

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: P195970

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195970
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-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 4000K, 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: 20977.6 lumens
Efficiency: N/A
Efficacy: 122.7 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

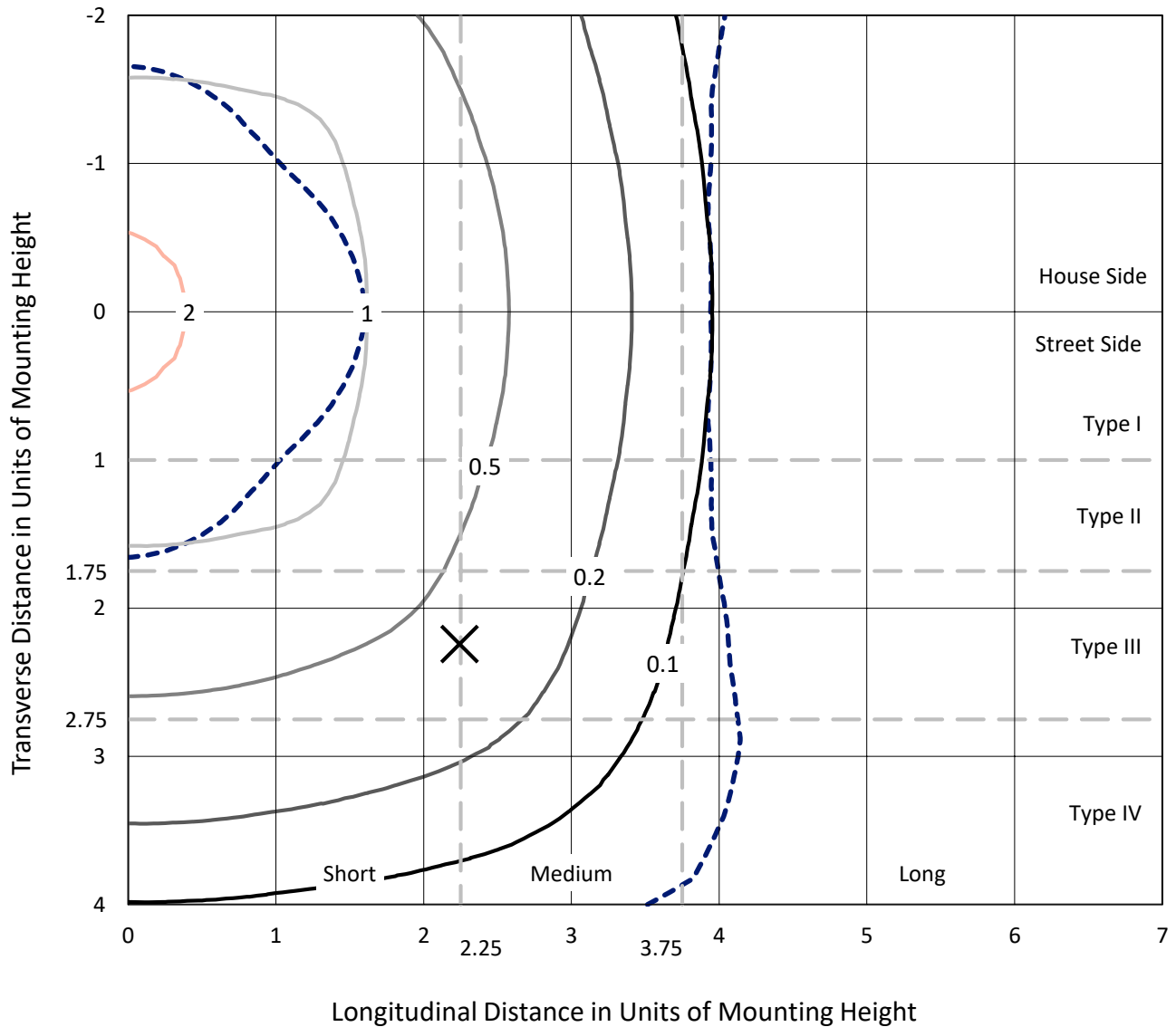
Input Watts (W): 171
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

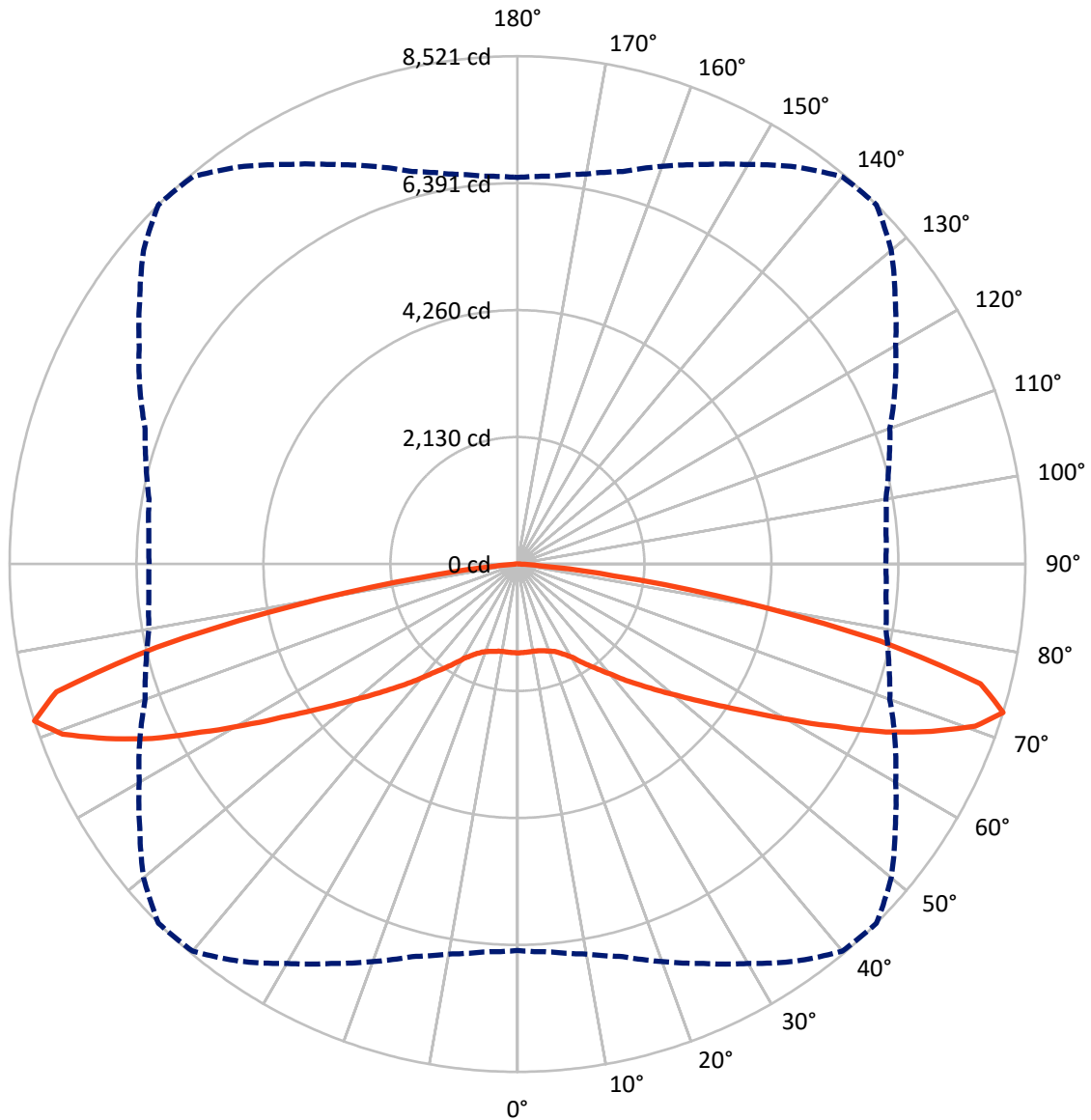
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 2.4 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	10488.8	0.0	10488.8
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	10488.8	0.0	10488.8
	% Fixture	50.0	0.0	50.0
Total	Lumens	20977.6	0.0	20977.6
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	142.3	0.7
10°-20°	430.8	2.1
20°-30°	777.7	3.7
30°-40°	1326.6	6.3
40°-50°	2258.5	10.8
50°-60°	3634.8	17.3
60°-70°	6044.7	28.8
70°-80°	5847.5	27.9
80°-90°	514.7	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°	20977.6	100.0
0°-180°	20977.6	100.0



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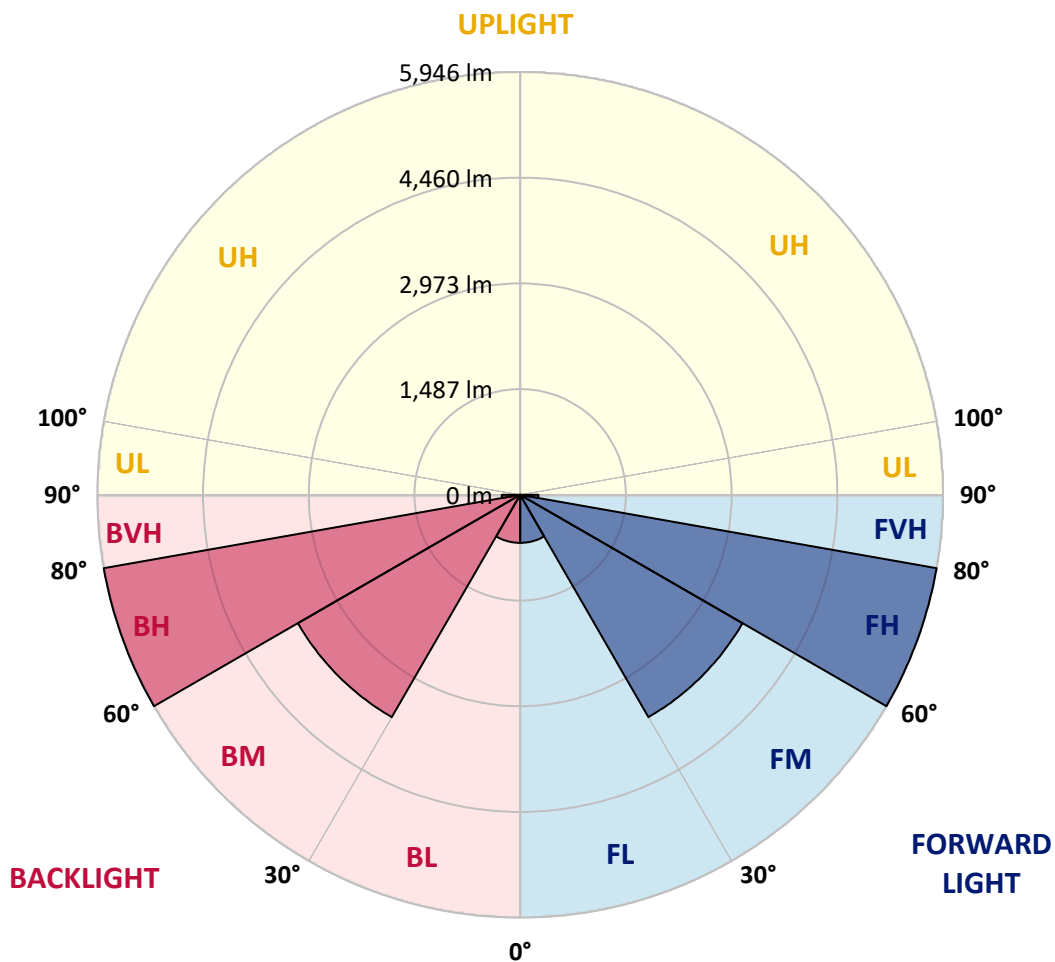
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	675.4	3.2			
FM	(30°-60°)	3609.9	17.2			
FH	(60°-80°)	5946.1	28.3			G3/7500
FVH	(80°-90°)	257.3	1.2			G3/500
BL	(0°-30°)	675.4	3.2	B2/1000		
BM	(30°-60°)	3609.9	17.2	B3/5000		
BH	(60°-80°)	5946.1	28.3	B5		G3/7500
BVH	(80°-90°)	257.3	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°	1491.4	1491.4	1491.4	1491.4	1491.4	1491.4	1491.4	1491.4	1491.4	1491.4	1491.4
2.5°	1503.0	1503.0	1504.2	1503.0	1500.4	1499.1	1495.2	1492.7	1490.0	1488.8	1486.1
5°	1504.2	1504.2	1505.6	1504.2	1501.7	1499.1	1496.5	1492.7	1490.0	1487.5	1486.1
7.5°	1509.5	1510.7	1512.0	1510.7	1505.6	1503.0	1499.1	1495.2	1490.0	1487.5	1484.9
10°	1519.8	1519.8	1519.8	1518.5	1514.6	1509.5	1504.2	1500.4	1493.9	1487.5	1483.6
12.5°	1527.5	1528.8	1528.8	1526.2	1521.0	1514.6	1509.5	1505.6	1500.4	1495.2	1491.4
15°	1539.1	1539.1	1537.8	1532.7	1524.9	1519.8	1517.1	1515.9	1514.6	1512.0	1508.1
17.5°	1562.4	1561.1	1557.2	1549.5	1540.5	1536.6	1533.9	1533.9	1533.9	1532.7	1530.1
20°	1595.9	1595.9	1590.8	1577.9	1570.1	1566.2	1562.4	1562.4	1562.4	1558.5	1554.6
22.5°	1650.1	1651.5	1643.7	1628.2	1617.9	1610.1	1605.0	1601.1	1597.2	1594.7	1588.2
25°	1723.8	1722.4	1713.4	1694.1	1686.3	1678.6	1668.2	1661.8	1656.7	1652.8	1645.0
27.5°	1801.2	1800.0	1789.7	1772.9	1767.7	1756.1	1748.3	1739.2	1732.8	1726.3	1718.6
30°	1900.6	1894.2	1886.4	1873.5	1871.0	1862.0	1851.6	1838.7	1828.3	1818.0	1809.0
32.5°	1989.7	1989.7	1978.2	1971.6	1976.9	1973.0	1974.3	1966.5	1960.1	1956.2	1947.2
35°	2113.7	2113.7	2108.5	2100.8	2102.1	2093.1	2091.7	2093.1	2098.2	2098.2	2087.9
37.5°	2279.0	2281.6	2264.8	2262.3	2255.7	2242.8	2236.4	2238.9	2250.6	2257.0	2242.8
40°	2484.3	2489.5	2484.3	2467.6	2459.8	2437.8	2424.9	2424.9	2433.9	2440.4	2435.2
42.5°	2687.0	2696.1	2687.0	2674.1	2667.7	2650.9	2644.4	2649.5	2661.2	2669.0	2661.2
45°	2913.0	2919.4	2907.8	2892.3	2884.6	2875.5	2871.6	2875.5	2888.4	2896.2	2893.6
47.5°	3135.0	3144.1	3129.9	3123.5	3123.5	3114.4	3124.7	3135.0	3146.7	3164.8	3157.0
50°	3352.0	3363.6	3354.6	3355.9	3366.2	3383.0	3402.3	3423.0	3443.7	3463.0	3465.7
52.5°	3545.6	3563.8	3565.1	3588.3	3620.5	3646.4	3700.6	3745.8	3794.8	3811.6	3803.9
55°	3749.7	3774.2	3806.5	3842.6	3894.3	3947.3	4038.9	4120.2	4184.8	4224.9	4218.4
57.5°	4041.5	4066.0	4099.6	4159.0	4236.4	4308.8	4434.1	4560.6	4658.7	4719.4	4689.7
60°	4419.9	4445.6	4489.5	4552.8	4653.5	4751.7	4923.4	5105.4	5257.9	5327.5	5273.3
62.5°	4920.8	4945.4	4973.8	5057.7	5170.0	5296.5	5512.2	5745.9	5939.6	6006.8	5930.6
65°	5634.8	5664.6	5673.6	5742.0	5851.8	5969.3	6201.7	6465.2	6685.9	6795.7	6643.3
67.5°	6439.3	6450.9	6487.0	6567.1	6679.5	6785.3	6968.6	7217.9	7429.7	7490.4	7327.6
70°	6910.5	6933.9	6997.1	7108.2	7242.4	7409.0	7609.1	7877.7	8117.8	8146.3	7939.6
72.5°	6484.5	6532.3	6644.6	6817.7	7099.1	7394.8	7739.5	8135.9	8480.7	8520.8	8188.9
75°	5201.0	5255.2	5389.5	5579.4	5912.5	6351.5	6849.9	7445.1	7961.6	8027.5	7588.5
77.5°	2772.2	2839.4	3034.4	3290.0	3765.2	4346.2	4946.7	5625.8	6064.9	6213.3	5897.0
80°	698.6	734.7	829.0	978.8	1300.3	1769.0	2286.7	3017.6	3562.4	3793.6	3562.4
82.5°	271.2	298.3	324.1	342.2	373.2	437.7	604.3	985.2	1327.4	1634.7	1415.2
85°	104.5	111.1	160.1	182.1	182.1	200.1	229.9	271.2	335.7	366.7	307.3
87.5°	41.3	45.2	55.5	85.2	87.8	77.4	82.7	93.0	71.0	59.4	67.1
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°	1491.4	1491.4	1491.4	1491.4	1491.4	1491.4	1491.4	1491.4
2.5°	1484.9	1483.6	1481.0	1482.4	1481.0	1481.0	1481.0	1481.0
5°	1483.6	1483.6	1481.0	1481.0	1481.0	1482.4	1481.0	1481.0
7.5°	1482.4	1481.0	1478.5	1477.1	1477.1	1475.8	1475.8	1475.8
10°	1479.7	1477.1	1474.6	1473.3	1473.3	1470.7	1470.7	1470.7
12.5°	1486.1	1482.4	1479.7	1478.5	1478.5	1478.5	1479.7	1479.7
15°	1504.2	1496.5	1492.7	1491.4	1492.7	1495.2	1496.5	1497.8
17.5°	1523.6	1515.9	1509.5	1506.8	1508.1	1512.0	1515.9	1518.5
20°	1548.1	1541.7	1533.9	1531.4	1531.4	1536.6	1539.1	1543.0
22.5°	1583.0	1577.9	1571.5	1567.6	1564.9	1571.5	1575.2	1577.9
25°	1638.6	1633.3	1628.2	1624.3	1623.0	1629.6	1632.1	1633.3
27.5°	1712.1	1707.0	1704.4	1703.1	1699.2	1701.8	1705.7	1704.4
30°	1807.7	1811.5	1807.7	1807.7	1801.2	1803.9	1801.2	1798.7
32.5°	1935.5	1931.6	1920.1	1912.3	1903.3	1903.3	1899.4	1895.5
35°	2063.4	2050.4	2044.0	2047.8	2044.0	2046.6	2040.1	2033.6
37.5°	2214.5	2206.7	2205.4	2217.0	2214.5	2217.0	2217.0	2207.9
40°	2414.6	2409.5	2418.5	2437.8	2445.6	2444.2	2446.9	2435.2
42.5°	2644.4	2635.3	2639.2	2656.0	2665.1	2667.7	2666.3	2656.0
45°	2874.3	2876.8	2876.8	2895.0	2904.0	2909.1	2900.1	2896.2
47.5°	3133.8	3137.7	3128.6	3140.3	3142.8	3151.8	3144.1	3137.7
50°	3433.3	3419.1	3398.4	3402.3	3402.3	3399.8	3390.8	3383.0
52.5°	3767.7	3735.5	3696.7	3683.9	3669.6	3655.4	3637.3	3623.2
55°	4148.7	4093.1	4023.5	3991.1	3964.0	3931.7	3890.4	3876.3
57.5°	4590.3	4494.7	4401.8	4343.7	4273.9	4231.3	4178.3	4175.8
60°	5114.5	4985.4	4821.4	4734.9	4665.2	4614.8	4574.7	4559.3
62.5°	5720.0	5498.0	5321.1	5228.1	5146.8	5115.8	5065.4	5071.9
65°	6341.2	6115.2	5943.4	5868.6	5792.4	5771.7	5725.3	5742.0
67.5°	7013.9	6828.0	6639.5	6569.7	6499.9	6479.3	6431.5	6445.7
70°	7616.9	7380.6	7166.3	7029.4	6910.5	6815.0	6754.3	6729.8
72.5°	7737.0	7327.6	6990.6	6648.5	6450.9	6277.8	6206.9	6179.7
75°	6951.9	6316.6	5836.3	5434.7	5212.7	4960.8	4933.7	4896.3
77.5°	5407.6	4684.5	4103.5	3587.0	3288.7	2981.4	2875.5	2795.5
80°	3225.5	2479.1	1921.3	1346.7	1098.9	884.4	831.6	776.0
82.5°	1154.3	739.9	498.4	388.6	347.3	320.2	299.5	272.4
85°	278.9	235.0	222.1	201.4	198.9	169.2	120.1	107.2
87.5°	89.1	81.3	82.7	78.8	82.7	62.0	50.3	45.2
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)