

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: P196183

Luminaire Tested: **NAV-AF-01-D-UNV-SL4-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196183
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24284)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-AF-01-D-UNV-SL4-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(1) 70 CRI, 4000K, 800mA LIGHTSQUARE WITH 16 LEDS EACH AND TYPE IV SPILL
LIGHT ELIMINATOR OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4817.1 lumens
Efficiency: N/A
Efficacy: 109.5 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B1 - U0 - G2

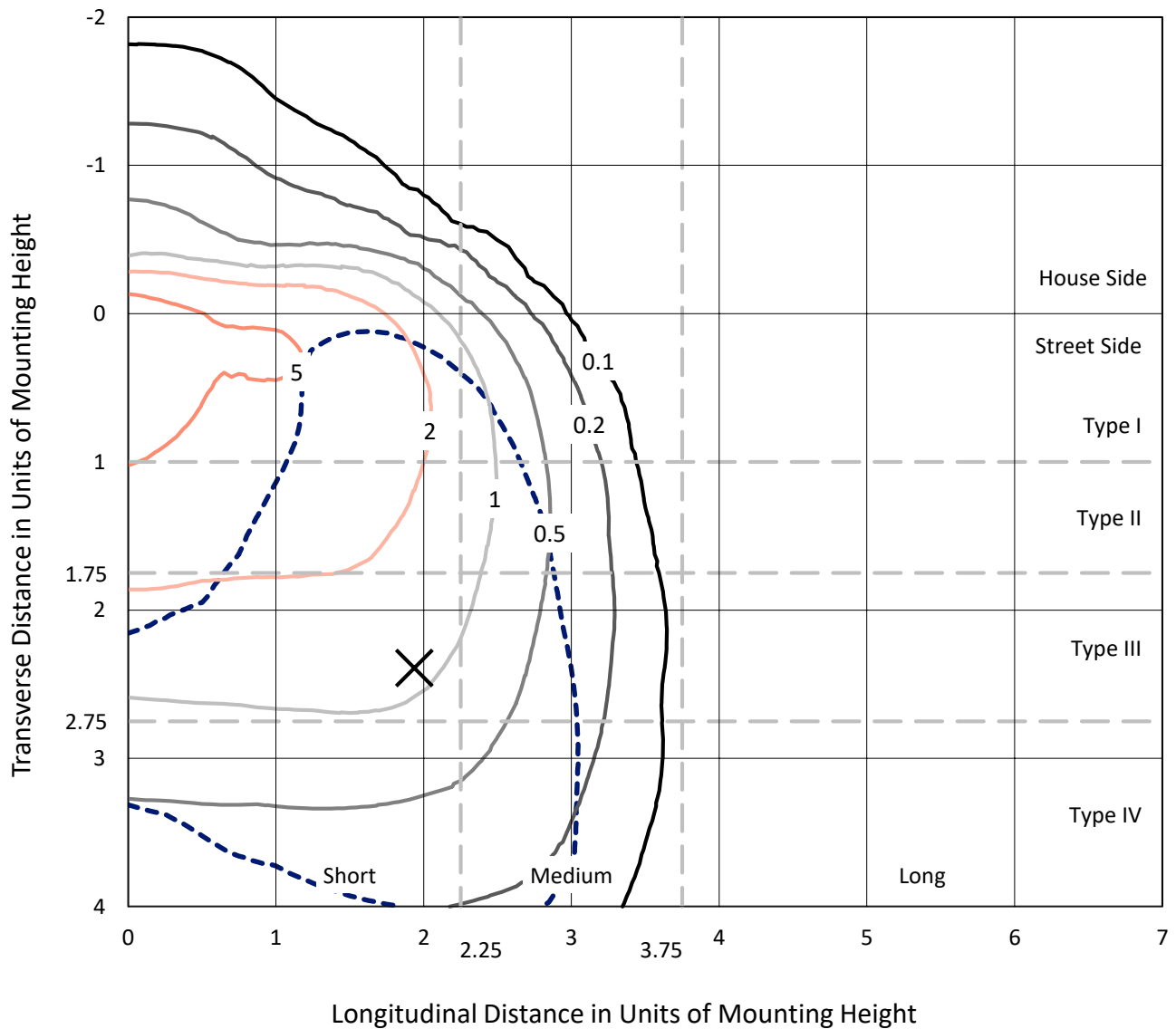
Input Watts (W): 44
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

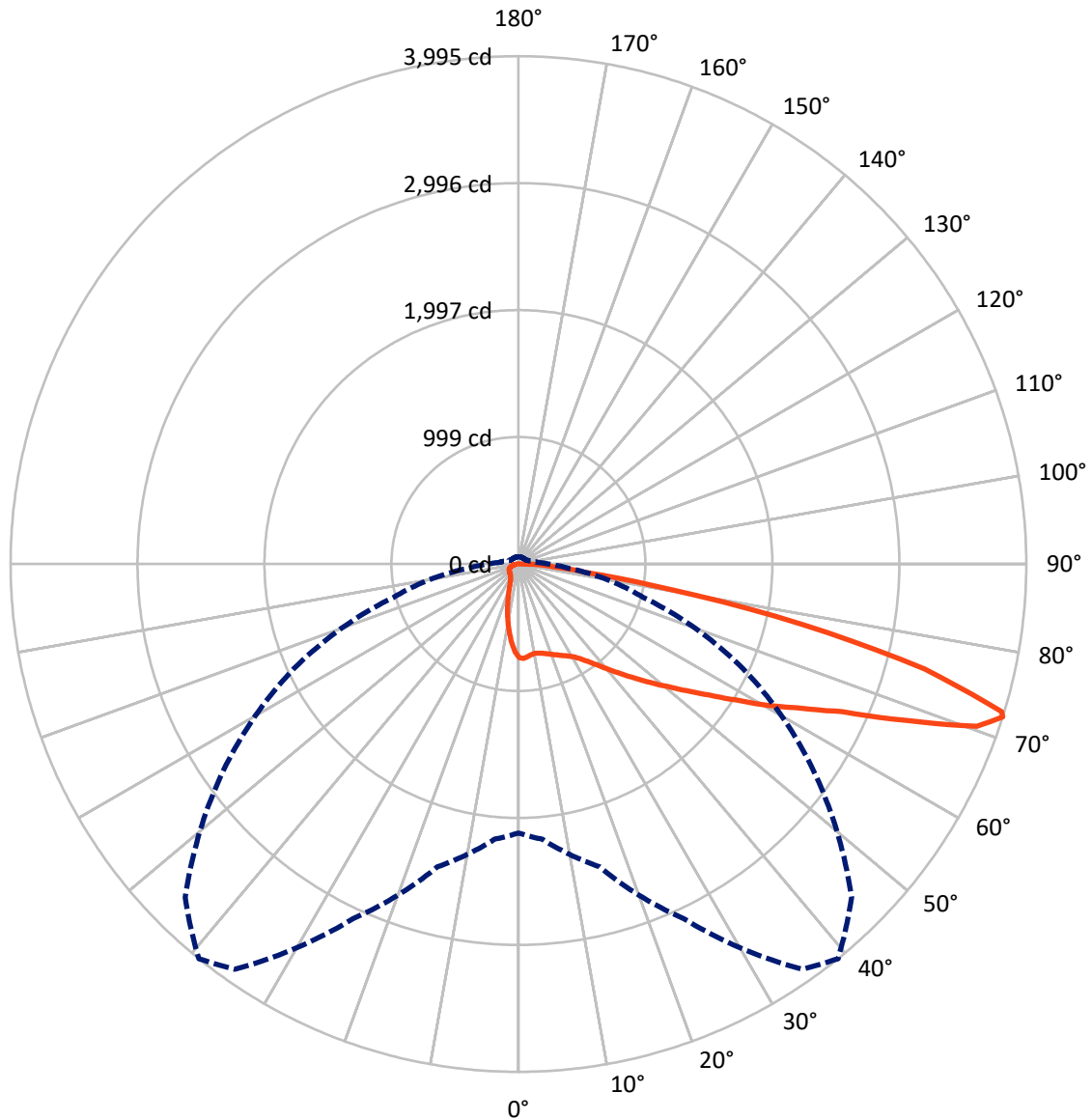
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 7.4 fc
 Type IV - Short - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 39-Deg Lateral - - - Horizontal Cone Through 72-Deg Vertical

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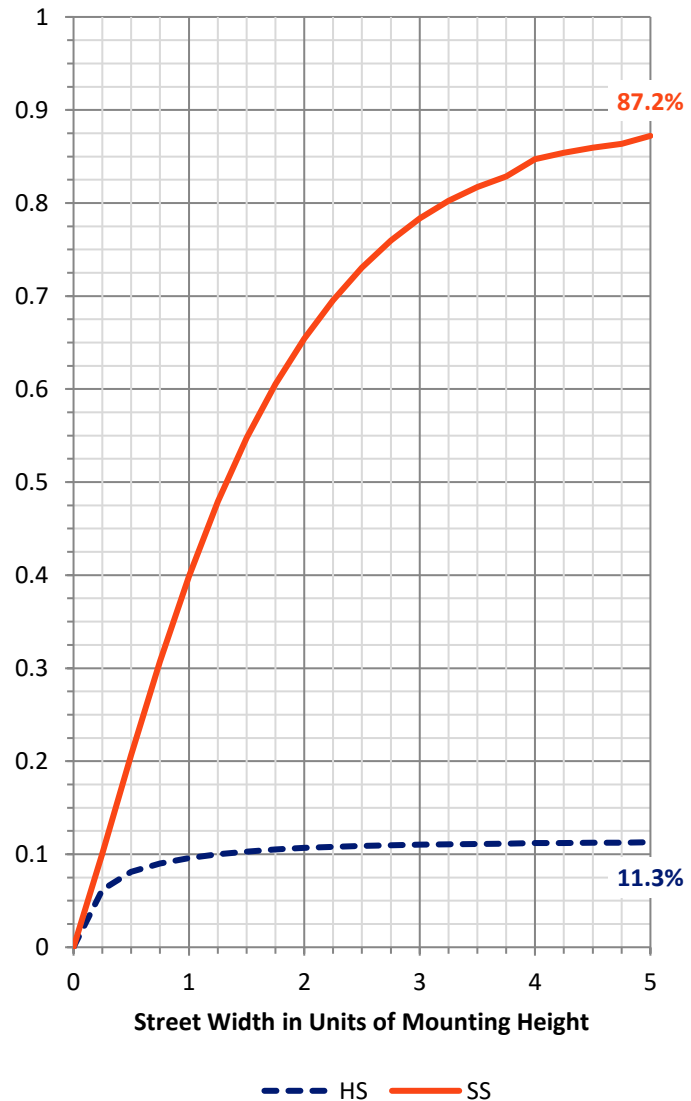
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	552.3	0.0	552.3
	% Fixture	11.5	0.0	11.5
Street Side	Lumens	4264.7	0.0	4264.7
	% Fixture	88.5	0.0	88.5
Total	Lumens	4817.1	0.0	4817.1
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	63.2	1.3
10°-20°	158.9	3.3
20°-30°	247.6	5.1
30°-40°	381.2	7.9
40°-50°	621.4	12.9
50°-60°	965.6	20.0
60°-70°	1292.4	26.8
70°-80°	929.4	19.3
80°-90°	157.6	3.3
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°	4817.1	100.0
0°-180°	4817.1	100.0



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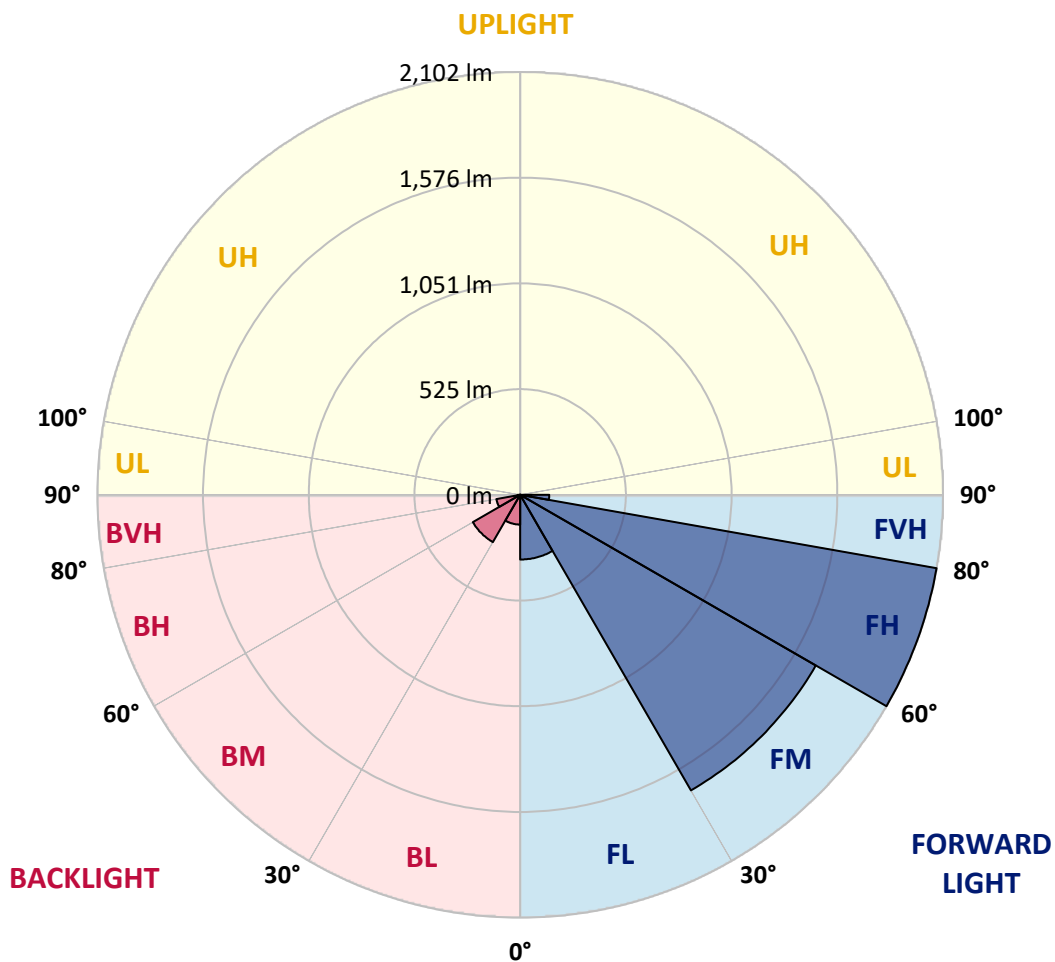
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	321.8	6.7			
FM	(30°-60°)	1696.7	35.2			
FH	(60°-80°)	2101.8	43.6			G2/5000
FVH	(80°-90°)	144.5	3.0			G2/225
BL	(0°-30°)	147.9	3.1	B1/500		
BM	(30°-60°)	271.4	5.6	B1/1000		
BH	(60°-80°)	120.0	2.5	B1/500		G1/500
BVH	(80°-90°)	13.0	0.3			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°	15°	25°	35°	39°	45°	55°	65°	75°	85°
0°	735.6	735.6	735.6	735.6	735.6	735.6	735.6	735.6	735.6	735.6	735.6
2.5°	751.5	751.9	750.8	748.0	745.3	744.1	741.8	738.0	732.7	729.2	726.3
5°	744.4	745.3	744.7	739.9	735.3	732.7	729.2	723.7	716.9	714.0	707.2
7.5°	738.9	739.5	737.5	732.1	723.3	720.2	713.7	706.6	700.4	696.2	688.1
10°	735.0	735.6	734.1	728.5	718.8	714.9	707.2	699.4	691.3	686.2	677.1
12.5°	729.5	730.8	730.8	728.2	721.8	719.1	711.4	703.0	695.6	690.1	678.7
15°	728.5	730.2	733.0	732.7	730.8	728.9	722.7	714.3	707.9	701.3	687.4
17.5°	736.6	740.2	746.0	748.0	746.7	742.5	735.3	727.5	720.5	714.3	697.1
20°	757.0	758.9	767.6	771.5	765.1	758.9	749.5	739.5	733.0	728.2	706.2
22.5°	787.7	790.3	797.4	797.7	784.2	776.7	764.8	752.5	746.3	744.4	718.5
25°	836.9	836.3	838.2	830.1	805.5	796.8	782.3	768.0	763.8	767.6	736.6
27.5°	895.7	894.1	887.9	867.0	829.7	818.5	801.0	788.4	788.4	797.4	761.2
30°	963.6	962.0	941.9	906.7	858.6	845.6	827.2	813.9	820.7	838.2	794.5
32.5°	1035.4	1029.6	1001.5	954.2	899.6	885.4	867.6	854.0	867.0	896.7	842.4
35°	1102.9	1099.8	1065.2	1009.2	952.7	940.7	928.4	911.6	932.2	978.5	909.9
37.5°	1172.8	1170.3	1127.9	1068.4	1017.3	1009.2	998.9	987.2	1020.5	1081.4	1001.5
40°	1250.8	1245.6	1192.2	1132.7	1092.6	1088.7	1083.3	1080.0	1133.7	1224.3	1117.3
42.5°	1339.0	1329.0	1260.2	1203.6	1174.8	1178.0	1175.1	1188.1	1270.2	1389.2	1255.0
45°	1439.9	1419.9	1327.7	1278.9	1265.7	1278.6	1284.7	1317.7	1431.5	1579.6	1408.9
47.5°	1534.3	1508.5	1401.7	1360.7	1368.2	1390.5	1407.9	1466.1	1608.4	1767.9	1566.0
50°	1621.4	1592.2	1481.0	1445.4	1481.6	1513.4	1549.6	1631.7	1796.6	1961.5	1710.3
52.5°	1685.7	1664.6	1560.2	1537.9	1612.0	1654.0	1711.9	1815.7	1986.8	2146.2	1839.0
55°	1735.5	1724.2	1637.5	1644.0	1759.5	1819.5	1889.7	2009.1	2187.9	2311.8	1942.5
57.5°	1793.0	1784.6	1725.8	1772.1	1942.5	2018.1	2100.9	2233.5	2379.3	2457.5	2023.6
60°	1853.9	1853.9	1824.1	1926.3	2171.4	2258.1	2340.5	2443.6	2570.1	2588.9	2056.6
62.5°	1899.7	1911.7	1922.4	2090.5	2388.7	2496.4	2586.9	2685.9	2767.7	2653.5	1979.0
65°	1966.4	1991.9	2052.0	2280.4	2657.7	2798.7	2920.9	3004.1	2927.8	2602.1	1725.8
67.5°	2080.9	2118.6	2246.7	2563.0	3069.7	3280.8	3399.6	3256.0	2896.4	2278.4	1322.0
70°	2184.0	2237.4	2456.3	2921.5	3605.2	3824.4	3769.8	3197.4	2522.6	1670.2	813.2
72°	2115.5	2173.7	2466.0	3077.8	3891.4	3994.8	3706.8	2833.7	1949.2	1019.3	401.0
72.5°	2070.5	2131.0	2434.6	3073.9	3899.1	3973.1	3619.1	2689.1	1769.5	891.8	324.4
75°	1729.7	1781.4	2093.5	2724.3	3436.1	3300.2	2824.3	1740.3	813.2	288.2	166.8
77.5°	1129.5	1168.9	1443.5	1887.4	2406.8	2276.2	1719.0	814.9	304.9	174.9	125.5
80°	567.5	595.7	772.5	992.4	1298.9	1195.1	793.5	394.1	204.1	126.4	98.6
82.5°	394.9	420.7	531.9	506.7	542.9	525.5	373.2	328.9	152.6	79.9	51.8
85°	331.1	357.9	440.1	361.2	295.5	269.3	267.4	310.8	100.9	39.5	43.7
87.5°	288.8	329.5	363.1	263.8	202.7	178.8	196.9	284.9	32.0	21.7	13.3
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):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	735.6	735.6	735.6	735.6	735.6	735.6	735.6	735.6	735.6	735.6	735.6
2.5°	721.4	720.5	715.7	708.2	702.7	699.1	692.3	692.0	692.6	686.8	689.1
5°	701.0	697.1	684.6	667.4	653.6	640.3	625.7	620.8	616.6	607.9	608.9
7.5°	679.8	672.9	650.9	622.8	596.0	571.4	547.2	535.2	526.1	514.7	514.7
10°	667.1	656.4	622.8	581.8	539.1	503.2	467.0	445.3	429.4	414.9	413.9
12.5°	666.5	650.3	603.4	546.8	488.3	437.8	388.3	355.1	331.4	314.4	312.7
15°	671.7	649.0	587.3	514.1	440.4	374.8	313.6	271.3	241.2	222.2	220.2
17.5°	676.2	647.4	569.8	479.9	393.8	313.9	246.1	202.1	173.7	158.1	156.5
20°	680.4	643.8	547.5	443.7	342.5	257.1	192.4	156.8	138.1	129.3	128.4
22.5°	686.5	640.6	524.2	402.9	292.0	209.2	158.8	133.2	123.2	119.0	118.4
25°	696.5	640.9	501.6	361.2	245.7	174.3	137.4	121.6	116.1	113.1	113.1
27.5°	711.1	644.8	479.3	318.9	206.6	150.4	124.8	115.5	111.9	109.7	108.9
30°	732.4	651.9	455.6	278.8	175.5	133.9	117.3	111.6	108.6	106.7	106.4
32.5°	763.4	664.5	430.8	242.2	152.0	122.2	111.9	108.3	106.1	104.4	104.1
35°	809.7	686.8	406.4	211.1	135.1	113.9	107.3	104.4	103.1	102.5	102.2
37.5°	877.6	722.7	383.5	186.9	124.2	108.3	102.8	101.2	100.6	100.6	100.6
40°	963.0	770.0	362.8	169.8	118.0	104.1	99.6	98.3	98.3	98.6	98.6
42.5°	1066.7	829.1	345.0	158.1	114.5	101.2	97.3	96.7	96.4	96.4	96.7
45°	1187.4	899.0	334.0	149.0	111.9	99.6	95.7	95.4	94.1	93.5	93.5
47.5°	1308.7	973.6	333.4	143.9	108.6	97.7	94.1	94.1	91.6	90.2	90.5
50°	1421.8	1040.5	340.5	142.6	106.7	94.7	92.5	92.8	89.2	87.7	87.3
52.5°	1513.0	1091.7	349.2	144.2	106.7	92.2	89.6	91.1	87.3	85.4	85.0
55°	1583.5	1127.3	352.5	147.8	108.0	89.9	87.0	89.6	86.6	84.1	84.1
57.5°	1634.0	1138.5	338.6	149.4	110.0	89.6	84.4	89.2	87.7	84.4	84.4
60°	1615.5	1073.0	286.8	143.2	109.7	88.9	82.4	89.9	90.8	87.3	87.3
62.5°	1471.6	897.6	230.3	129.3	104.1	86.6	80.2	89.2	93.1	91.9	91.1
65°	1198.1	658.4	178.5	112.8	94.7	81.8	75.4	83.5	88.0	89.2	89.6
67.5°	844.3	416.9	138.7	96.1	83.1	74.7	69.9	73.8	75.4	76.0	77.3
70°	461.8	225.7	110.3	80.8	71.1	67.6	64.0	64.3	63.7	63.0	63.7
72°	231.9	147.4	93.1	70.2	63.0	60.8	59.1	58.2	58.2	57.3	57.6
72.5°	199.5	137.1	89.9	67.6	61.1	59.1	57.9	56.9	56.6	56.0	56.3
75°	132.9	108.6	75.0	56.6	52.1	50.7	51.5	50.4	50.7	50.1	50.4
77.5°	107.3	93.5	63.7	47.9	44.6	42.7	44.0	44.3	44.9	44.3	44.0
80°	89.9	79.6	53.4	39.5	37.2	35.6	36.2	38.5	38.8	36.8	36.5
82.5°	58.2	64.0	42.0	30.7	28.4	27.8	29.5	31.7	32.3	29.8	29.1
85°	48.8	51.5	30.4	21.0	18.7	18.1	21.4	23.6	25.3	22.6	22.0
87.5°	13.6	25.3	14.8	10.0	8.4	8.4	10.3	12.3	14.5	14.8	14.8
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)