

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: P195985

Luminaire Tested: **NAV-AF-01-D-UNV-AFL-600-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195985
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24283)
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-AFL-600-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(1) 70 CRI, 4000K, 615mA LIGHTSQUARE WITH 16 LEDS EACH AND AUTOMOTIVE FRONTLINE OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3456.5 lumens
Efficiency: N/A
Efficacy: 101.7 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type II - Short - Full Cutoff
BUG Rating: B0 - U0 - G0

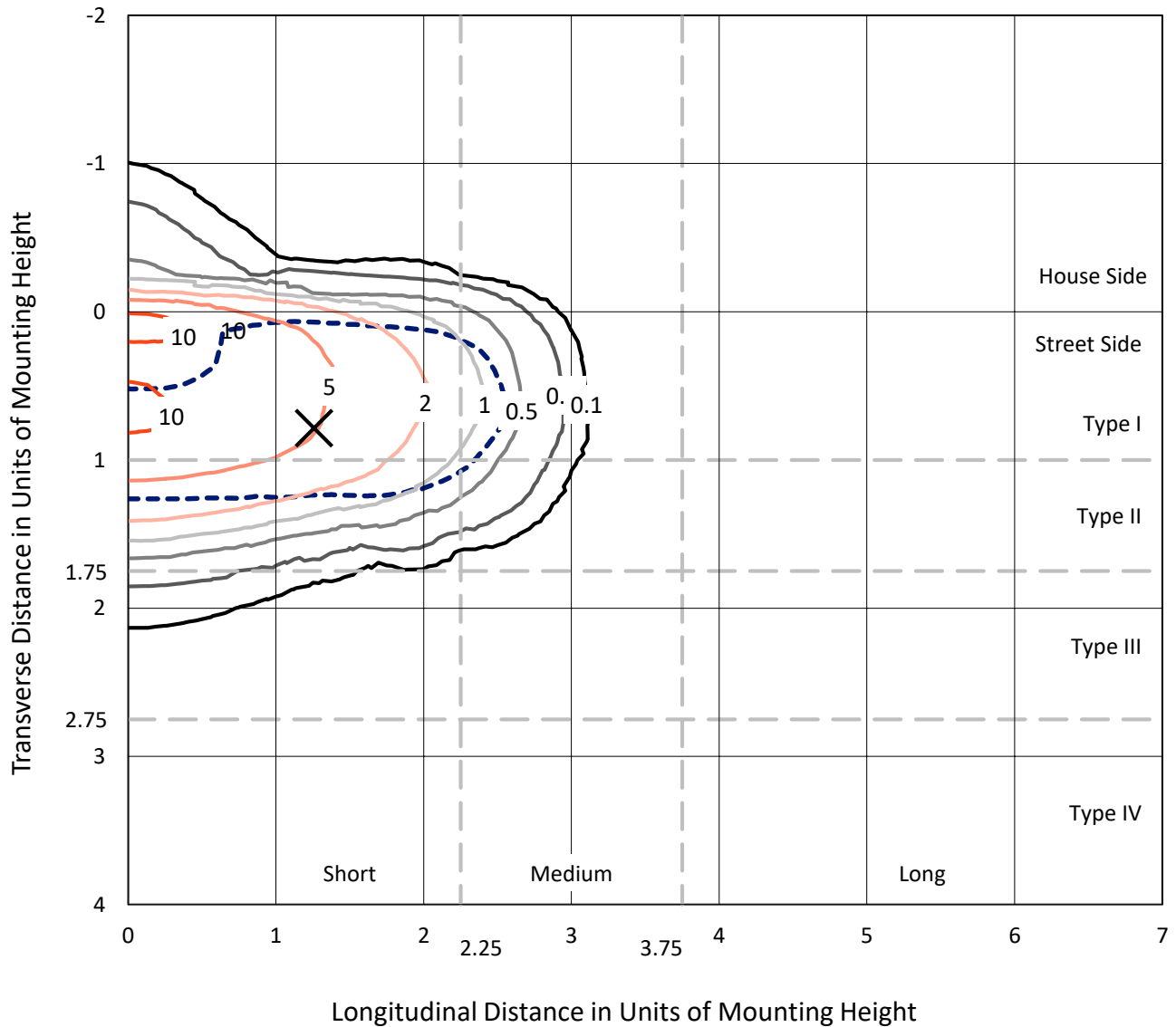
Input Watts (W): 34
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

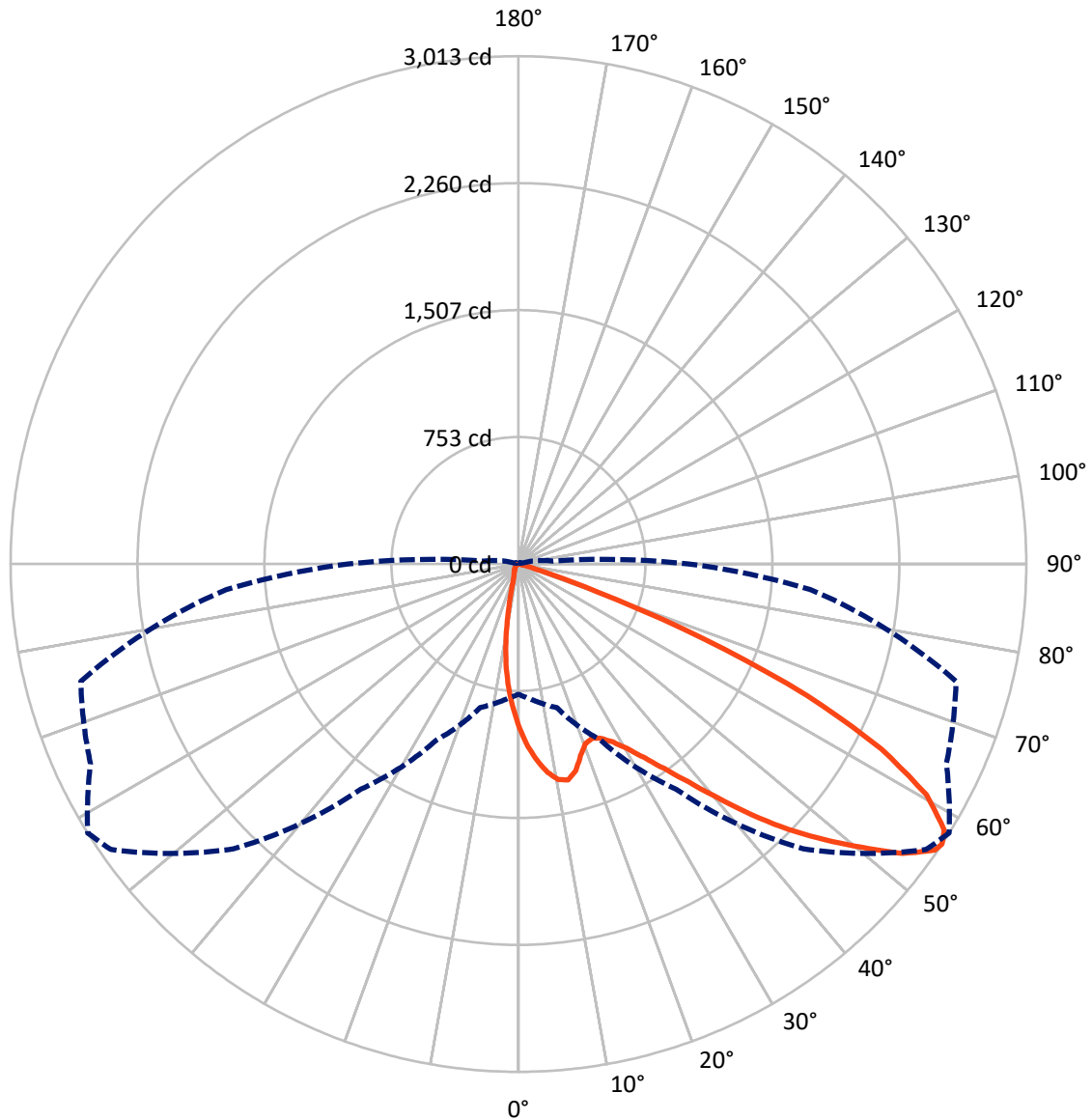
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 12.2 fc
 Type II - Short - Full Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 58-Deg Lateral - - - Horizontal Cone Through 56-Deg Vertical

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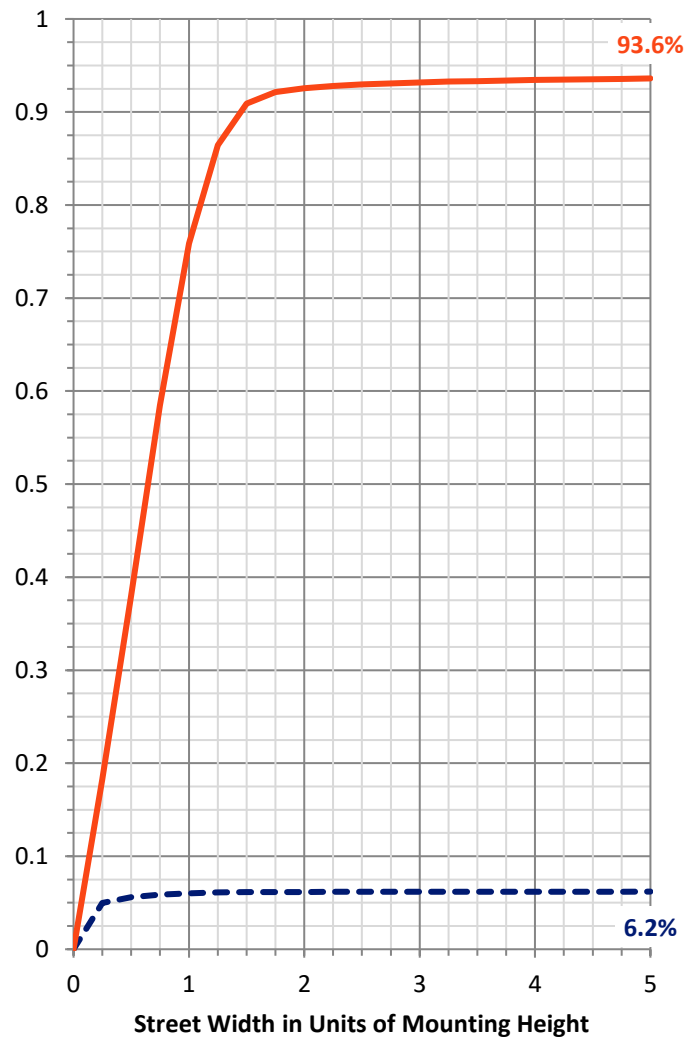
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	215.7	0.0	215.7
	% Fixture	6.2	0.0	6.2
Street Side	Lumens	3240.8	0.0	3240.8
	% Fixture	93.8	0.0	93.8
Total	Lumens	3456.5	0.0	3456.5
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	83.5	2.4
10°-20°	194.3	5.6
20°-30°	326.9	9.5
30°-40°	559.7	16.2
40°-50°	844.6	24.4
50°-60°	878.0	25.4
60°-70°	492.9	14.3
70°-80°	67.5	2.0
80°-90°	9.1	0.3
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°	3456.5	100.0
0°-180°	3456.5	100.0



--- HS — SS

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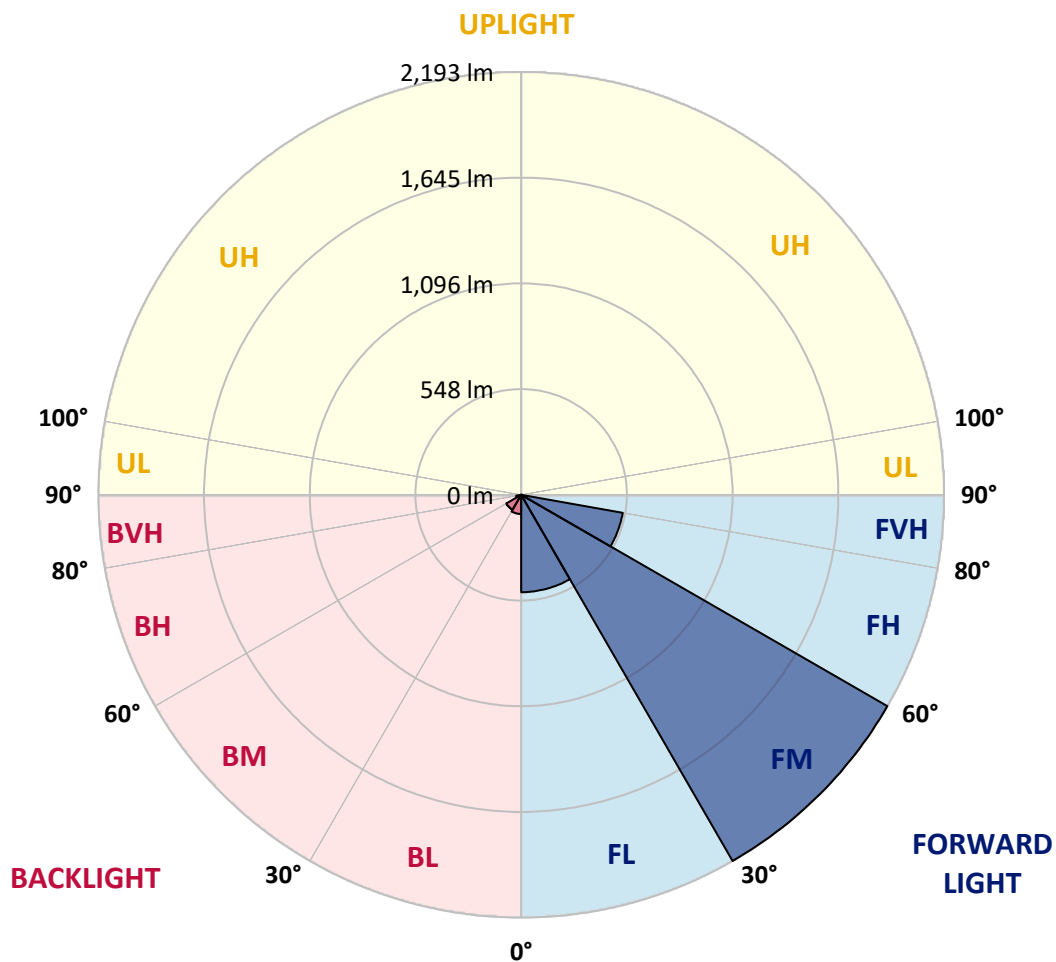
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	505.1	14.6			
FM	(30°-60°)	2193.0	63.4			
FH	(60°-80°)	534.8	15.5			G0/660
FVH	(80°-90°)	7.9	0.2			G0/10
BL	(0°-30°)	99.5	2.9	B0/110		
BM	(30°-60°)	89.4	2.6	B0/220		
BH	(60°-80°)	25.6	0.7	B0/110		G0/110
BVH	(80°-90°)	1.3	0.0			G0/10
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B0-U0-G0

Type II Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	58°	65°	75°	85°
0°	978.7	978.7	978.7	978.7	978.7	978.7	978.7	978.7	978.7	978.7	978.7
2.5°	1177.5	1170.4	1163.0	1149.3	1136.6	1117.1	1090.2	1083.6	1062.5	1027.7	995.2
5°	1279.0	1277.7	1272.7	1261.6	1247.9	1224.2	1193.9	1173.5	1140.8	1086.0	1023.5
7.5°	1218.9	1230.0	1248.2	1274.0	1291.4	1289.0	1265.8	1248.2	1215.8	1140.8	1051.2
10°	1027.5	1029.6	1054.6	1109.0	1194.9	1275.1	1305.4	1300.7	1270.8	1188.9	1075.4
12.5°	959.9	961.3	967.1	984.5	1040.3	1152.1	1289.5	1314.4	1312.0	1234.7	1101.3
15°	965.2	966.0	967.6	973.1	989.0	1045.1	1209.4	1272.4	1338.3	1278.3	1126.6
17.5°	1006.9	1006.4	1001.4	996.0	1001.1	1019.6	1127.7	1194.1	1332.8	1314.9	1147.4
20°	1088.1	1090.8	1073.9	1050.4	1038.3	1039.0	1087.3	1137.1	1301.7	1343.3	1163.0
22.5°	1202.3	1204.1	1176.4	1135.8	1100.2	1082.3	1095.8	1122.1	1265.8	1369.7	1175.7
25°	1338.6	1338.6	1299.9	1242.1	1187.0	1147.6	1136.1	1146.1	1252.1	1399.5	1188.3
27.5°	1485.7	1491.1	1440.4	1364.7	1292.0	1234.5	1198.1	1196.2	1262.6	1437.0	1202.6
30°	1645.8	1650.6	1590.5	1497.9	1411.7	1338.1	1282.2	1270.1	1303.0	1487.4	1223.3
32.5°	1805.1	1809.1	1742.6	1648.3	1547.7	1461.3	1387.6	1368.4	1375.6	1560.9	1253.9
35°	2007.6	2008.5	1924.4	1812.0	1704.6	1603.2	1510.1	1491.1	1483.2	1653.8	1298.0
37.5°	2168.9	2162.5	2109.2	2002.9	1879.8	1773.8	1664.3	1639.5	1620.6	1784.3	1366.4
40°	2206.8	2206.8	2198.8	2166.9	2069.1	1967.0	1861.1	1824.1	1782.2	1938.1	1458.1
42.5°	2107.9	2114.2	2166.4	2235.8	2236.6	2171.2	2067.6	2036.4	1962.6	2113.2	1558.3
45°	1886.6	1888.5	2013.8	2201.0	2328.1	2365.6	2289.1	2246.1	2143.8	2295.1	1650.1
47.5°	1806.9	1812.8	1866.1	2095.0	2335.0	2523.0	2501.6	2442.5	2311.5	2461.3	1735.7
50°	1684.6	1691.8	1756.9	1938.8	2273.2	2624.0	2705.0	2641.7	2464.2	2599.7	1778.2
52.5°	1391.9	1403.0	1495.0	1732.4	2118.9	2628.2	2891.2	2853.1	2620.6	2673.8	1773.2
55°	957.8	966.0	1073.3	1352.3	1807.8	2499.3	2971.3	2997.5	2760.0	2690.5	1748.9
56°	772.7	803.3	881.9	1152.1	1630.6	2389.5	2952.8	3013.2	2801.5	2687.8	1738.4
57.5°	510.9	516.6	602.3	834.9	1309.4	2151.4	2869.5	2979.4	2854.7	2674.4	1730.7
60°	240.3	242.8	273.7	385.2	708.6	1567.8	2598.7	2781.2	2874.3	2646.2	1730.5
62.5°	156.6	157.1	160.9	183.8	289.8	854.0	2154.3	2416.9	2712.6	2643.0	1725.5
65°	129.0	130.3	125.8	128.7	151.6	322.0	1519.5	1884.3	2333.1	2568.6	1669.0
67.5°	113.6	114.0	107.8	104.4	111.0	141.4	765.6	1188.6	1745.1	2182.6	1374.7
70°	103.6	103.4	96.6	88.6	88.9	93.9	249.5	493.7	965.5	1295.9	789.3
72.5°	92.1	92.6	88.6	77.5	73.9	66.5	93.9	133.2	328.6	416.1	208.1
75°	80.7	79.7	75.7	68.5	61.7	44.6	47.2	56.7	85.7	84.9	44.8
77.5°	61.2	60.1	62.0	58.5	48.3	31.1	25.9	29.6	38.8	36.1	18.2
80°	46.6	46.1	42.1	50.1	44.1	23.4	17.7	18.2	21.1	19.2	9.0
82.5°	33.8	33.5	31.9	30.9	27.9	17.2	13.4	14.2	15.9	13.4	6.5
85°	12.9	12.9	25.1	21.1	19.2	11.6	9.5	10.3	12.2	9.7	4.5
87.5°	2.1	2.1	16.9	14.0	8.7	5.8	6.0	6.5	7.2	5.8	3.5
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):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	978.7	978.7	978.7	978.7	978.7	978.7	978.7	978.7	978.7	978.7	978.7
2.5°	976.0	958.3	919.5	882.1	849.5	813.6	795.3	774.3	766.4	750.5	752.1
5°	986.0	949.1	871.3	789.3	714.1	637.7	583.4	532.1	503.7	475.5	475.5
7.5°	996.4	939.9	819.6	688.5	562.0	430.9	338.1	263.7	222.3	194.7	193.8
10°	1003.4	928.0	760.9	571.7	385.0	222.1	134.0	105.5	95.2	90.7	90.4
12.5°	1012.7	916.2	693.9	434.0	213.9	105.5	83.6	79.1	77.2	76.2	76.2
15°	1020.6	899.3	612.6	292.0	112.3	79.1	72.0	70.4	70.2	69.9	70.2
17.5°	1022.4	875.2	515.3	170.9	81.5	69.0	66.0	64.7	64.7	64.3	64.3
20°	1018.2	843.6	407.7	105.5	70.4	63.5	60.1	58.5	58.3	58.3	58.3
22.5°	1009.6	803.3	301.5	79.9	64.0	58.5	54.0	52.5	52.5	52.8	53.0
25°	998.7	755.6	207.0	68.8	59.3	53.3	48.8	47.2	47.8	48.3	48.5
27.5°	985.0	698.6	135.5	59.6	53.0	48.0	44.1	43.0	44.1	45.1	45.6
30°	971.3	636.1	91.8	51.7	45.9	42.1	39.8	39.6	41.1	43.5	43.8
32.5°	962.3	572.0	69.4	46.4	40.3	37.1	36.1	36.6	39.1	41.6	42.1
35°	961.5	509.5	59.0	42.1	36.6	33.8	33.2	34.8	37.4	39.6	40.1
37.5°	974.0	450.9	53.5	39.1	33.8	30.9	30.1	32.9	35.3	37.4	38.0
40°	998.9	398.4	49.8	36.1	31.4	27.9	27.4	29.8	32.2	34.6	35.3
42.5°	1030.3	349.4	45.6	33.2	28.7	24.8	24.2	26.1	28.4	31.9	32.4
45°	1057.5	303.8	41.1	30.1	25.9	21.4	21.1	23.2	25.1	28.2	28.7
47.5°	1080.4	265.9	36.9	26.6	22.2	19.0	18.7	19.7	20.9	23.7	24.2
50°	1068.3	233.6	32.7	21.9	17.9	16.4	16.1	16.1	17.4	20.4	20.9
52.5°	1038.5	213.6	28.7	18.2	14.7	14.0	13.2	13.4	14.7	16.1	16.4
55°	1014.6	204.1	25.3	16.1	12.4	11.6	10.8	10.5	10.8	10.3	9.7
56°	1008.7	203.1	24.6	15.5	11.9	10.8	9.7	9.2	9.0	7.9	7.7
57.5°	1006.1	203.1	23.2	14.5	11.0	9.7	8.4	7.4	6.3	5.5	5.5
60°	1003.9	204.4	21.6	12.7	9.5	7.9	6.0	4.5	3.7	3.7	3.7
62.5°	999.5	203.9	19.7	10.5	8.2	6.0	3.7	2.9	2.7	2.9	3.2
65°	949.1	189.3	17.4	8.4	6.3	4.2	2.1	2.1	2.4	2.9	3.2
67.5°	764.8	143.4	14.2	6.5	4.5	3.2	1.8	1.8	2.4	2.9	3.2
70°	420.1	75.7	12.2	4.7	3.5	2.7	1.8	1.5	2.4	2.9	3.2
72.5°	102.6	31.6	11.0	3.7	3.2	2.4	1.5	1.5	2.4	2.9	3.2
75°	25.3	23.7	9.0	2.9	2.7	2.1	1.5	1.5	2.4	2.9	3.2
77.5°	11.9	31.4	6.0	2.7	2.4	1.8	1.5	1.5	2.4	2.9	2.9
80°	7.2	23.7	3.7	2.4	2.1	1.8	1.5	1.5	2.4	2.9	3.2
82.5°	4.2	6.9	2.7	2.4	2.1	1.5	1.5	1.5	2.4	2.9	3.2
85°	3.7	3.5	2.7	2.4	2.1	1.8	1.5	1.5	2.7	3.2	3.2
87.5°	2.9	2.7	2.4	2.1	2.1	1.8	1.5	1.5	2.4	2.9	3.2
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)