

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: P196195

Luminaire Tested: **NAV-AF-01-D-UNV-SL4-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196195
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-SL4-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(1) 70 CRI, 4000K, 1200mA 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: 6539.7 lumens
Efficiency: N/A
Efficacy: 97.6 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

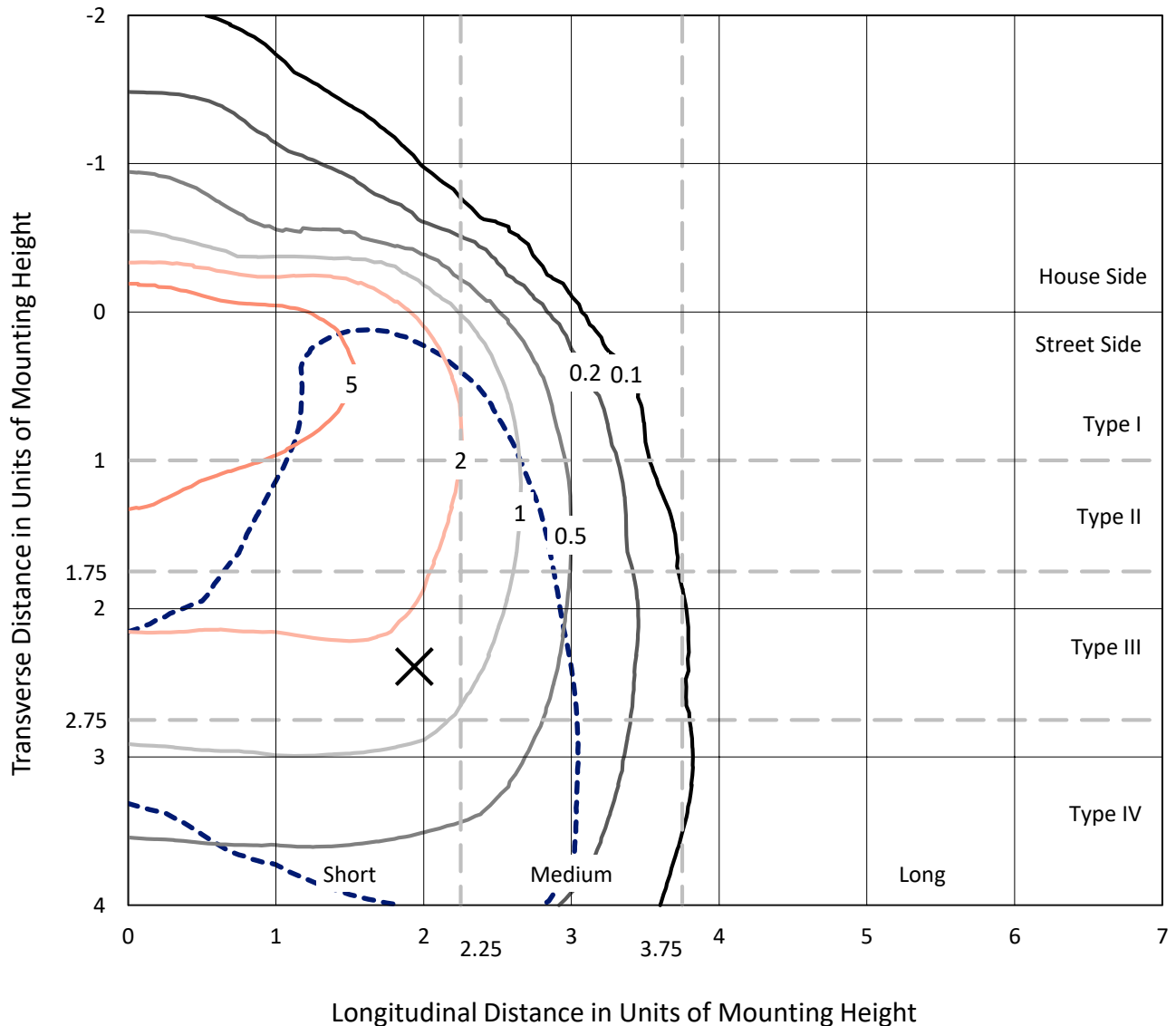
Input Watts (W): 67
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

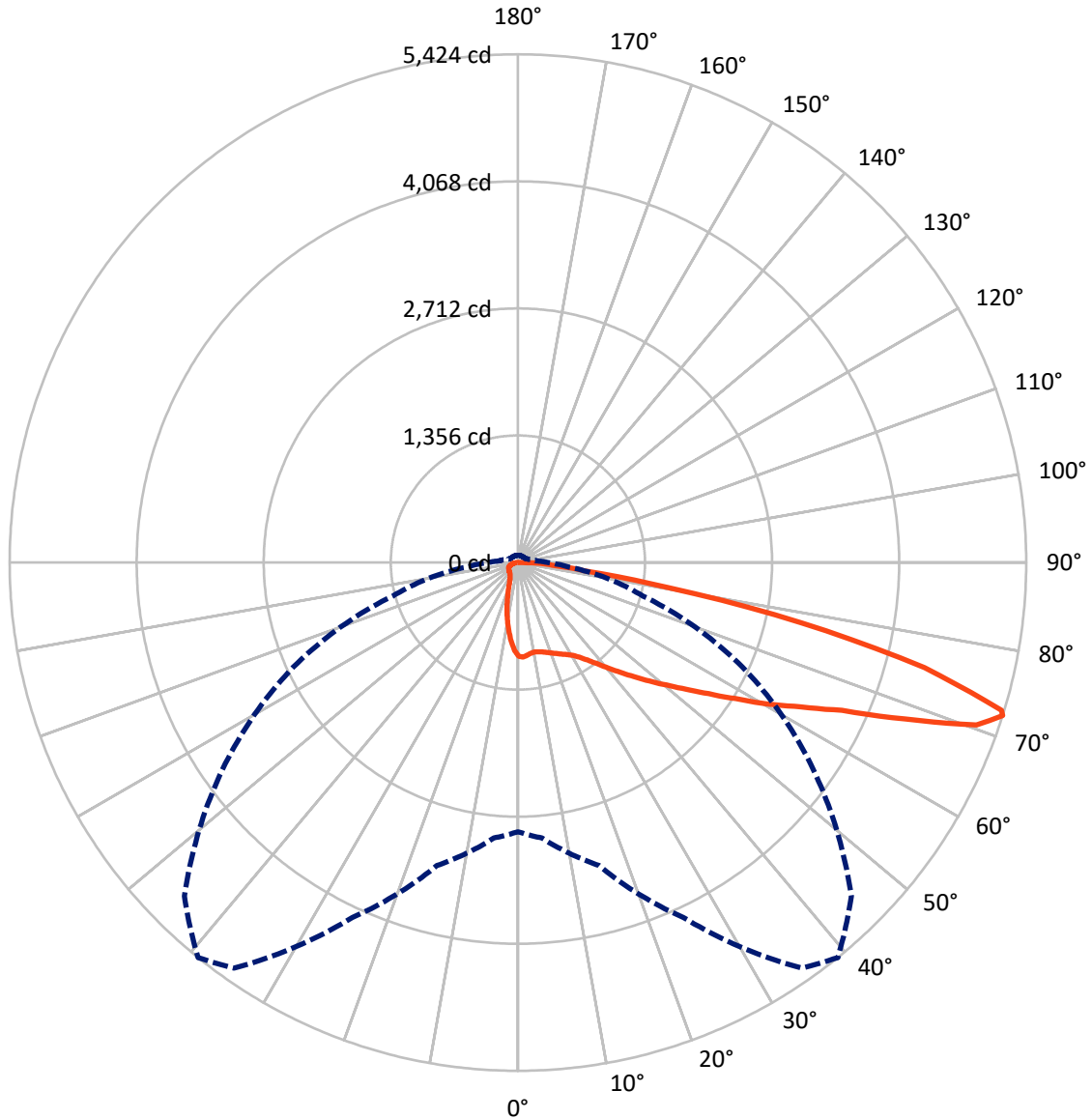
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 10 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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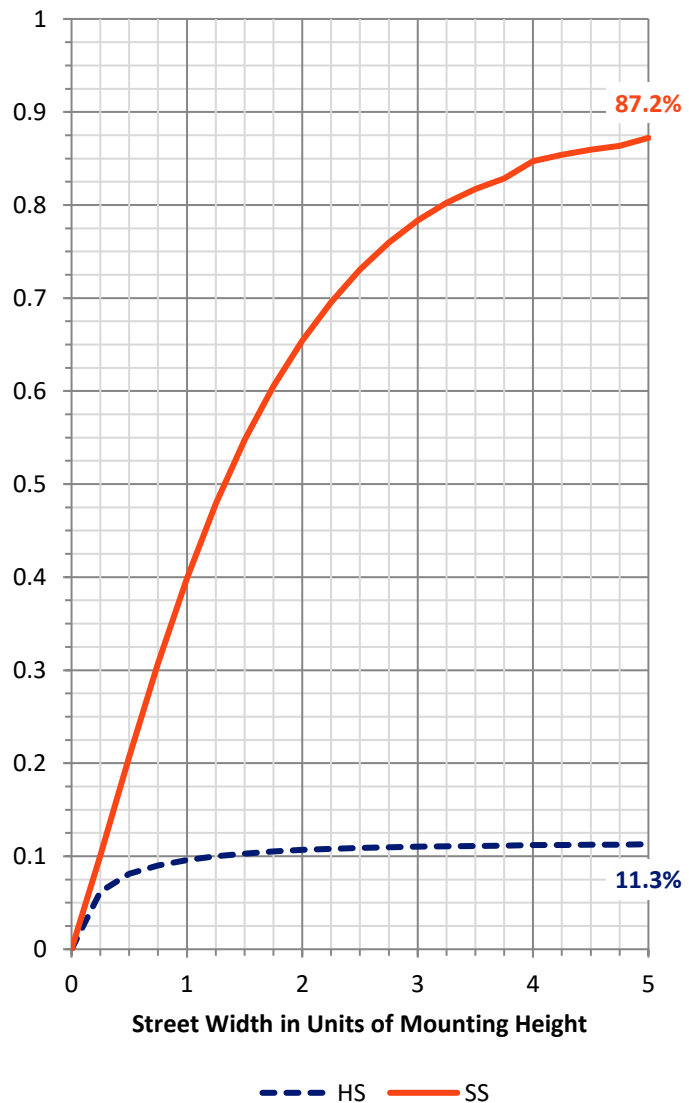
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	749.9	0.0	749.9
	% Fixture	11.5	0.0	11.5
Street Side	Lumens	5789.9	0.0	5789.9
	% Fixture	88.5	0.0	88.5
Total	Lumens	6539.7	0.0	6539.7
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	85.8	1.3
10°-20°	215.7	3.3
20°-30°	336.1	5.1
30°-40°	517.5	7.9
40°-50°	843.6	12.9
50°-60°	1310.9	20.0
60°-70°	1754.5	26.8
70°-80°	1261.8	19.3
80°-90°	213.9	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°	6539.7	100.0
0°-180°	6539.7	100.0



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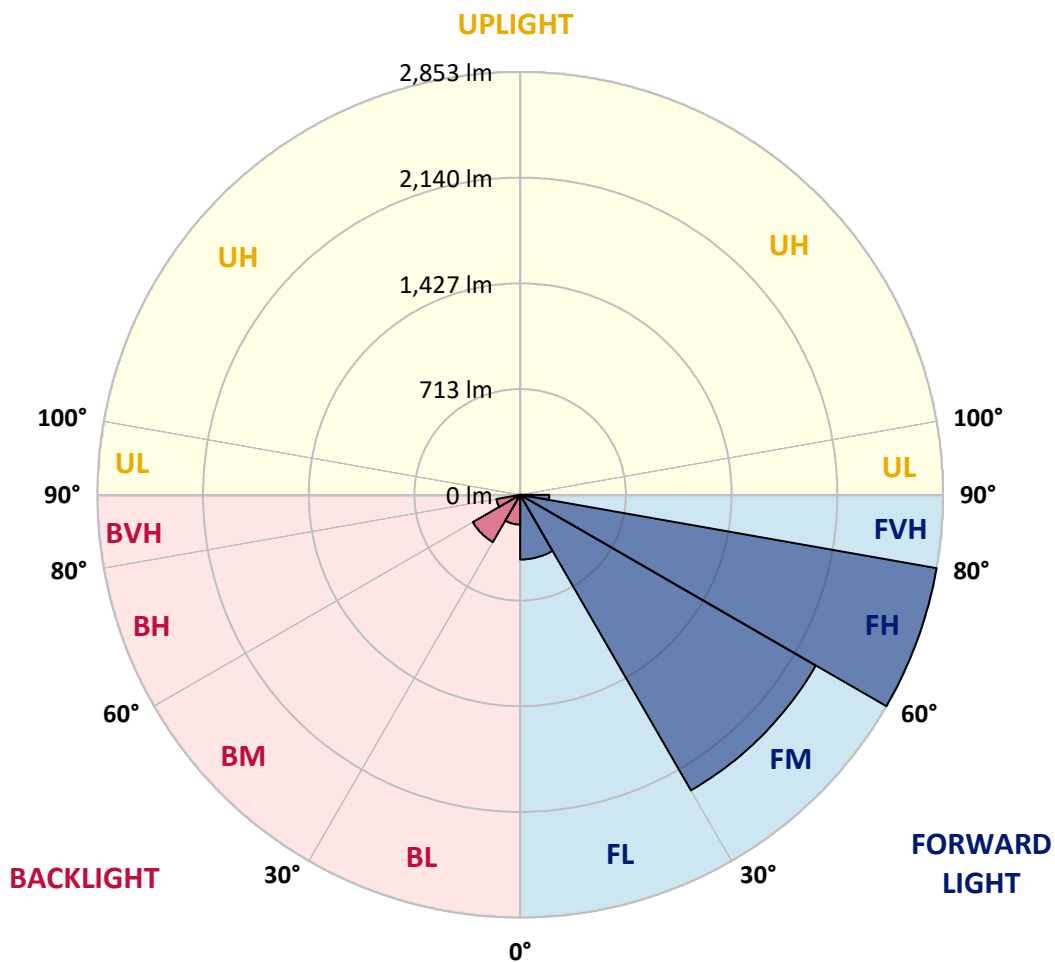
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	436.8	6.7			
FM (30°-60°)	2303.4	35.2			
FH (60°-80°)	2853.4	43.6			G2/5000
FVH (80°-90°)	196.2	3.0			G2/225
BL (0°-30°)	200.7	3.1	B1/500		
BM (30°-60°)	368.5	5.6	B1/1000		
BH (60°-80°)	162.9	2.5	B1/500		G1/500
BVH (80°-90°)	17.7	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°	998.7	998.7	998.7	998.7	998.7	998.7	998.7	998.7	998.7	998.7	998.7
2.5°	1020.3	1020.7	1019.4	1015.4	1011.9	1010.2	1007.1	1001.8	994.8	989.9	986.0
5°	1010.6	1011.9	1011.0	1004.4	998.3	994.8	989.9	982.4	973.2	969.3	960.1
7.5°	1003.1	1004.0	1001.4	993.9	982.0	977.6	968.8	959.2	950.8	945.2	934.2
10°	997.9	998.7	996.6	989.1	975.9	970.7	960.1	949.6	938.6	931.6	919.2
12.5°	990.4	992.2	992.2	988.7	979.9	976.3	965.8	954.4	944.3	936.8	921.5
15°	989.1	991.2	995.2	994.8	992.2	989.5	981.2	969.8	961.0	952.2	933.3
17.5°	1000.0	1004.8	1012.8	1015.4	1013.6	1007.9	998.3	987.8	978.1	969.8	946.5
20°	1027.8	1030.3	1042.2	1047.5	1038.7	1030.3	1017.6	1004.0	995.2	988.7	958.8
22.5°	1069.4	1073.0	1082.6	1083.0	1064.6	1054.5	1038.2	1021.5	1013.2	1010.6	975.5
25°	1136.2	1135.3	1137.9	1126.9	1093.5	1081.7	1061.9	1042.6	1037.0	1042.2	1000.0
27.5°	1216.1	1213.8	1205.5	1177.0	1126.5	1111.1	1087.4	1070.3	1070.3	1082.6	1033.4
30°	1308.3	1306.0	1278.8	1230.9	1165.6	1148.0	1123.0	1105.0	1114.2	1137.9	1078.6
32.5°	1405.7	1397.8	1359.6	1295.5	1221.3	1202.0	1177.8	1159.4	1177.0	1217.3	1143.6
35°	1497.4	1493.1	1446.0	1370.1	1293.3	1277.1	1260.4	1237.6	1265.7	1328.4	1235.3
37.5°	1592.2	1588.7	1531.3	1450.4	1381.1	1370.1	1356.1	1340.3	1385.5	1468.0	1359.6
40°	1698.1	1691.0	1618.6	1537.8	1483.4	1478.2	1470.7	1466.3	1539.1	1662.1	1516.7
42.5°	1817.9	1804.3	1710.8	1634.0	1594.9	1599.3	1595.3	1612.9	1724.4	1885.9	1703.7
45°	1954.9	1927.6	1802.5	1736.3	1718.3	1735.8	1744.1	1788.9	1943.5	2144.5	1912.7
47.5°	2083.0	2047.9	1903.1	1847.3	1857.5	1887.8	1911.4	1990.5	2183.6	2400.0	2126.1
50°	2201.2	2161.7	2010.6	1962.3	2011.5	2054.5	2103.7	2215.2	2439.1	2662.9	2321.9
52.5°	2288.5	2260.0	2118.2	2087.9	2188.4	2245.5	2324.0	2465.0	2697.2	2913.7	2496.6
55°	2356.2	2340.8	2223.1	2231.9	2388.6	2470.3	2565.6	2727.5	2970.3	3138.4	2637.1
57.5°	2434.3	2422.9	2343.0	2405.8	2637.1	2739.9	2852.2	3032.2	3230.2	3336.5	2747.2
60°	2516.8	2516.8	2476.5	2615.2	2947.9	3065.6	3177.5	3317.5	3489.2	3514.7	2792.0
62.5°	2579.2	2595.4	2609.9	2838.2	3243.0	3389.1	3512.0	3646.4	3757.4	3602.4	2686.7
65°	2669.6	2704.3	2785.9	3095.9	3608.2	3799.5	3965.6	4078.3	3974.8	3532.7	2343.0
67.5°	2825.0	2876.3	3050.2	3479.6	4167.5	4454.1	4615.2	4420.4	3932.1	3093.2	1794.7
70°	2965.0	3037.4	3334.7	3966.4	4894.4	5192.1	5117.9	4340.9	3424.6	2267.5	1104.1
72°	2871.9	2951.0	3347.8	4178.4	5282.9	5423.5	5032.3	3847.0	2646.3	1383.7	544.4
72.5°	2811.0	2893.0	3305.3	4173.1	5293.5	5394.0	4913.3	3650.7	2402.2	1210.8	440.3
75°	2348.2	2418.5	2842.1	3698.6	4664.9	4480.4	3834.2	2362.7	1104.1	391.2	226.5
77.5°	1533.4	1587.0	1959.7	2562.5	3267.5	3090.1	2333.8	1106.3	414.0	237.5	170.3
80°	770.5	808.6	1048.7	1347.3	1763.5	1622.6	1077.3	535.1	277.0	171.7	133.9
82.5°	536.0	571.1	722.2	687.9	737.0	713.4	506.6	446.4	207.2	108.4	70.3
85°	449.6	486.0	597.5	490.4	401.2	365.7	363.0	421.9	137.0	53.6	59.2
87.5°	392.0	447.3	493.0	358.2	275.3	242.7	267.4	386.8	43.5	29.5	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):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	998.7	998.7	998.7	998.7	998.7	998.7	998.7	998.7	998.7	998.7	998.7
2.5°	979.4	978.1	971.5	961.4	954.0	949.1	939.9	939.5	940.3	932.4	935.5
5°	951.8	946.5	929.4	906.1	887.2	869.2	849.5	842.9	837.2	825.3	826.6
7.5°	922.8	913.6	883.7	845.6	809.1	775.7	742.8	726.6	714.2	698.9	698.9
10°	905.6	891.2	845.6	789.7	731.8	683.1	633.9	604.5	583.0	563.2	561.9
12.5°	904.8	882.8	819.2	742.4	662.9	594.4	527.2	482.0	450.0	426.7	424.5
15°	911.9	881.1	797.2	698.1	597.9	508.8	425.9	368.4	327.4	301.6	299.0
17.5°	918.0	878.9	773.6	651.5	534.7	426.3	334.1	274.4	235.8	214.7	212.5
20°	923.6	874.0	743.3	602.3	464.9	349.0	261.2	212.9	187.4	175.6	174.3
22.5°	932.0	869.7	711.7	547.0	396.4	284.1	215.5	180.9	167.3	161.5	160.7
25°	945.6	870.1	680.9	490.4	333.7	236.6	186.6	165.1	157.6	153.6	153.6
27.5°	965.4	875.3	650.6	432.8	280.5	204.2	169.5	156.7	151.9	148.8	147.9
30°	994.3	885.1	618.6	378.4	238.3	181.8	159.4	151.5	147.5	144.8	144.4
32.5°	1036.5	902.1	584.7	328.8	206.3	165.9	151.9	147.1	144.0	141.8	141.4
35°	1099.3	932.4	551.8	286.6	183.5	154.6	145.8	141.8	140.0	139.1	138.7
37.5°	1191.4	981.2	520.7	253.8	168.6	147.1	139.6	137.4	136.6	136.6	136.6
40°	1307.3	1045.3	492.6	230.5	160.2	141.4	135.2	133.5	133.5	133.9	133.9
42.5°	1448.3	1125.7	468.4	214.7	155.4	137.4	132.2	131.2	130.8	130.8	131.2
45°	1612.1	1220.4	453.5	202.3	151.9	135.2	129.9	129.5	127.8	126.8	126.8
47.5°	1776.7	1321.9	452.7	195.4	147.5	132.6	127.8	127.8	124.3	122.4	123.0
50°	1930.3	1412.7	462.3	193.6	144.8	128.6	125.5	126.0	121.1	119.0	118.6
52.5°	2054.1	1482.1	474.1	195.8	144.8	125.1	121.6	123.8	118.6	115.9	115.5
55°	2149.8	1530.3	478.5	200.6	146.6	122.0	118.0	121.6	117.6	114.2	114.2
57.5°	2218.3	1545.8	459.6	202.9	149.2	121.6	114.6	121.1	119.0	114.6	114.6
60°	2193.3	1456.6	389.4	194.5	148.8	120.7	111.9	122.0	123.4	118.6	118.6
62.5°	1997.9	1218.6	312.6	175.6	141.4	117.6	108.8	121.1	126.4	124.7	123.8
65°	1626.5	893.9	242.3	153.2	128.6	111.1	102.3	113.2	119.4	121.1	121.6
67.5°	1146.2	565.9	188.3	130.4	112.8	101.4	94.8	100.0	102.3	103.2	105.0
70°	626.9	306.4	149.7	109.8	96.6	91.8	87.0	87.4	86.4	85.6	86.4
72°	314.8	200.2	126.4	95.2	85.6	82.6	80.3	79.0	79.0	77.7	78.2
72.5°	270.9	186.2	122.0	91.8	83.0	80.3	78.6	77.2	76.8	75.9	76.4
75°	180.4	147.5	101.9	76.8	70.7	68.9	69.8	68.4	68.9	68.0	68.4
77.5°	145.8	126.8	86.4	65.0	60.6	57.9	59.7	60.1	61.1	60.1	59.7
80°	122.0	108.0	72.4	53.6	50.5	48.3	49.2	52.3	52.7	50.0	49.6
82.5°	79.0	87.0	57.1	41.7	38.7	37.7	40.0	43.1	43.9	40.4	39.5
85°	66.3	69.8	41.2	28.5	25.5	24.6	28.9	32.0	34.3	30.7	29.9
87.5°	18.4	34.3	20.2	13.6	11.5	11.5	14.0	16.7	19.7	20.2	20.2
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)