

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: P195974

Luminaire Tested: **NAV-AF-02-D-UNV-5WQ**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195974
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24131)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-AF-02-D-UNV-5WQ
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 70 CRI, 4000K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE V WIDE OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 12962.8 lumens
Efficiency: N/A
Efficacy: 114.7 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type V - Short - Semi-Cutoff
BUG Rating: B4 - U0 - G2

Input Watts (W): 113
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

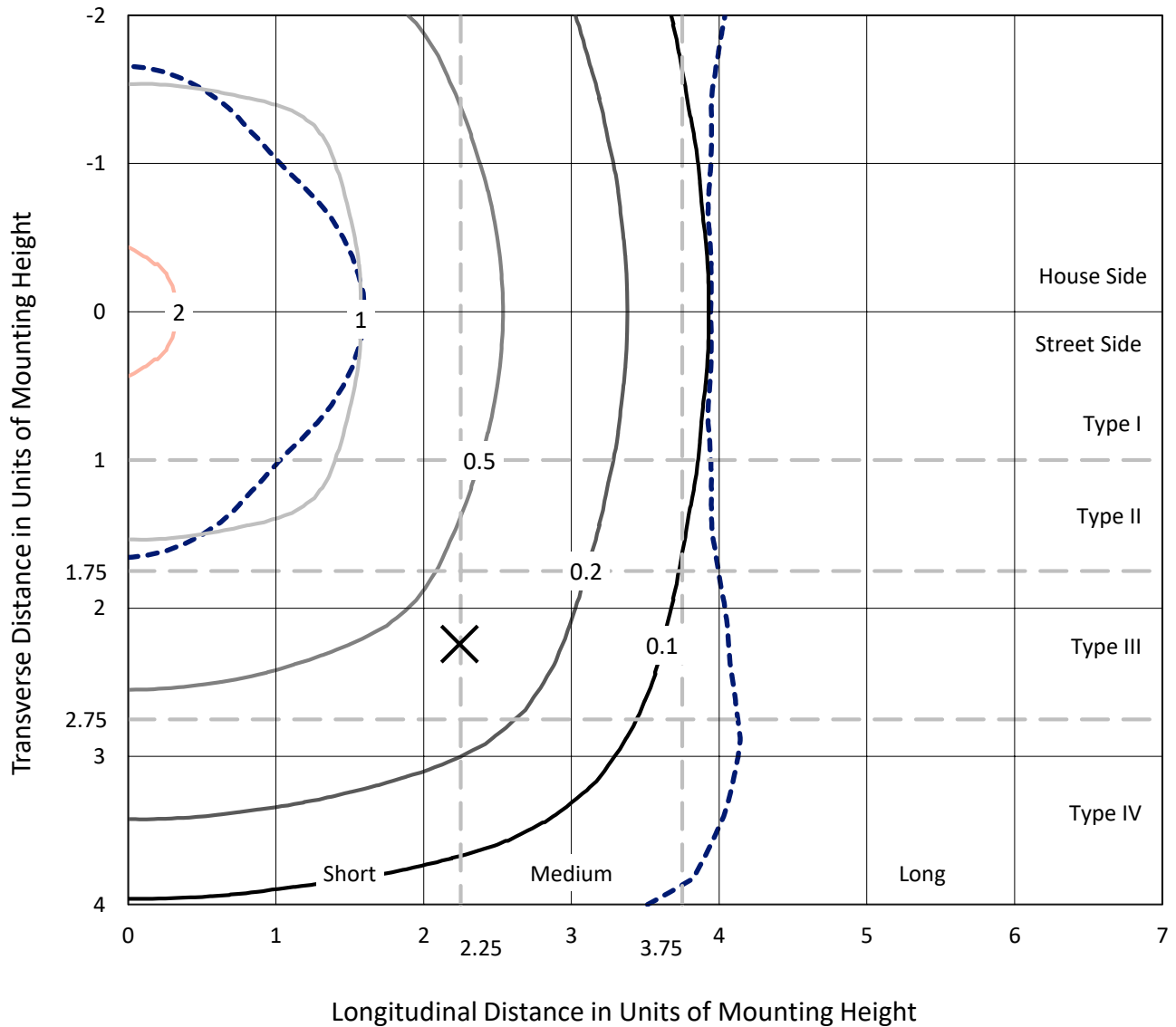


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

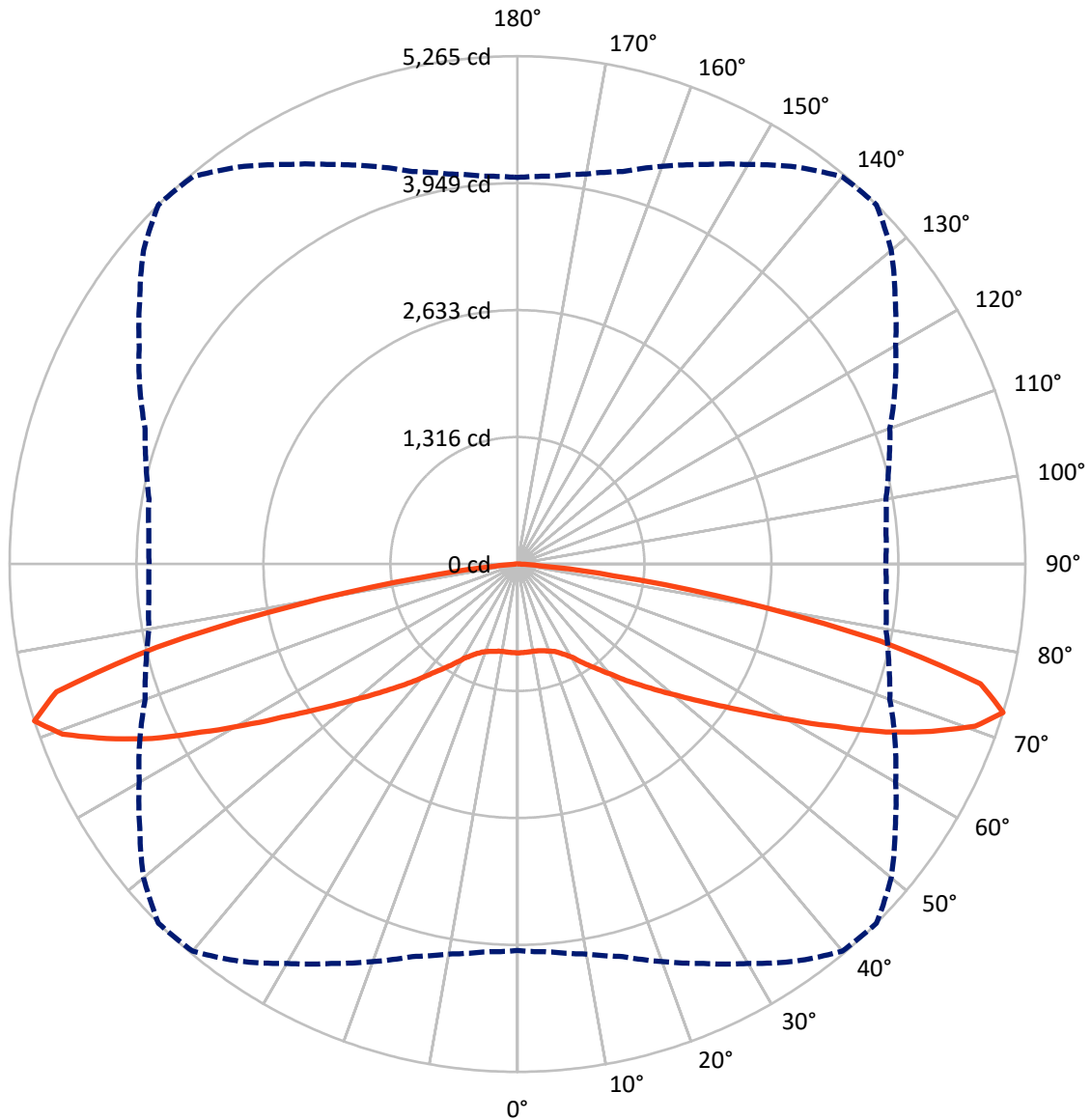


Based on 20 foot mounting height. Maximum calculated value = 2.3 fc
 Type V - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 45-Deg Lateral - - - Horizontal Cone Through 72.5-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	6481.4	0.0	6481.4
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	6481.4	0.0	6481.4
	% Fixture	50.0	0.0	50.0
Total	Lumens	12962.8	0.0	12962.8
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	88.0	0.7
10°-20°	266.2	2.1
20°-30°	480.6	3.7
30°-40°	819.7	6.3
40°-50°	1395.6	10.8
50°-60°	2246.0	17.3
60°-70°	3735.2	28.8
70°-80°	3613.4	27.9
80°-90°	318.0	2.5
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°	12962.8	100.0
0°-180°	12962.8	100.0



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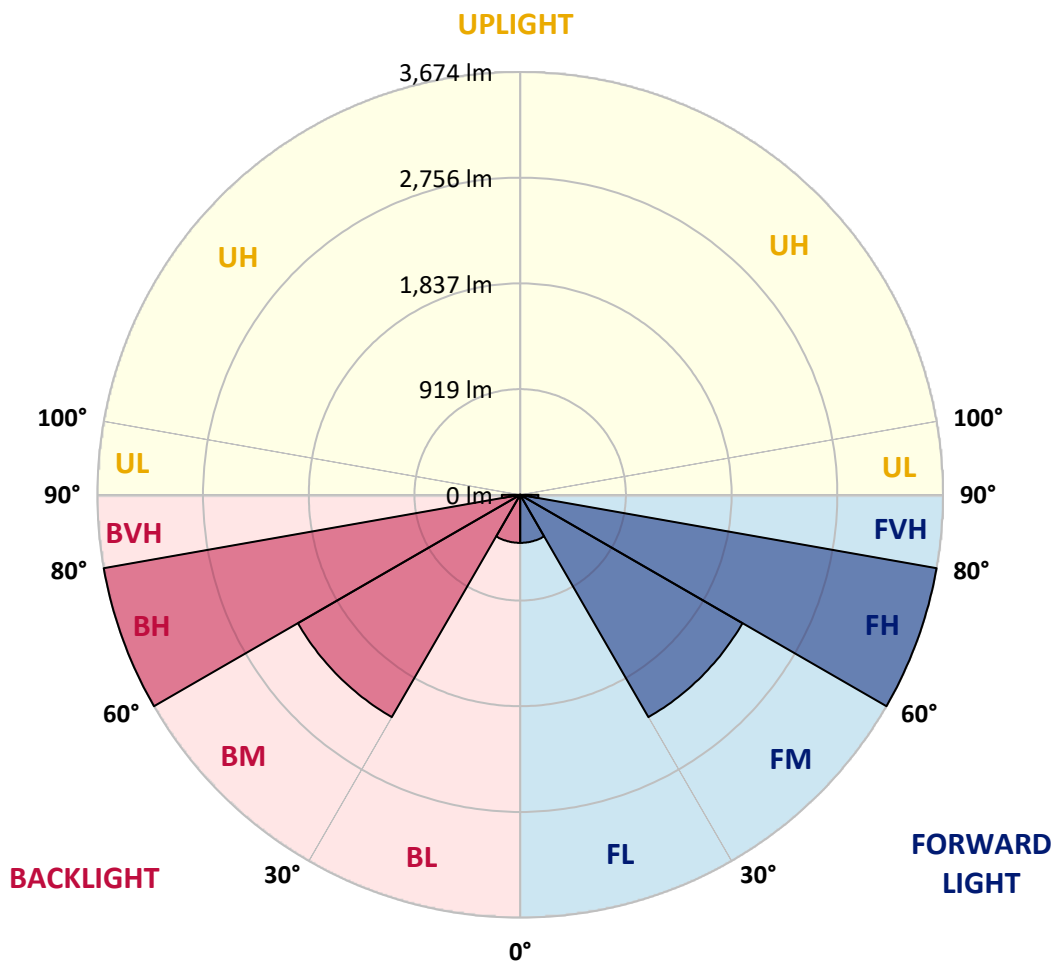
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	417.4	3.2			
FM (30°-60°)	2230.7	17.2			
FH (60°-80°)	3674.3	28.3			G2/5000
FVH (80°-90°)	159.0	1.2			G2/225
BL (0°-30°)	417.4	3.2	B1/500		
BM (30°-60°)	2230.7	17.2	B2/2500		
BH (60°-80°)	3674.3	28.3	B4/5000		G2/5000
BVH (80°-90°)	159.0	1.2			G2/225
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B4-U0-G2

Type V Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	921.6	921.6	921.6	921.6	921.6	921.6	921.6	921.6	921.6	921.6	921.6
2.5°	928.7	928.7	929.6	928.7	927.1	926.4	923.9	922.4	920.8	919.9	918.4
5°	929.6	929.6	930.4	929.6	927.9	926.4	924.7	922.4	920.8	919.1	918.4
7.5°	932.7	933.5	934.4	933.5	930.4	928.7	926.4	923.9	920.8	919.1	917.6
10°	939.1	939.1	939.1	938.4	935.9	932.7	929.6	927.1	923.1	919.1	916.8
12.5°	943.9	944.7	944.7	943.1	939.9	935.9	932.7	930.4	927.1	923.9	921.6
15°	951.0	951.0	950.3	947.0	942.3	939.1	937.5	936.7	935.9	934.4	931.9
17.5°	965.5	964.6	962.3	957.5	951.9	949.5	947.9	947.9	947.9	947.0	945.5
20°	986.2	986.2	983.0	975.0	970.3	967.8	965.5	965.5	965.5	963.0	960.7
22.5°	1019.7	1020.5	1015.7	1006.2	999.7	994.9	991.8	989.4	986.9	985.4	981.4
25°	1065.2	1064.4	1058.8	1046.8	1042.1	1037.3	1030.8	1026.8	1023.7	1021.3	1016.5
27.5°	1113.1	1112.3	1105.9	1095.5	1092.3	1085.1	1080.3	1074.7	1070.7	1066.7	1062.0
30°	1174.4	1170.5	1165.8	1157.8	1156.1	1150.5	1144.2	1136.2	1129.8	1123.4	1117.9
32.5°	1229.6	1229.6	1222.3	1218.3	1221.6	1219.2	1220.0	1215.2	1211.2	1208.8	1203.2
35°	1306.1	1306.1	1302.9	1298.1	1298.9	1293.4	1292.6	1293.4	1296.6	1296.6	1290.1
37.5°	1408.3	1409.8	1399.5	1397.9	1393.9	1385.9	1381.9	1383.5	1390.7	1394.7	1385.9
40°	1535.1	1538.3	1535.1	1524.8	1520.0	1506.4	1498.4	1498.4	1504.0	1508.0	1504.9
42.5°	1660.5	1666.0	1660.5	1652.5	1648.5	1638.1	1634.1	1637.2	1644.5	1649.2	1644.5
45°	1800.0	1804.0	1796.8	1787.3	1782.5	1776.9	1774.5	1776.9	1784.8	1789.7	1788.0
47.5°	1937.3	1942.9	1934.1	1930.1	1930.1	1924.5	1930.9	1937.3	1944.4	1955.6	1950.9
50°	2071.3	2078.5	2072.9	2073.7	2080.1	2090.5	2102.5	2115.2	2127.9	2139.9	2141.5
52.5°	2191.0	2202.2	2202.9	2217.3	2237.3	2253.3	2286.7	2314.6	2345.0	2355.3	2350.5
55°	2317.1	2332.2	2352.2	2374.5	2406.4	2439.1	2495.8	2546.0	2585.9	2610.7	2606.7
57.5°	2497.4	2512.6	2533.3	2570.0	2617.8	2662.5	2740.0	2818.1	2878.8	2916.2	2897.9
60°	2731.2	2747.1	2774.2	2813.3	2875.6	2936.2	3042.4	3154.9	3249.0	3292.1	3258.6
62.5°	3040.7	3055.9	3073.5	3125.3	3194.8	3272.9	3406.2	3550.6	3670.2	3711.8	3664.7
65°	3482.0	3500.3	3506.0	3548.2	3616.0	3688.7	3832.3	3995.0	4131.5	4199.3	4105.1
67.5°	3979.1	3986.2	4008.6	4058.0	4127.5	4192.9	4306.2	4460.2	4591.0	4628.5	4528.0
70°	4270.3	4284.6	4323.7	4392.3	4475.3	4578.3	4702.0	4867.9	5016.3	5033.8	4906.2
72.5°	4007.0	4036.6	4105.9	4212.8	4386.8	4569.5	4782.5	5027.5	5240.5	5265.2	5060.2
75°	3213.9	3247.4	3330.4	3447.7	3653.6	3924.9	4232.8	4600.6	4919.8	4960.5	4689.2
77.5°	1713.0	1754.6	1875.1	2033.0	2326.6	2685.7	3056.7	3476.4	3747.7	3839.4	3644.0
80°	431.7	454.0	512.3	604.8	803.4	1093.1	1413.1	1864.6	2201.4	2344.2	2201.4
82.5°	167.6	184.3	200.3	211.4	230.6	270.5	373.4	608.8	820.2	1010.2	874.5
85°	64.7	68.6	98.9	112.5	112.5	123.7	142.0	167.6	207.5	226.6	189.9
87.5°	25.6	27.9	34.3	52.7	54.2	47.9	51.0	57.5	43.9	36.7	41.5
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):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	921.6	921.6	921.6	921.6	921.6	921.6	921.6	921.6
2.5°	917.6	916.8	915.1	916.0	915.1	915.1	915.1	915.1
5°	916.8	916.8	915.1	915.1	915.1	916.0	915.1	915.1
7.5°	916.0	915.1	913.6	912.8	912.8	912.0	912.0	912.0
10°	914.4	912.8	911.1	910.4	910.4	908.8	908.8	908.8
12.5°	918.4	916.0	914.4	913.6	913.6	913.6	914.4	914.4
15°	929.6	924.7	922.4	921.6	922.4	923.9	924.7	925.6
17.5°	941.5	936.7	932.7	931.1	931.9	934.4	936.7	938.4
20°	956.7	952.7	947.9	946.3	946.3	949.5	951.0	953.5
22.5°	978.2	975.0	971.0	968.6	967.0	971.0	973.4	975.0
25°	1012.5	1009.3	1006.2	1003.7	1002.9	1006.9	1008.5	1009.3
27.5°	1058.0	1054.8	1053.2	1052.4	1050.1	1051.6	1054.0	1053.2
30°	1117.1	1119.4	1117.1	1117.1	1113.1	1114.6	1113.1	1111.4
32.5°	1196.0	1193.7	1186.4	1181.7	1176.1	1176.1	1173.7	1171.3
35°	1275.0	1267.0	1263.0	1265.5	1263.0	1264.7	1260.7	1256.7
37.5°	1368.4	1363.6	1362.8	1369.9	1368.4	1369.9	1369.9	1364.4
40°	1492.1	1488.9	1494.4	1506.4	1511.2	1510.4	1512.0	1504.9
42.5°	1634.1	1628.5	1630.9	1641.2	1646.8	1648.5	1647.7	1641.2
45°	1776.0	1777.7	1777.7	1788.8	1794.5	1797.6	1792.0	1789.7
47.5°	1936.4	1938.9	1933.3	1940.4	1942.1	1947.6	1942.9	1938.9
50°	2121.6	2112.8	2100.0	2102.5	2102.5	2100.8	2095.2	2090.5
52.5°	2328.2	2308.3	2284.4	2276.4	2267.6	2258.8	2247.6	2238.8
55°	2563.6	2529.3	2486.2	2466.2	2449.6	2429.6	2404.0	2395.2
57.5°	2836.5	2777.4	2720.0	2684.1	2641.1	2614.7	2581.9	2580.4
60°	3160.4	3080.6	2979.3	2925.8	2882.8	2851.7	2826.9	2817.3
62.5°	3534.6	3397.4	3288.1	3230.7	3180.4	3161.2	3130.1	3134.1
65°	3918.4	3778.8	3672.7	3626.4	3579.3	3566.5	3537.9	3548.2
67.5°	4334.1	4219.3	4102.7	4059.7	4016.6	4003.8	3974.3	3983.1
70°	4706.7	4560.7	4428.3	4343.7	4270.3	4211.3	4173.7	4158.6
72.5°	4781.0	4528.0	4319.7	4108.3	3986.2	3879.3	3835.5	3818.7
75°	4295.8	3903.3	3606.4	3358.3	3221.1	3065.5	3048.7	3025.6
77.5°	3341.6	2894.7	2535.7	2216.5	2032.2	1842.3	1776.9	1727.5
80°	1993.1	1532.0	1187.2	832.2	679.0	546.6	513.8	479.6
82.5°	713.3	457.2	308.0	240.2	214.6	197.8	185.2	168.4
85°	172.4	145.3	137.3	124.5	122.9	104.5	74.2	66.2
87.5°	55.0	50.2	51.0	48.7	51.0	38.3	31.1	27.9
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)