

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: P196450

Luminaire Tested: **NAV-AF-04-D-UNV-5WQ-7030-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196450
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-04-D-UNV-5WQ-7030-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 3000K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE V WIDE OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 19833.8 lumens
Efficiency: N/A
Efficacy: 116.0 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type V - Short - Semi-Cutoff
BUG Rating: B5 - U0 - G3

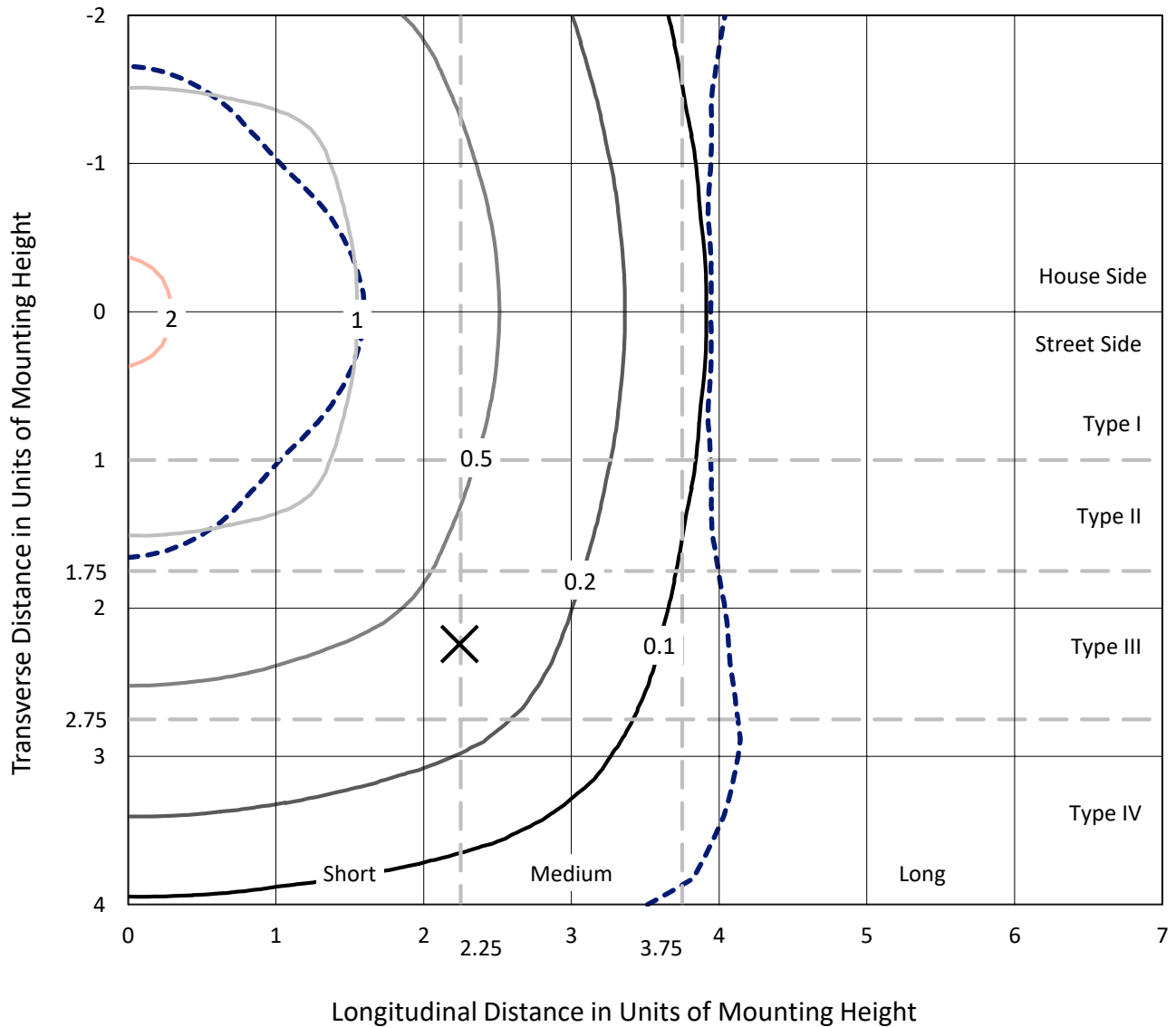
Input Watts (W): 171
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

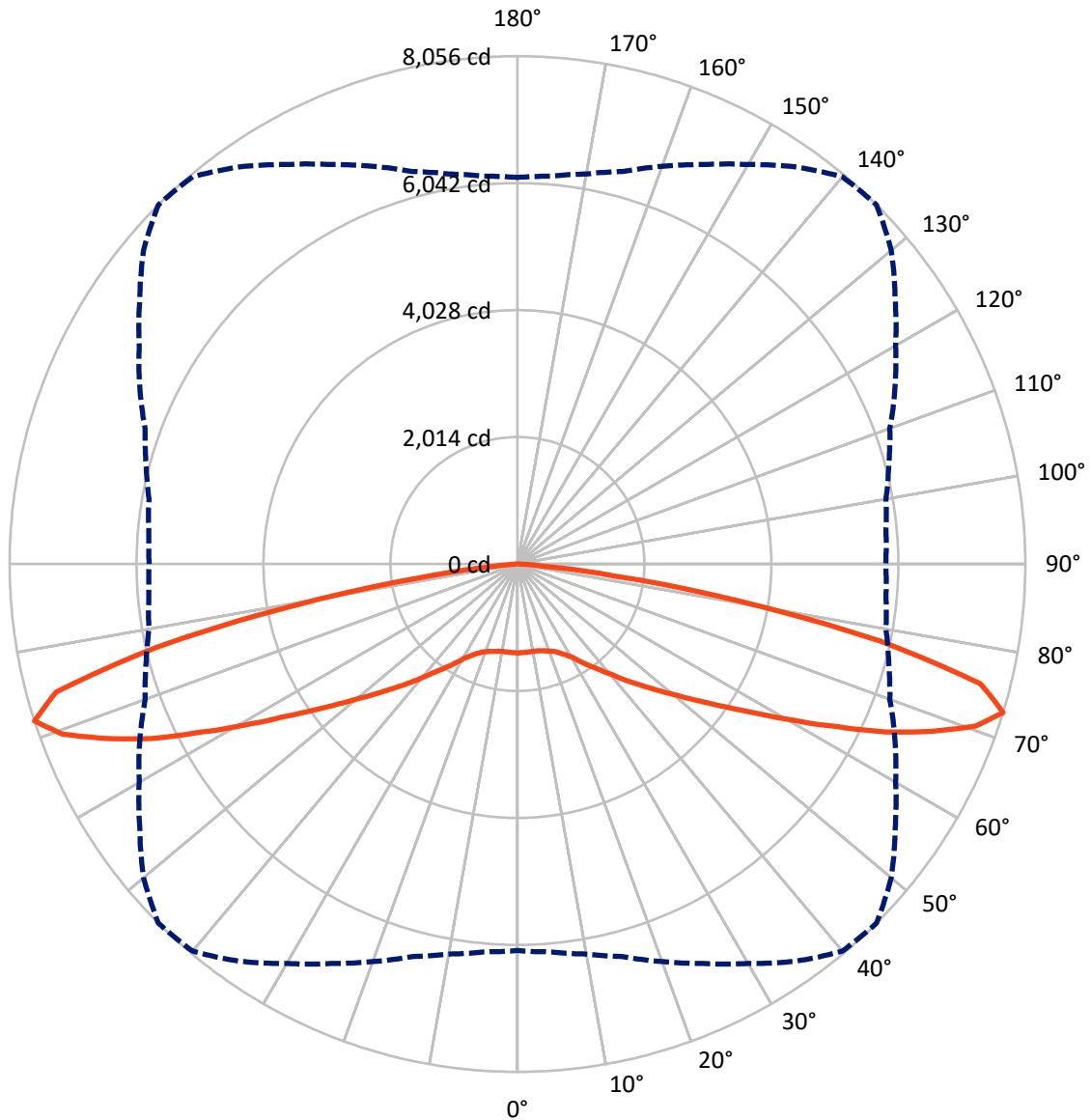
× Max cd
 - - - 1/2 Max cd



Based on 25 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	9916.9	0.0	9916.9
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	9916.9	0.0	9916.9
	% Fixture	50.0	0.0	50.0
Total	Lumens	19833.8	0.0	19833.8
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	134.6	0.7
10°-20°	407.3	2.1
20°-30°	735.3	3.7
30°-40°	1254.2	6.3
40°-50°	2135.4	10.8
50°-60°	3436.6	17.3
60°-70°	5715.1	28.8
70°-80°	5528.7	27.9
80°-90°	486.6	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°	19833.8	100.0
0°-180°	19833.8	100.0



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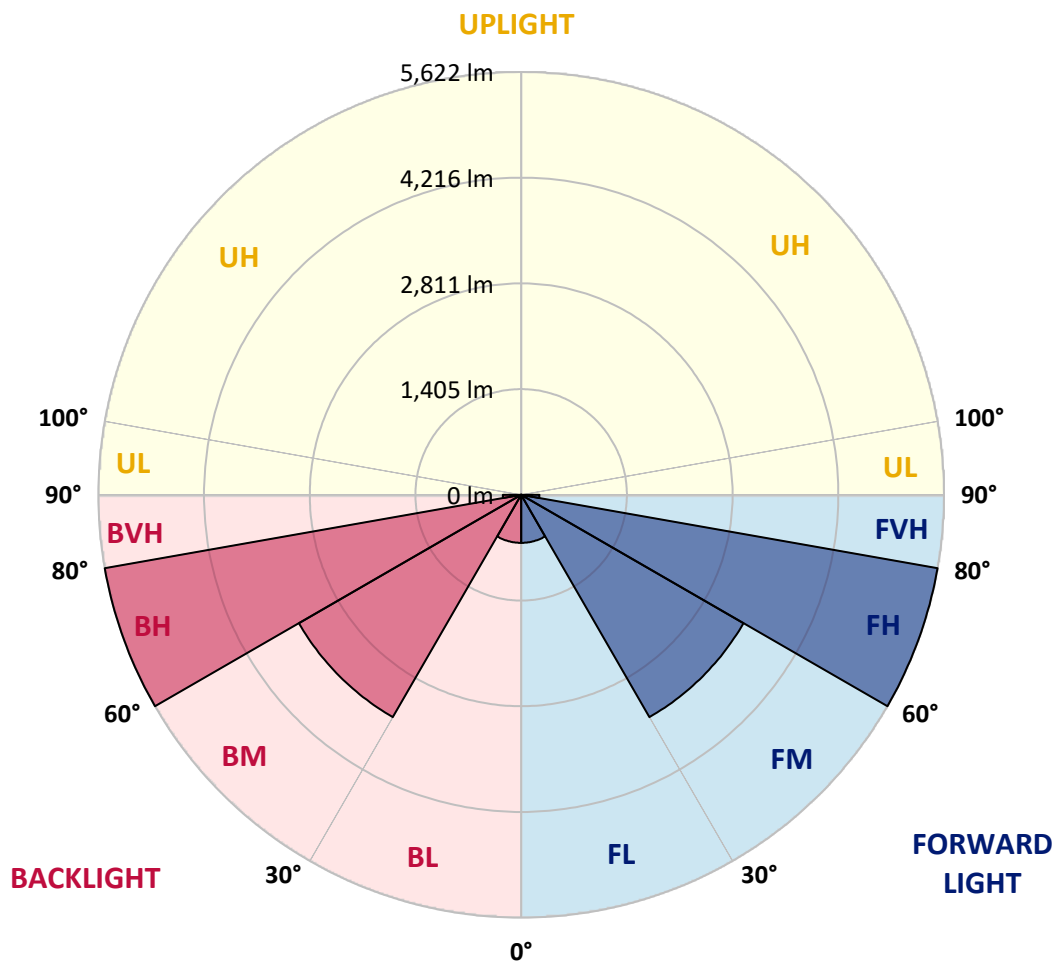
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	638.6	3.2			
FM	(30°-60°)	3413.1	17.2			
FH	(60°-80°)	5621.9	28.3			G3/7500
FVH	(80°-90°)	243.3	1.2			G3/500
BL	(0°-30°)	638.6	3.2	B2/1000		
BM	(30°-60°)	3413.1	17.2	B3/5000		
BH	(60°-80°)	5621.9	28.3	B5		G3/7500
BVH	(80°-90°)	243.3	1.2			G3/500
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B5-U0-G3

Type V Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1410.0	1410.0	1410.0	1410.0	1410.0	1410.0	1410.0	1410.0	1410.0	1410.0	1410.0
2.5°	1421.0	1421.0	1422.2	1421.0	1418.6	1417.3	1413.7	1411.3	1408.8	1407.6	1405.2
5°	1422.2	1422.2	1423.4	1422.2	1419.9	1417.3	1414.9	1411.3	1408.8	1406.3	1405.2
7.5°	1427.2	1428.3	1429.5	1428.3	1423.4	1421.0	1417.3	1413.7	1408.8	1406.3	1404.0
10°	1436.9	1436.9	1436.9	1435.6	1432.1	1427.2	1422.2	1418.6	1412.5	1406.3	1402.7
12.5°	1444.2	1445.4	1445.4	1443.0	1438.1	1432.1	1427.2	1423.4	1418.6	1413.7	1410.0
15°	1455.3	1455.3	1454.0	1449.1	1441.7	1436.9	1434.5	1433.3	1432.1	1429.5	1426.0
17.5°	1477.1	1476.0	1472.3	1464.9	1456.4	1452.7	1450.3	1450.3	1450.3	1449.1	1446.7
20°	1508.9	1508.9	1504.1	1491.8	1484.5	1480.8	1477.1	1477.1	1477.1	1473.5	1469.9
22.5°	1560.2	1561.5	1554.1	1539.5	1529.6	1522.3	1517.5	1513.8	1510.2	1507.7	1501.5
25°	1629.8	1628.5	1620.0	1601.7	1594.4	1587.1	1577.2	1571.1	1566.3	1562.6	1555.3
27.5°	1703.1	1701.8	1692.1	1676.1	1671.3	1660.3	1653.0	1644.5	1638.4	1632.3	1624.9
30°	1797.0	1791.0	1783.6	1771.4	1768.9	1760.3	1750.7	1738.5	1728.7	1718.8	1710.4
32.5°	1881.2	1881.2	1870.3	1864.2	1869.1	1865.4	1866.5	1859.3	1853.1	1849.5	1841.0
35°	1998.5	1998.5	1993.6	1986.3	1987.4	1978.9	1977.7	1978.9	1983.8	1983.8	1974.1
37.5°	2154.7	2157.3	2141.3	2138.9	2132.7	2120.5	2114.5	2116.9	2127.9	2134.0	2120.5
40°	2348.8	2353.8	2348.8	2333.0	2325.7	2305.0	2292.7	2292.7	2301.2	2307.3	2302.4
42.5°	2540.5	2549.0	2540.5	2528.3	2522.2	2506.3	2500.2	2505.1	2516.1	2523.5	2516.1
45°	2754.1	2760.2	2749.3	2734.6	2727.3	2718.7	2715.1	2718.7	2730.9	2738.2	2735.9
47.5°	2964.1	2972.7	2959.3	2953.2	2953.2	2944.6	2954.4	2964.1	2975.1	2992.2	2984.9
50°	3169.2	3180.2	3171.7	3172.9	3182.6	3198.6	3216.8	3236.4	3255.9	3274.2	3276.6
52.5°	3352.3	3369.4	3370.6	3392.6	3423.2	3447.5	3498.8	3541.5	3588.0	3603.8	3596.5
55°	3545.3	3568.4	3599.0	3633.1	3681.9	3732.0	3818.7	3895.6	3956.6	3994.5	3988.4
57.5°	3821.2	3844.3	3876.1	3932.2	4005.5	4073.8	4192.3	4311.9	4404.7	4462.0	4434.0
60°	4178.8	4203.2	4244.7	4304.6	4399.8	4492.6	4655.0	4827.1	4971.2	5037.1	4985.8
62.5°	4652.5	4675.8	4702.5	4781.9	4888.2	5007.8	5211.6	5432.6	5615.7	5679.2	5607.1
65°	5327.6	5355.7	5364.2	5429.0	5532.7	5643.8	5863.5	6112.6	6321.4	6425.1	6281.1
67.5°	6088.2	6099.2	6133.4	6209.1	6315.3	6415.3	6588.8	6824.4	7024.5	7081.9	6928.1
70°	6533.8	6555.8	6615.5	6720.5	6847.5	7005.0	7194.2	7448.2	7675.3	7702.1	7506.7
72.5°	6130.9	6176.1	6282.3	6445.9	6712.1	6991.6	7317.5	7692.3	8018.3	8056.1	7742.3
75°	4917.4	4968.7	5095.7	5275.1	5590.1	6005.2	6476.5	7039.2	7527.5	7589.8	7174.7
77.5°	2621.1	2684.6	2868.9	3110.6	3559.8	4109.2	4677.0	5319.1	5734.2	5874.6	5575.4
80°	660.5	694.7	783.7	925.4	1229.3	1672.5	2162.0	2853.1	3368.3	3586.8	3368.3
82.5°	256.3	282.0	306.5	323.5	352.8	413.9	571.3	931.4	1255.0	1545.6	1338.0
85°	98.9	105.0	151.5	172.1	172.1	189.2	217.3	256.3	317.4	346.7	290.5
87.5°	39.2	42.7	52.5	80.6	83.0	73.2	78.1	87.9	67.2	56.2	63.5
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°	1410.0	1410.0	1410.0	1410.0	1410.0	1410.0	1410.0	1410.0
2.5°	1404.0	1402.7	1400.2	1401.5	1400.2	1400.2	1400.2	1400.2
5°	1402.7	1402.7	1400.2	1400.2	1400.2	1401.5	1400.2	1400.2
7.5°	1401.5	1400.2	1397.9	1396.7	1396.7	1395.4	1395.4	1395.4
10°	1399.1	1396.7	1394.1	1392.9	1392.9	1390.6	1390.6	1390.6
12.5°	1405.2	1401.5	1399.1	1397.9	1397.9	1397.9	1399.1	1399.1
15°	1422.2	1414.9	1411.3	1410.0	1411.3	1413.7	1414.9	1416.1
17.5°	1440.6	1433.3	1427.2	1424.7	1426.0	1429.5	1433.3	1435.6
20°	1463.7	1457.6	1450.3	1447.9	1447.9	1452.7	1455.3	1458.8
22.5°	1496.8	1491.8	1485.7	1482.1	1479.6	1485.7	1489.4	1491.8
25°	1549.2	1544.4	1539.5	1535.7	1534.5	1540.7	1543.1	1544.4
27.5°	1618.7	1613.9	1611.5	1610.3	1606.5	1609.1	1612.6	1611.5
30°	1709.2	1712.7	1709.2	1709.2	1703.1	1705.4	1703.1	1700.6
32.5°	1830.0	1826.4	1815.4	1808.0	1799.5	1799.5	1795.7	1792.2
35°	1950.9	1938.7	1932.6	1936.2	1932.6	1935.0	1928.9	1922.8
37.5°	2093.7	2086.5	2085.1	2096.1	2093.7	2096.1	2096.1	2087.6
40°	2282.9	2278.0	2286.6	2305.0	2312.3	2311.0	2313.4	2302.4
42.5°	2500.2	2491.6	2495.4	2511.3	2519.7	2522.2	2520.9	2511.3
45°	2717.5	2720.0	2720.0	2737.1	2745.5	2750.5	2742.0	2738.2
47.5°	2962.9	2966.6	2957.9	2969.0	2971.5	2980.0	2972.7	2966.6
50°	3246.1	3232.7	3213.2	3216.8	3216.8	3214.4	3205.8	3198.6
52.5°	3562.3	3531.8	3495.2	3482.9	3469.5	3456.1	3439.1	3425.6
55°	3922.5	3870.0	3804.1	3773.5	3747.9	3717.3	3678.3	3664.9
57.5°	4340.0	4249.6	4161.8	4106.8	4040.9	4000.6	3950.6	3948.1
60°	4835.6	4713.6	4558.6	4476.7	4410.8	4363.2	4325.3	4310.8
62.5°	5408.3	5198.2	5031.0	4943.1	4866.2	4836.9	4789.3	4795.4
65°	5995.4	5781.8	5619.4	5548.6	5476.5	5457.1	5413.0	5429.0
67.5°	6631.5	6455.7	6277.4	6211.5	6145.7	6126.0	6080.9	6094.3
70°	7201.6	6978.2	6775.5	6646.1	6533.8	6443.4	6386.1	6362.8
72.5°	7315.1	6928.1	6609.4	6285.9	6099.2	5935.6	5868.5	5842.7
75°	6572.8	5972.2	5518.0	5138.4	4928.4	4690.4	4664.8	4629.4
77.5°	5112.8	4429.2	3879.7	3391.4	3109.4	2818.9	2718.7	2643.1
80°	3049.5	2343.9	1816.6	1273.3	1038.9	836.3	786.2	733.6
82.5°	1091.4	699.5	471.2	367.4	328.5	302.7	283.2	257.7
85°	263.7	222.3	210.0	190.4	188.0	159.9	113.5	101.3
87.5°	84.2	76.9	78.1	74.6	78.1	58.6	47.6	42.7
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)