

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: P196046

Luminaire Tested: **NAV-AF-02-D-UNV-RW**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196046
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24161)
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-RW
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 70 CRI, 4000K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND RECTANGULAR WIDE OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 12732.7 lumens
Efficiency: N/A
Efficacy: 112.7 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type II - Medium - Full Cutoff
BUG Rating: B3 - U0 - G3

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

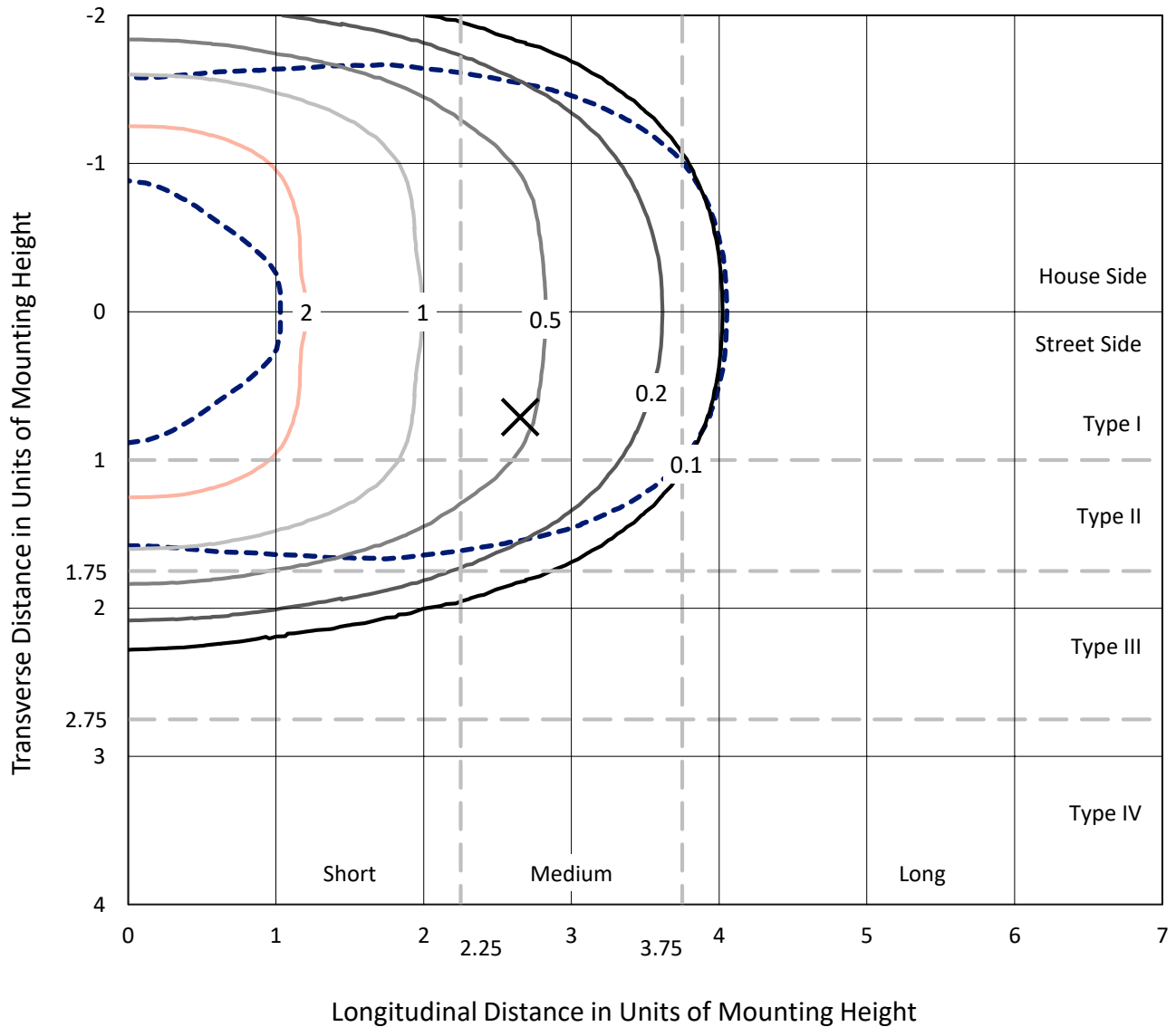


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Iso-Footcandle Lines of Horizontal Illumination

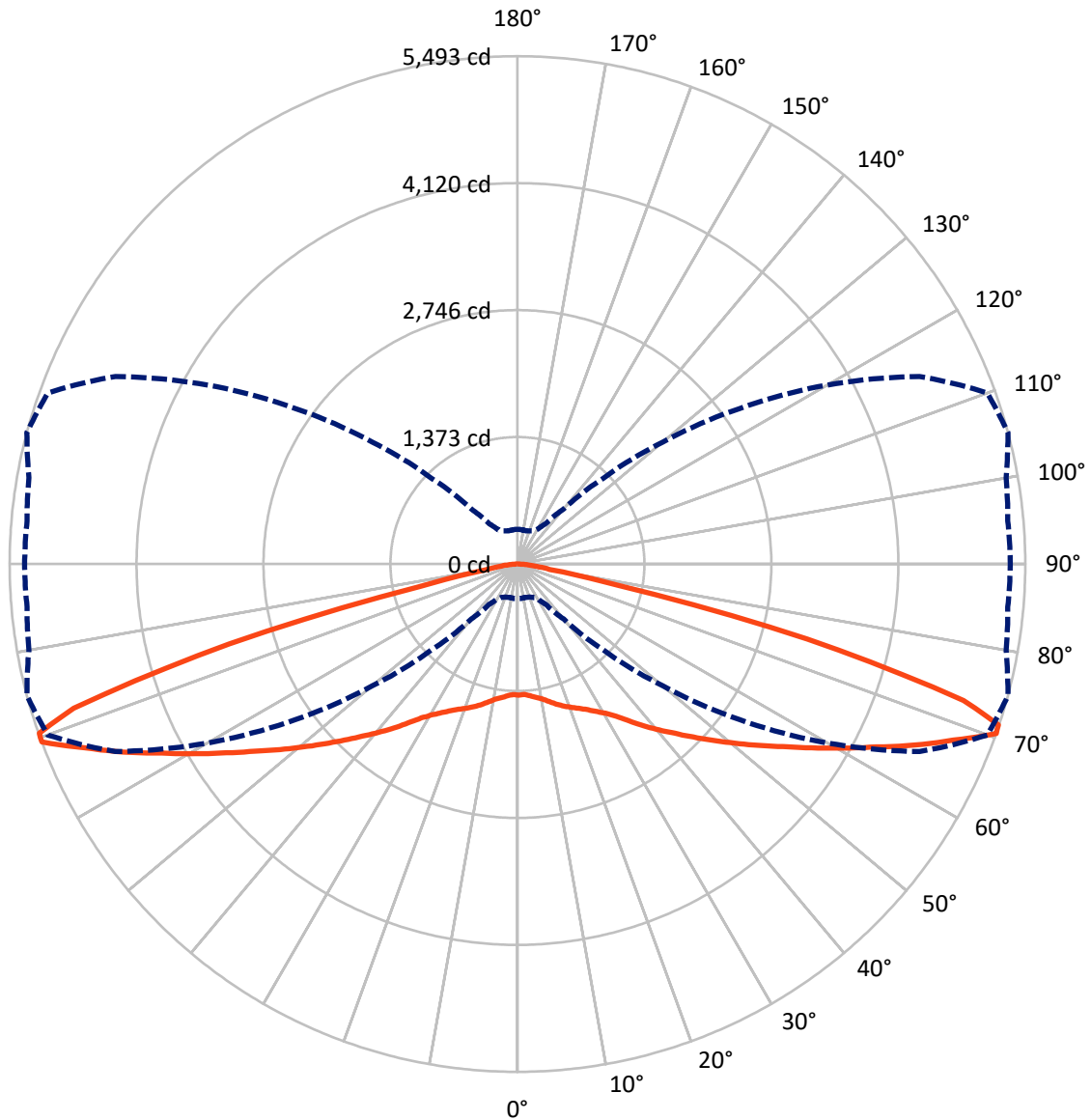
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 3.6 fc
 Type II - Medium - Full Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 75-Deg Lateral - - - Horizontal Cone Through 70-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	6366.3	0.0	6366.3
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	6366.3	0.0	6366.3
	% Fixture	50.0	0.0	50.0
Total	Lumens	12732.7	0.0	12732.7
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	136.0	1.1
10°-20°	421.8	3.3
20°-30°	792.2	6.2
30°-40°	1395.5	11.0
40°-50°	2312.7	18.2
50°-60°	3217.4	25.3
60°-70°	3037.3	23.9
70°-80°	1297.2	10.2
80°-90°	122.6	1.0
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°	12732.7	100.0
0°-180°	12732.7	100.0



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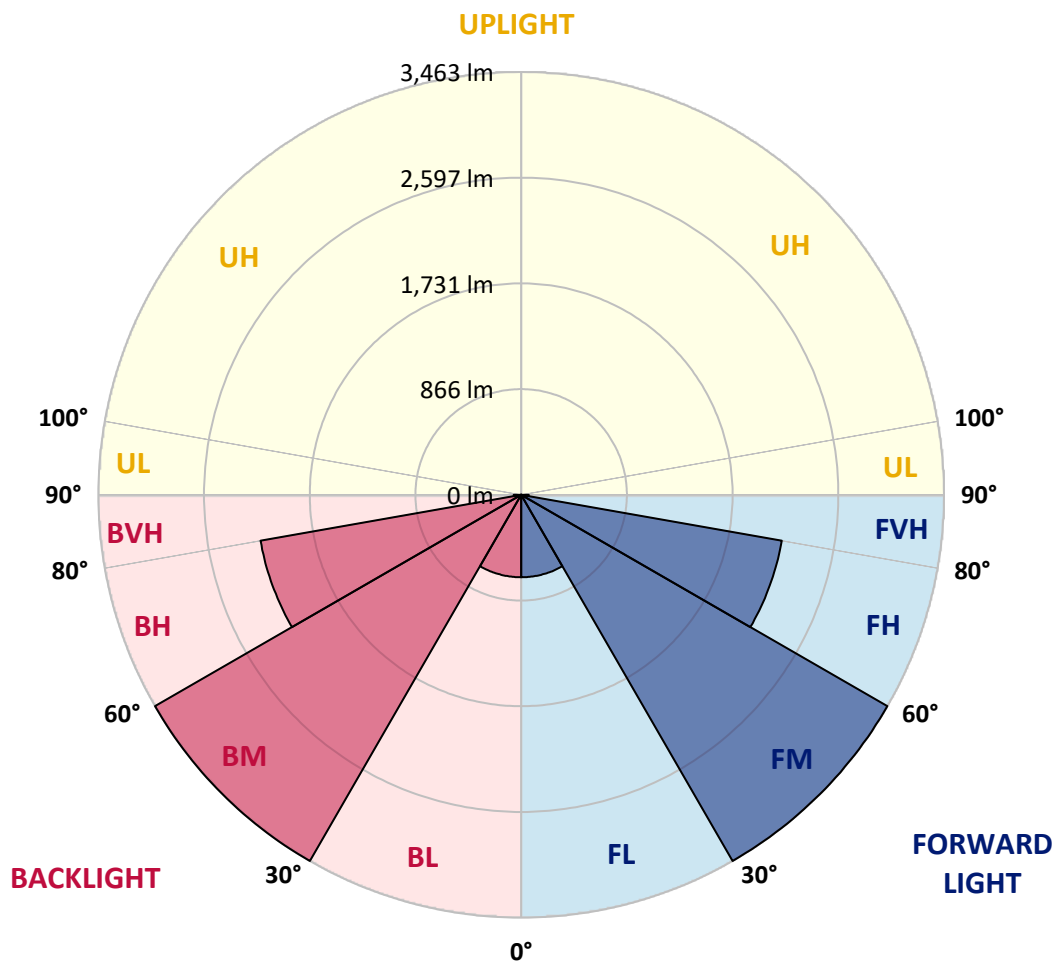
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	675.0	5.3			
FM	(30°-60°)	3462.8	27.2			
FH	(60°-80°)	2167.3	17.0			G2/5000
FVH	(80°-90°)	61.3	0.5			G1/100
BL	(0°-30°)	675.0	5.3	B2/1000		
BM	(30°-60°)	3462.8	27.2	B3/5000		
BH	(60°-80°)	2167.3	17.0	B3/2500		G3/2500
BVH	(80°-90°)	61.3	0.5			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G3

Type II Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1417.9	1417.9	1417.9	1417.9	1417.9	1417.9	1417.9	1417.9	1417.9	1417.9	1417.9
2.5°	1426.7	1425.9	1426.7	1424.3	1425.1	1424.3	1424.3	1421.1	1421.1	1419.5	1417.1
5°	1410.8	1412.3	1412.3	1412.3	1414.7	1414.7	1417.9	1418.7	1421.1	1423.5	1425.1
7.5°	1384.4	1385.2	1387.6	1389.2	1394.0	1400.3	1406.8	1413.9	1420.3	1428.2	1437.0
10°	1362.1	1363.7	1367.7	1371.7	1380.4	1388.3	1399.6	1410.8	1421.9	1435.5	1449.0
12.5°	1350.1	1352.4	1358.9	1365.2	1378.8	1389.2	1404.3	1421.9	1437.0	1449.8	1465.0
15°	1351.7	1352.4	1361.2	1370.0	1389.2	1403.6	1425.1	1445.8	1464.1	1478.6	1496.1
17.5°	1374.8	1376.4	1385.2	1398.0	1416.3	1434.7	1457.8	1479.4	1504.0	1520.8	1541.6
20°	1420.3	1422.7	1432.2	1445.8	1465.8	1484.9	1508.9	1531.3	1556.7	1576.7	1597.4
22.5°	1479.4	1483.4	1493.7	1510.5	1530.4	1553.6	1578.3	1601.4	1625.4	1645.3	1662.9
25°	1558.4	1563.2	1574.3	1591.1	1611.0	1635.7	1661.3	1685.2	1710.0	1725.1	1739.4
27.5°	1664.4	1672.4	1684.4	1698.0	1715.5	1741.9	1765.8	1785.8	1809.7	1826.5	1836.0
30°	1807.2	1818.5	1828.0	1842.4	1855.1	1883.0	1902.3	1918.2	1936.5	1946.2	1948.5
32.5°	1982.1	1992.4	2002.0	2012.3	2029.9	2055.4	2073.8	2082.6	2092.1	2090.6	2081.8
35°	2179.1	2187.1	2192.7	2211.0	2239.8	2256.5	2270.1	2273.3	2274.8	2258.2	2241.4
37.5°	2386.5	2396.2	2401.0	2429.7	2456.8	2476.0	2482.3	2489.6	2484.7	2456.8	2426.4
40°	2610.8	2621.2	2635.5	2660.3	2692.2	2710.5	2718.5	2717.7	2713.7	2681.1	2631.5
42.5°	2831.0	2843.8	2855.8	2898.8	2925.2	2956.3	2960.3	2959.5	2950.7	2913.3	2855.8
45°	3017.7	3032.9	3057.6	3105.5	3147.8	3185.3	3200.5	3206.0	3197.2	3157.3	3092.0
47.5°	3171.8	3182.1	3213.2	3271.5	3325.7	3380.8	3411.1	3432.6	3431.9	3403.2	3333.7
50°	3277.0	3289.0	3327.4	3392.7	3460.5	3525.2	3585.0	3633.7	3656.8	3636.1	3571.5
52.5°	3307.4	3322.5	3372.8	3451.0	3530.0	3616.9	3706.4	3792.5	3844.4	3857.1	3806.9
55°	3179.7	3196.5	3269.9	3378.4	3508.4	3636.9	3772.5	3895.5	4002.4	4051.8	4031.9
57.5°	2807.9	2819.9	2913.3	3053.6	3239.6	3465.3	3693.6	3918.6	4102.1	4230.6	4252.9
60°	2220.6	2235.8	2338.0	2486.3	2697.7	2983.4	3302.6	3671.3	4031.1	4325.5	4471.5
62.5°	1498.5	1508.9	1607.1	1742.7	1974.1	2249.4	2605.3	3072.0	3585.0	4110.9	4522.7
65°	786.8	786.8	852.9	948.0	1132.2	1378.8	1743.4	2222.3	2832.7	3489.3	4177.9
67.5°	456.4	455.6	470.8	492.3	550.6	650.3	851.4	1203.3	1781.0	2545.4	3328.9
70°	376.7	374.2	371.8	371.8	380.6	395.8	434.0	530.6	776.4	1312.5	2048.3
71°	359.9	358.2	351.9	349.4	353.4	361.4	378.2	422.9	551.4	895.3	1529.6
72.5°	339.9	335.9	326.3	322.3	323.2	326.3	331.1	348.7	387.8	509.1	872.2
75°	309.5	300.0	288.1	282.4	280.1	279.3	279.3	284.1	292.9	307.2	357.4
77.5°	274.5	261.0	248.2	242.5	238.6	236.2	234.6	231.4	229.8	236.2	254.5
80°	232.2	217.8	207.5	204.3	201.8	197.1	190.7	184.3	180.3	183.5	194.7
82.5°	179.5	165.2	166.7	167.6	163.6	155.6	149.2	142.0	134.8	133.3	138.8
85°	142.8	135.6	130.8	141.3	132.5	122.9	114.1	102.1	85.4	70.2	76.6
87.5°	61.5	62.2	89.4	134.8	118.0	94.9	79.0	63.8	40.7	30.3	31.1
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°	1417.9	1417.9	1417.9	1417.9	1417.9	1417.9	1417.9	1417.9
2.5°	1416.3	1416.3	1413.9	1412.3	1412.3	1412.3	1410.8	1411.6
5°	1425.9	1427.5	1429.1	1428.2	1430.7	1433.1	1432.2	1431.5
7.5°	1441.8	1446.7	1451.5	1453.8	1457.0	1460.2	1461.0	1458.6
10°	1457.8	1467.4	1474.6	1480.9	1484.9	1488.1	1490.5	1489.7
12.5°	1477.8	1491.4	1504.0	1516.8	1525.6	1530.4	1535.2	1533.6
15°	1510.5	1525.6	1541.6	1558.4	1571.9	1579.1	1586.3	1584.7
17.5°	1555.2	1568.7	1581.5	1598.3	1615.0	1623.0	1631.0	1630.2
20°	1611.0	1621.4	1628.5	1638.2	1654.1	1662.9	1670.1	1667.6
22.5°	1674.9	1678.0	1678.9	1682.0	1694.8	1705.2	1714.8	1717.1
25°	1744.2	1741.9	1737.1	1734.7	1743.4	1754.7	1766.6	1769.8
27.5°	1830.5	1822.5	1810.5	1800.9	1803.3	1817.7	1831.2	1834.5
30°	1938.9	1920.6	1895.0	1876.7	1873.5	1888.7	1903.0	1907.8
32.5°	2062.7	2037.9	2002.7	1974.8	1962.8	1976.4	1989.2	1996.4
35°	2209.5	2182.4	2140.0	2104.1	2085.0	2093.8	2116.1	2124.1
37.5°	2383.4	2345.9	2298.8	2253.4	2221.4	2223.0	2246.9	2256.5
40°	2575.7	2521.5	2461.6	2405.0	2358.6	2355.4	2377.0	2384.2
42.5°	2776.0	2706.5	2636.3	2562.1	2504.7	2494.3	2522.2	2523.0
45°	2991.4	2902.0	2815.1	2728.9	2669.1	2650.7	2677.8	2681.1
47.5°	3221.2	3109.5	3006.6	2913.3	2848.6	2819.9	2846.2	2851.0
50°	3460.5	3344.8	3225.2	3121.4	3045.6	3010.5	3041.6	3044.9
52.5°	3697.6	3588.2	3469.3	3350.5	3258.7	3218.8	3255.5	3266.7
55°	3936.1	3830.8	3719.1	3600.2	3484.5	3449.4	3489.3	3501.3
57.5°	4184.3	4083.0	3981.6	3861.9	3749.4	3696.0	3739.1	3755.9
60°	4458.0	4368.6	4272.9	4152.4	4041.5	3979.3	4015.9	4035.1
62.5°	4726.9	4708.5	4621.6	4496.3	4355.8	4293.6	4324.7	4338.3
65°	4749.3	5046.8	5042.8	4918.3	4722.1	4617.6	4626.4	4632.7
67.5°	4145.2	4828.2	5264.7	5303.8	5085.2	4921.6	4902.4	4906.4
70°	2934.7	3872.3	4798.7	5406.7	5492.9	5366.0	5324.6	5330.9
71°	2351.5	3322.5	4342.3	5160.2	5486.5	5449.8	5426.7	5443.4
72.5°	1500.9	2448.0	3440.6	4418.8	5045.3	5224.8	5251.1	5261.4
75°	545.0	1053.2	1782.6	2554.1	3237.1	3707.2	3965.7	3986.4
77.5°	292.9	377.4	583.3	871.3	1094.8	1214.4	1228.8	1234.4
80°	215.4	249.7	285.6	326.3	351.9	356.7	347.9	329.5
82.5°	152.4	172.4	186.7	201.1	211.4	202.6	168.4	128.5
85°	88.6	97.4	105.4	112.5	114.1	107.7	71.0	58.2
87.5°	35.1	38.3	37.5	42.2	40.7	37.5	27.9	23.9
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)