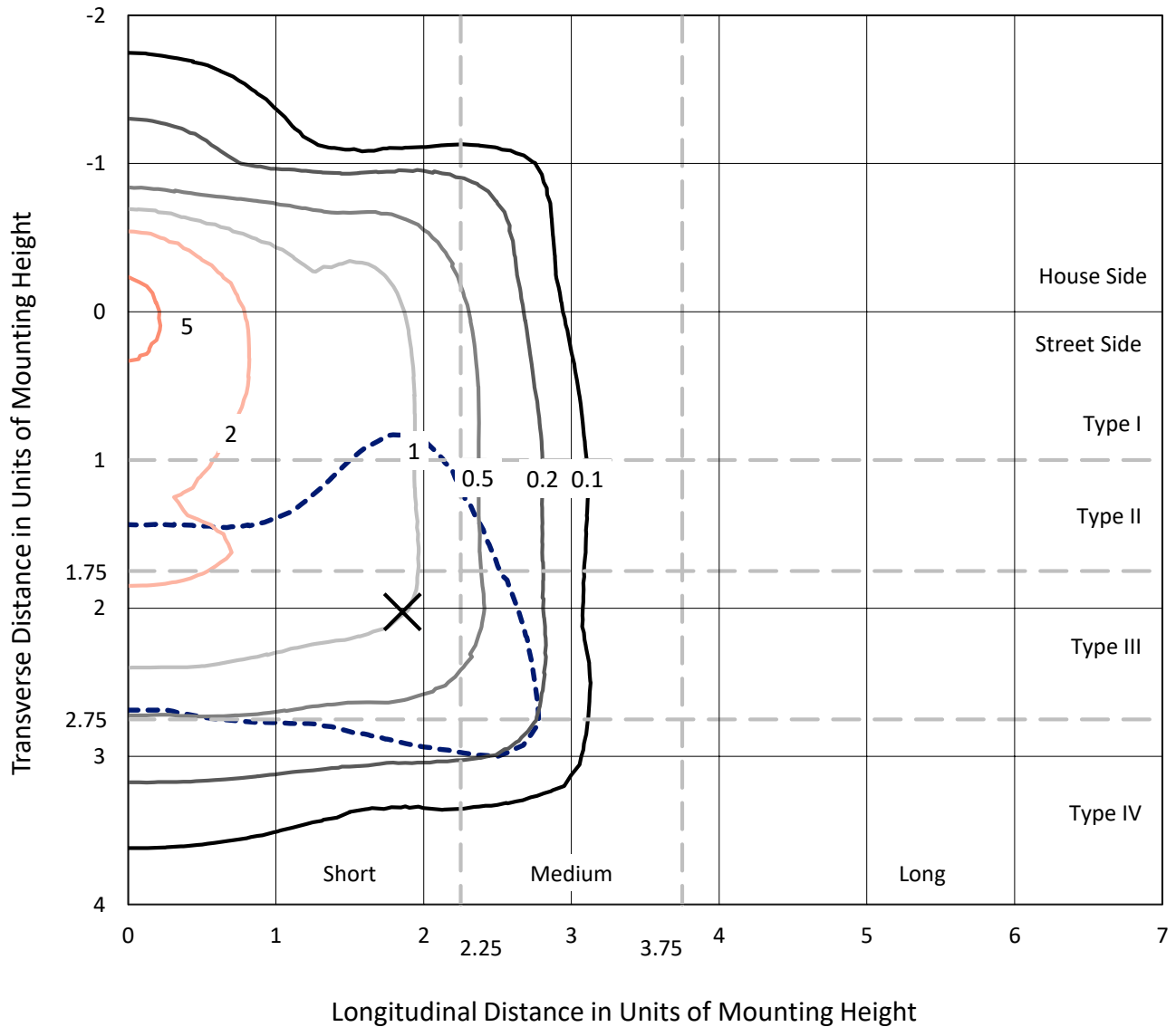
Input Watts (W): 24.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

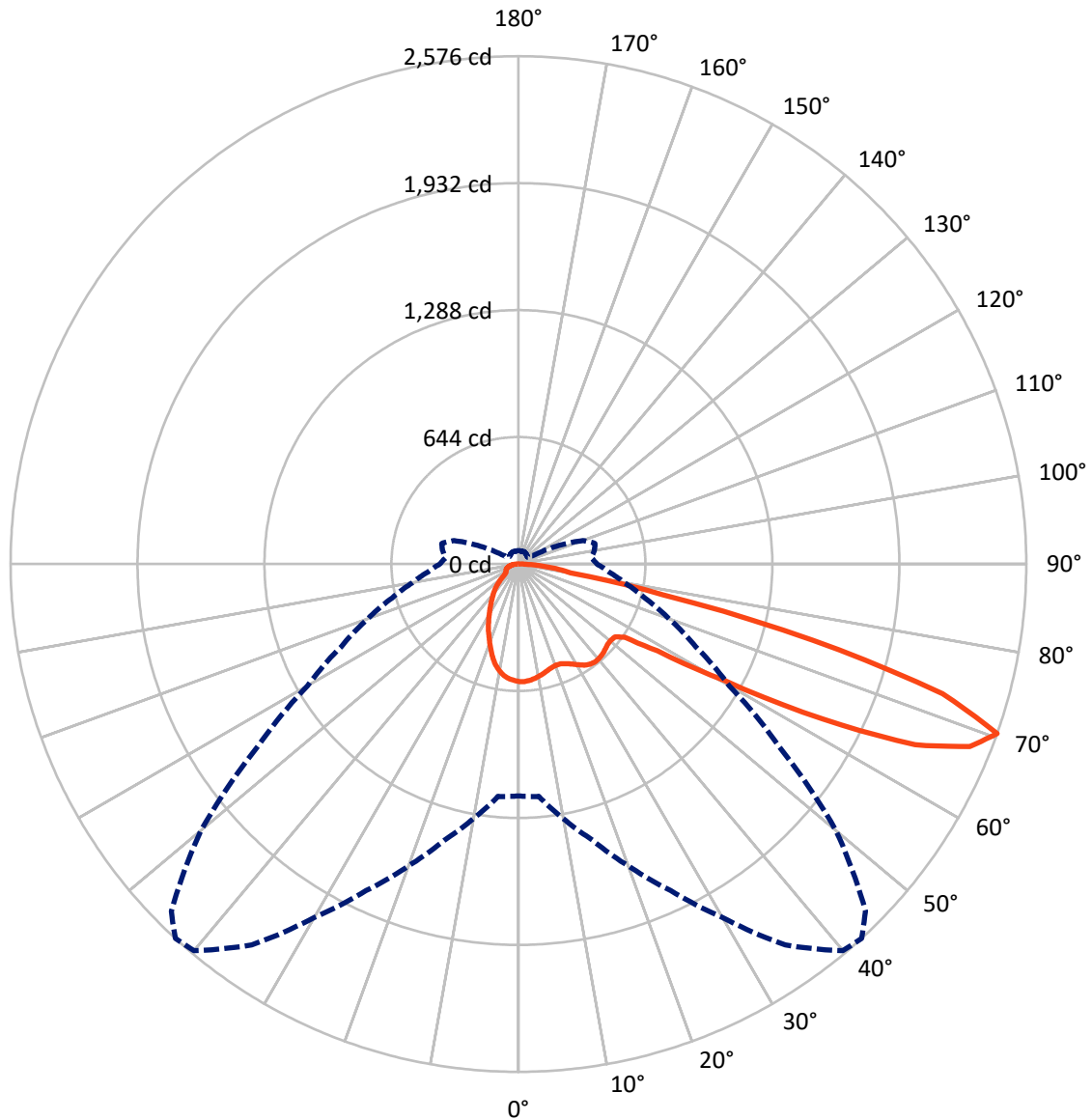
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 6 fc
 Type IV - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 42.5-Deg Lateral - - - Horizontal Cone Through 70-Deg Vertical

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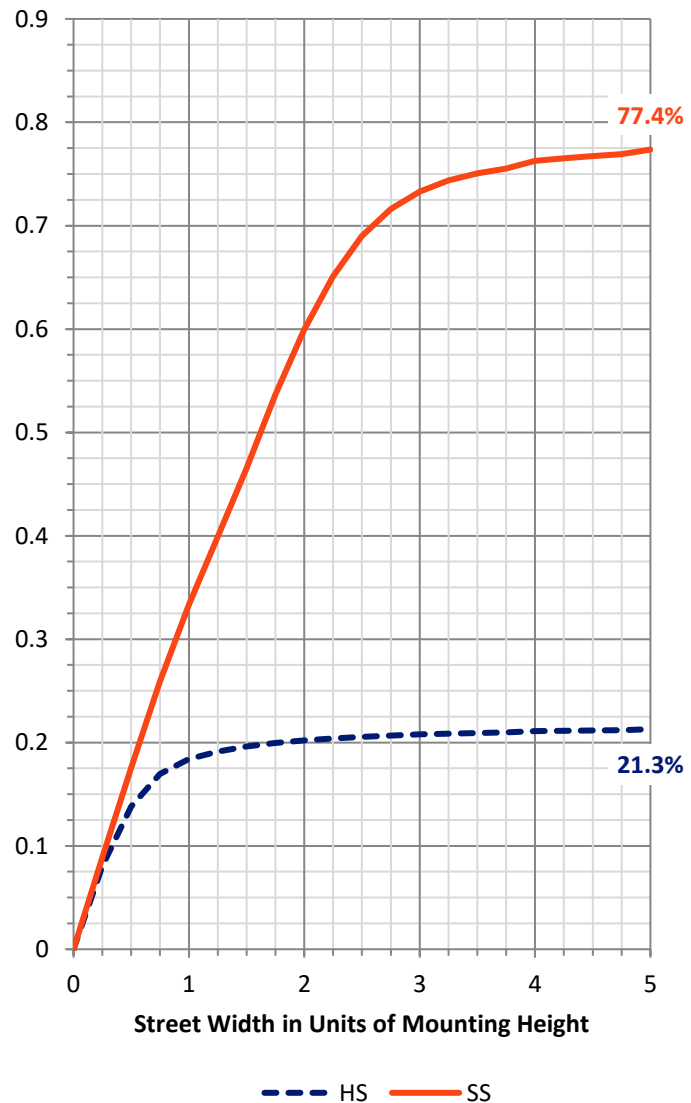
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	622.6	0.0	622.6
	% Fixture	21.6	0.0	21.6
Street Side	Lumens	2259.5	0.0	2259.5
	% Fixture	78.4	0.0	78.4
Total	Lumens	2882.0	0.0	2882.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	55.5	1.9
10°-20°	149.4	5.2
20°-30°	217.9	7.6
30°-40°	277.9	9.6
40°-50°	324.4	11.3
50°-60°	496.1	17.2
60°-70°	899.2	31.2
70°-80°	399.8	13.9
80°-90°	61.9	2.1
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°	2882.0	100.0
0°-180°	2882.0	100.0



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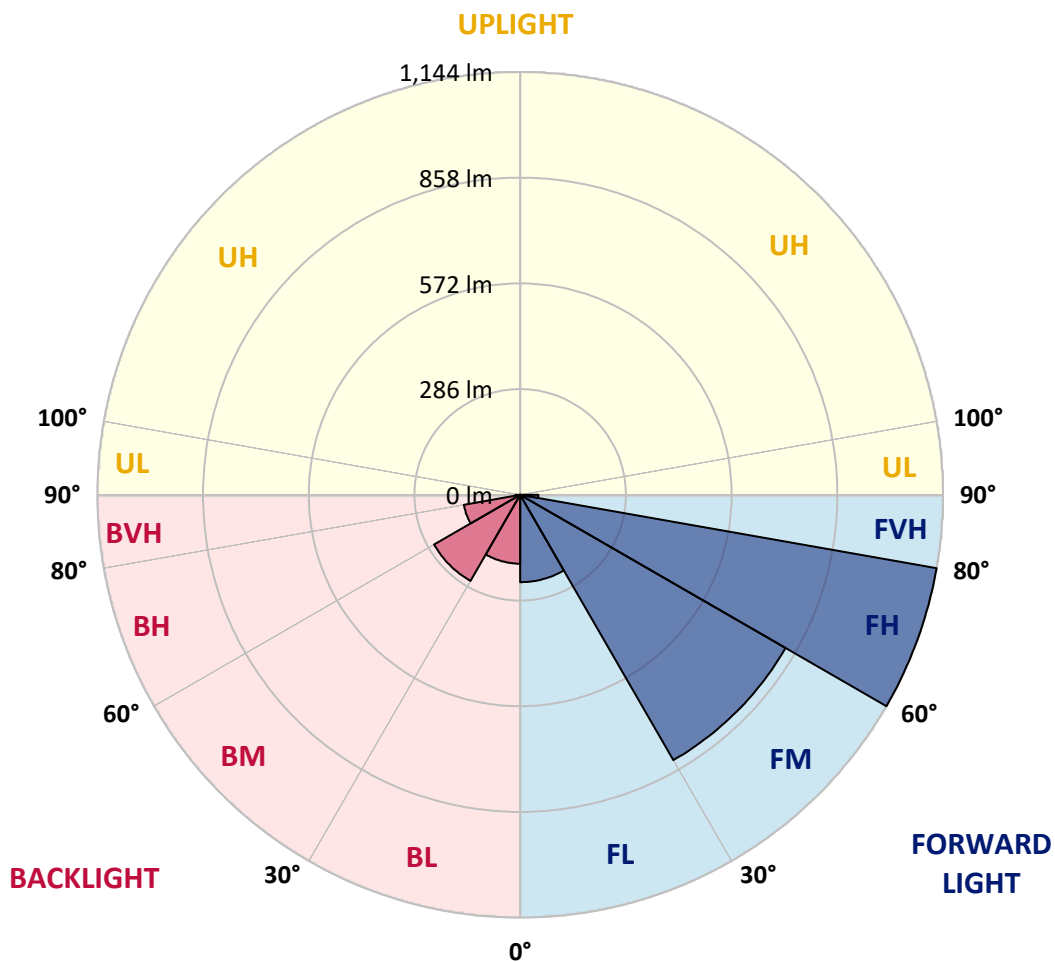
CATALOG NUMBER: LDRL-SL4-E01-E

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	236.4	8.2			
FM	(30°-60°)	829.2	28.8			
FH	(60°-80°)	1144.4	39.7			G1/1800
FVH	(80°-90°)	49.4	1.7			G1/100
BL	(0°-30°)	186.3	6.5	B1/500		
BM	(30°-60°)	269.1	9.3	B1/1000		
BH	(60°-80°)	154.7	5.4	B1/500		G1/500
BVH	(80°-90°)	12.4	0.4			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G1

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	42.5°	45°
0°	596.0	596.0	596.0	596.0	596.0	596.0	596.0	596.0	596.0	596.0	596.0
2.5°	598.8	598.2	598.6	599.0	599.0	599.2	597.4	597.6	596.8	597.0	597.2
5°	596.6	596.0	596.4	596.4	596.4	596.2	593.8	593.6	592.6	592.6	592.2
7.5°	592.4	590.2	591.4	591.6	591.2	590.2	588.8	587.4	586.8	586.8	585.4
10°	586.0	583.6	584.2	584.6	584.4	582.4	581.8	580.4	578.8	578.2	576.6
12.5°	577.8	576.2	577.0	576.8	576.8	575.0	574.0	572.0	570.0	569.0	567.0
15°	572.6	570.6	571.4	571.4	570.6	568.8	567.4	563.8	560.4	559.2	556.6
17.5°	575.8	573.8	574.6	574.0	572.6	568.8	565.2	559.4	554.0	550.8	547.4
20°	588.6	586.6	587.2	586.8	584.8	578.6	572.0	562.0	552.0	547.2	542.0
22.5°	609.0	607.4	608.4	607.8	604.6	596.6	586.8	572.4	557.4	550.2	542.8
25°	639.2	638.8	640.4	638.6	634.0	622.0	607.8	588.4	568.8	559.8	549.4
27.5°	675.6	672.2	674.6	673.0	669.8	654.6	635.4	610.8	585.8	574.0	561.6
30°	708.4	705.4	709.8	709.0	704.2	688.6	664.4	635.6	607.4	592.4	578.2
32.5°	746.4	742.6	746.0	746.0	738.8	717.8	690.2	657.2	627.6	611.6	594.6
35°	786.2	782.2	785.4	784.4	771.6	743.8	709.2	673.4	640.8	624.4	607.0
37.5°	823.2	822.6	823.4	816.8	799.0	763.4	722.0	682.0	647.4	630.2	612.0
40°	860.2	858.8	855.4	843.8	817.8	775.0	728.6	685.0	647.8	629.8	611.4
42.5°	883.4	880.8	875.0	859.2	826.6	777.8	726.6	680.4	643.0	624.6	606.6
45°	891.4	888.8	881.8	864.0	826.8	773.4	718.8	671.2	634.0	617.2	599.0
47.5°	884.8	883.2	876.8	859.0	820.4	765.2	709.0	662.0	625.4	609.0	592.0
50°	873.6	872.6	867.0	850.6	814.4	760.2	704.4	657.6	623.0	607.8	591.8
52.5°	901.6	898.6	888.6	869.2	827.0	769.2	711.6	664.2	628.6	613.2	596.8
55°	1245.8	1223.6	1174.0	1081.0	950.8	849.8	764.8	707.6	669.2	654.2	638.6
57.5°	1638.4	1615.2	1594.6	1523.6	1369.0	1178.2	1006.6	906.2	837.4	830.8	824.6
60°	1789.6	1797.0	1795.2	1768.8	1689.6	1599.0	1455.4	1336.8	1205.4	1200.0	1207.8
62.5°	1893.8	1900.0	1900.8	1892.8	1867.0	1836.8	1806.8	1768.8	1743.8	1733.0	1663.2
65°	1936.8	1945.8	1965.6	1980.4	1984.6	1995.0	2022.2	2125.6	2211.8	2211.2	2129.4
67.5°	1772.6	1783.4	1858.4	1932.0	1993.8	2065.4	2175.6	2343.8	2473.6	2469.6	2402.6
70°	1176.4	1183.2	1310.6	1449.2	1629.0	1827.8	2068.6	2358.6	2559.8	2575.6	2489.2
72.5°	721.6	737.2	778.8	835.0	931.0	1115.2	1473.2	1968.8	2264.0	2249.2	2180.4
75°	487.2	488.0	486.8	492.8	498.2	535.4	679.6	1082.6	1533.6	1541.6	1512.0
77.5°	333.0	337.4	339.8	338.2	343.6	342.0	350.4	371.0	587.8	750.2	689.4
80°	291.0	292.8	295.4	291.6	281.6	276.0	283.8	276.4	260.4	269.0	257.6
82.5°	184.2	189.6	190.2	203.4	223.0	223.8	233.8	226.4	206.0	192.6	176.2
85°	132.4	134.4	138.0	138.8	132.0	126.2	129.8	123.6	111.4	104.2	92.2
87.5°	77.2	79.2	82.8	80.6	73.8	65.4	59.0	50.8	40.2	37.6	33.2
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):

	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°
0°	596.0	596.0	596.0	596.0	596.0	596.0	596.0	596.0	596.0	596.0	596.0
2.5°	597.4	596.4	595.6	595.2	596.0	595.2	594.4	594.0	593.2	593.4	592.4
5°	591.8	590.4	589.2	588.2	589.0	587.6	586.4	585.6	584.6	584.4	583.4
7.5°	584.0	581.8	580.2	578.4	576.4	575.2	573.8	572.4	570.2	570.0	569.6
10°	573.8	572.0	568.8	566.0	563.2	560.2	557.2	555.0	552.4	551.4	550.0
12.5°	563.6	560.0	556.2	551.8	548.4	543.6	539.6	535.4	531.6	529.2	526.6
15°	551.6	547.8	542.4	538.2	533.4	528.0	522.8	516.6	510.4	506.6	503.0
17.5°	541.2	536.4	532.0	526.0	521.2	515.0	507.2	500.6	493.2	487.0	480.4
20°	533.2	527.8	522.6	517.2	511.4	504.4	495.8	486.4	477.0	468.2	458.4
22.5°	530.0	521.4	515.6	510.6	504.6	496.6	487.0	475.4	463.8	452.6	441.2
25°	532.8	520.0	511.0	505.4	500.0	491.8	481.0	467.8	454.2	440.0	426.4
27.5°	540.4	524.2	511.4	502.6	496.4	488.4	476.4	462.6	447.2	431.2	416.6
30°	551.4	531.2	515.2	502.6	493.4	484.2	471.2	455.6	439.4	422.6	406.2
32.5°	563.4	539.0	519.8	503.2	489.0	477.4	463.8	448.6	431.4	413.6	396.0
35°	572.4	544.6	521.8	501.0	482.8	468.2	453.6	438.8	422.0	404.0	386.4
37.5°	576.2	546.8	521.4	496.4	474.2	458.2	443.0	428.2	412.0	395.0	378.8
40°	576.4	546.8	519.0	490.2	465.2	447.8	431.8	418.0	402.8	388.2	373.8
42.5°	572.6	544.0	514.6	484.4	458.6	439.0	422.6	408.4	396.2	383.2	371.0
45°	565.8	538.4	510.6	481.2	456.2	436.8	419.2	405.8	394.8	383.2	372.6
47.5°	560.6	535.2	510.8	485.8	462.0	442.0	423.0	408.8	399.4	390.2	382.6
50°	561.6	536.4	513.2	489.4	466.0	445.8	427.4	415.2	409.6	406.6	404.8
52.5°	566.8	541.2	523.6	507.8	500.2	487.8	477.6	468.4	469.8	462.6	453.4
55°	620.4	611.8	632.0	646.6	653.8	666.4	684.6	667.2	664.8	642.6	576.6
57.5°	833.0	853.4	884.4	906.4	908.6	904.8	889.8	875.4	852.0	818.6	726.2
60°	1189.6	1184.8	1156.0	1117.4	1087.4	1048.0	1008.4	975.0	937.4	886.2	787.8
62.5°	1564.6	1449.0	1346.4	1259.0	1184.8	1119.0	1059.2	1009.0	957.4	883.8	779.0
65°	1867.4	1645.0	1464.2	1323.6	1213.2	1120.2	1043.0	973.8	904.8	819.6	718.0
67.5°	2083.8	1731.0	1458.2	1260.4	1105.6	977.6	865.2	786.4	715.6	648.6	602.8
70°	2101.0	1612.0	1233.6	991.6	813.0	662.6	546.0	460.0	398.4	370.6	390.4
72.5°	1795.4	1192.6	820.2	607.0	481.8	374.4	301.0	240.6	191.0	166.6	170.0
75°	1057.4	572.6	369.4	275.2	224.8	179.6	155.4	131.2	115.8	92.8	74.2
77.5°	402.6	249.0	186.4	154.8	110.4	79.4	62.6	54.0	49.6	49.0	46.4
80°	232.0	182.6	127.8	83.6	61.2	51.8	44.4	38.0	35.4	34.8	35.8
82.5°	146.6	113.8	70.2	53.8	44.6	38.4	32.0	27.8	25.6	24.8	26.2
85°	75.8	57.0	42.8	36.8	34.2	31.2	25.6	21.4	21.2	22.2	25.6
87.5°	28.0	24.4	19.2	16.6	17.8	16.6	12.0	10.4	9.4	12.4	18.0
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):

	105°	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°
0°	596.0	596.0	596.0	596.0	596.0	596.0	596.0	596.0	596.0	596.0	596.0
2.5°	592.4	592.0	592.2	591.8	591.8	592.4	591.6	591.0	592.0	592.0	592.6
5°	583.2	583.6	583.6	583.4	583.8	584.8	584.6	584.6	586.2	586.8	587.6
7.5°	568.6	569.2	569.4	570.0	570.2	571.6	572.6	573.8	576.2	576.8	578.6
10°	548.8	548.4	549.8	549.6	551.4	552.6	553.4	556.0	559.6	561.6	563.4
12.5°	525.4	525.4	526.2	526.4	528.0	529.6	530.6	533.8	536.8	539.4	543.4
15°	500.6	499.8	498.0	497.8	498.4	500.0	502.2	504.6	509.2	513.0	516.4
17.5°	474.6	472.2	470.0	467.2	467.0	466.8	468.0	469.8	477.0	480.8	485.6
20°	451.6	446.4	441.2	435.4	432.0	430.4	431.0	433.4	440.2	445.2	450.2
22.5°	431.0	423.2	415.0	405.8	400.2	396.8	397.2	398.2	403.2	406.2	408.8
25°	413.4	402.6	391.2	379.4	371.6	366.4	366.2	366.2	364.0	364.4	363.0
27.5°	401.4	386.4	371.8	358.0	347.8	342.6	335.6	330.6	326.2	320.2	317.6
30°	389.8	374.4	357.8	342.6	330.4	320.2	307.2	296.4	287.8	279.6	272.6
32.5°	379.4	363.4	347.6	331.0	314.2	296.6	279.6	267.2	255.0	242.4	234.0
35°	370.2	355.2	339.4	320.6	297.0	274.0	254.8	238.0	223.6	208.4	196.2
37.5°	365.0	351.4	335.0	309.4	279.8	253.6	232.2	213.4	194.2	176.0	161.0
40°	362.4	350.4	330.4	298.0	264.4	236.4	212.6	190.0	167.4	146.0	130.4
42.5°	362.0	350.4	323.6	286.4	251.2	221.2	194.6	167.4	140.0	119.2	105.4
45°	365.6	350.0	316.4	276.0	239.4	207.6	175.6	143.6	115.4	97.2	89.6
47.5°	376.0	351.4	310.8	267.2	228.2	192.6	154.0	117.2	93.2	85.0	84.8
50°	392.8	357.8	309.6	260.8	217.2	173.8	128.6	93.8	82.2	81.8	84.0
52.5°	419.4	369.8	312.6	256.4	204.0	149.4	101.8	81.0	78.8	81.0	83.8
55°	478.0	391.2	316.6	248.6	182.6	118.4	83.8	76.8	77.8	80.4	83.0
57.5°	584.6	435.6	320.8	231.0	148.0	91.0	75.4	75.2	77.0	79.2	81.6
60°	652.2	490.4	331.0	205.0	111.8	75.2	72.2	74.2	76.4	78.0	80.0
62.5°	654.4	504.8	336.4	177.2	83.2	68.8	69.4	73.2	75.8	76.4	77.4
65°	612.2	477.6	312.0	144.2	69.0	65.2	67.4	70.8	73.4	73.8	74.6
67.5°	534.8	421.2	264.4	108.8	62.8	62.4	64.8	67.4	69.2	70.8	72.0
70°	402.8	347.6	212.6	84.4	59.0	58.6	61.0	63.2	64.8	66.8	68.8
72.5°	204.2	240.6	161.2	69.0	53.8	54.2	56.8	58.8	60.0	61.8	63.8
75°	69.6	105.0	102.0	55.8	48.0	49.6	50.8	53.0	54.8	56.0	57.0
77.5°	43.6	45.6	52.6	45.0	42.4	42.8	44.8	46.8	48.8	49.6	50.0
80°	36.4	36.6	36.8	36.0	36.2	37.4	38.6	40.8	42.8	43.2	43.4
82.5°	28.8	30.8	30.6	30.4	31.4	32.6	33.4	34.2	35.0	35.4	36.0
85°	25.4	25.0	25.2	25.8	25.0	24.2	24.0	24.0	25.2	26.6	27.2
87.5°	23.2	19.8	14.8	14.0	14.0	13.6	12.8	12.8	14.0	15.2	15.8
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):

	160°	165°	170°	175°	180°
0°	596.0	596.0	596.0	596.0	596.0
2.5°	592.4	592.6	592.4	592.4	593.4
5°	588.0	588.8	588.4	589.0	589.6
7.5°	579.0	581.0	581.4	583.0	582.4
10°	566.0	567.4	569.4	571.0	570.4
12.5°	545.4	548.8	551.8	553.6	553.2
15°	519.2	524.0	528.0	529.4	527.8
17.5°	491.2	494.2	499.0	500.0	501.6
20°	455.8	455.6	459.8	459.8	459.0
22.5°	409.6	412.6	412.6	409.8	408.4
25°	362.4	363.4	360.4	361.0	357.2
27.5°	315.0	312.4	310.0	311.0	308.2
30°	269.8	264.2	261.8	262.2	259.2
32.5°	226.4	219.8	217.4	214.2	211.6
35°	187.0	176.6	170.4	168.8	170.6
37.5°	148.4	141.0	133.6	128.2	128.8
40°	117.4	109.8	105.0	102.8	102.4
42.5°	97.0	92.6	91.6	91.8	91.8
45°	88.0	88.2	89.0	89.8	90.0
47.5°	86.2	87.4	88.8	89.8	90.0
50°	86.0	87.2	88.2	89.4	89.8
52.5°	85.8	86.6	87.2	87.8	88.4
55°	85.0	85.4	85.2	85.6	86.2
57.5°	83.0	83.2	82.8	83.0	84.2
60°	81.2	81.4	80.6	81.6	81.8
62.5°	79.0	78.8	78.4	79.0	79.0
65°	75.8	74.6	75.0	75.6	75.8
67.5°	72.0	70.8	70.8	71.2	71.8
70°	67.2	66.6	66.6	67.4	68.2
72.5°	61.8	62.2	63.4	64.6	65.8
75°	57.4	58.4	59.6	62.6	64.4
77.5°	51.8	52.0	53.0	56.0	59.2
80°	44.0	43.8	44.0	44.4	45.0
82.5°	34.8	34.4	33.2	33.6	32.8
85°	25.6	25.0	23.6	22.6	22.4
87.5°	14.8	14.8	14.2	13.4	12.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)