

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: P196877

Luminaire Tested: **NAV-AF-05-D-UNV-5MQ-8030-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196877
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24129)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-AF-05-D-UNV-5MQ-8030-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 80 CRI, 3000K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE V MEDIUM OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 17217 lumens
Efficiency: N/A
Efficacy: 106.3 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type V - Short - Full Cutoff
BUG Rating: B4 - U0 - G2

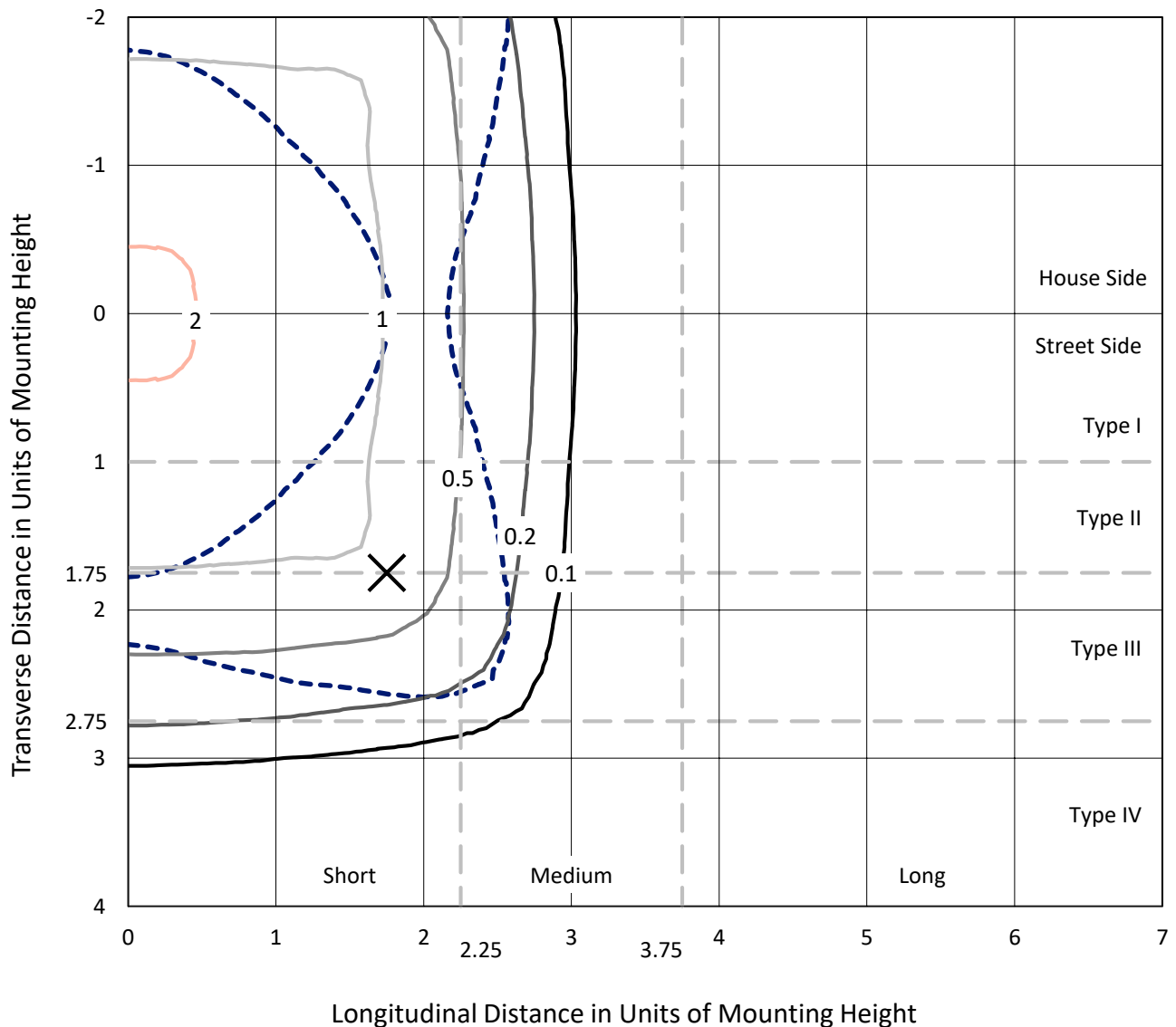
Input Watts (W): 162
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

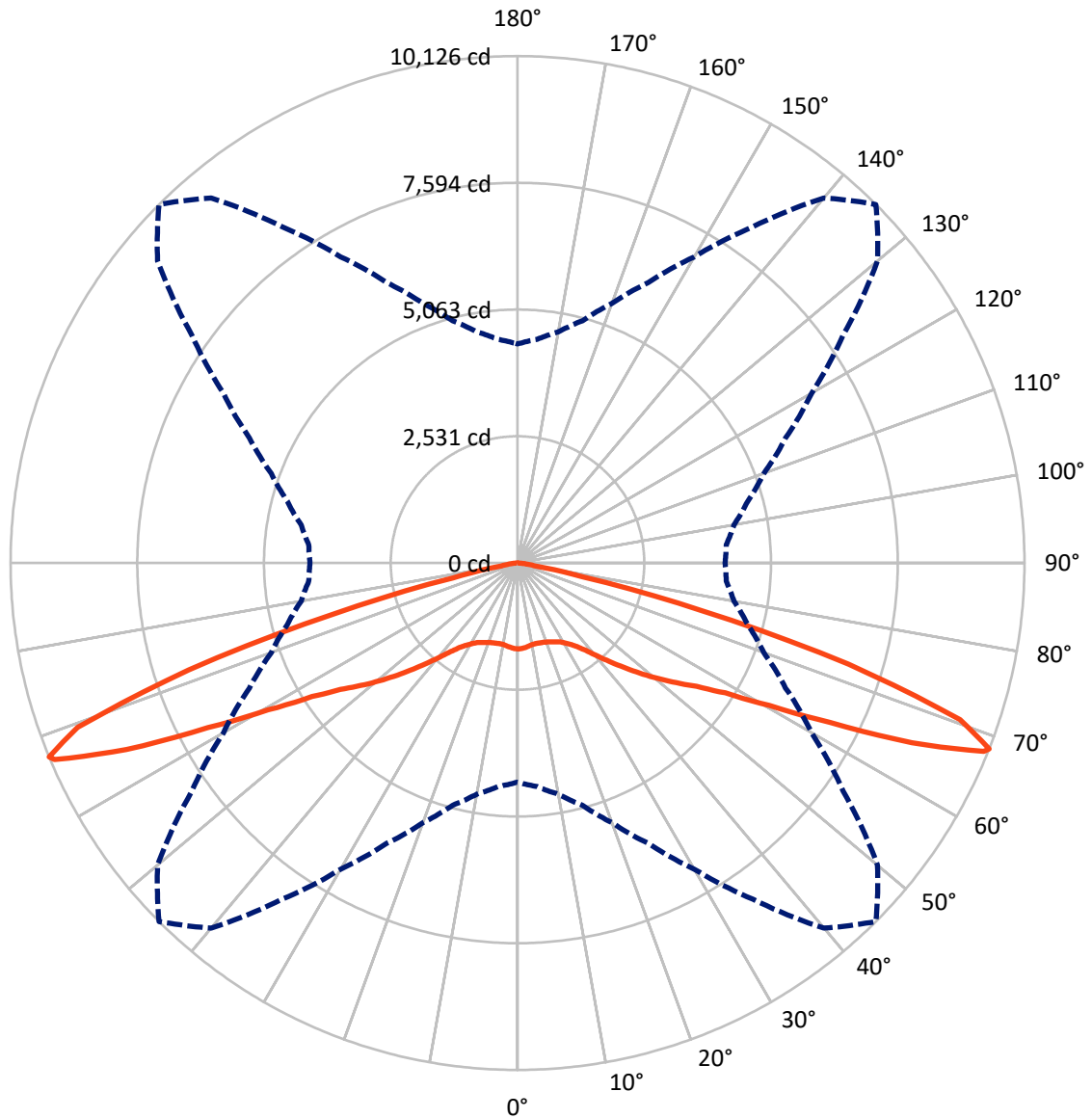
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 2.7 fc
 Type V - Short - Full Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 45-Deg Lateral - - - Horizontal Cone Through 68-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	8608.5	0.0	8608.5
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	8608.5	0.0	8608.5
	% Fixture	50.0	0.0	50.0
Total	Lumens	17217.0	0.0	17217.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	160.7	0.9
10°-20°	466.1	2.7
20°-30°	792.4	4.6
30°-40°	1296.7	7.5
40°-50°	2317.4	13.5
50°-60°	3913.7	22.7
60°-70°	6068.7	35.2
70°-80°	2086.6	12.1
80°-90°	114.7	0.7
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°	17217.0	100.0
0°-180°	17217.0	100.0



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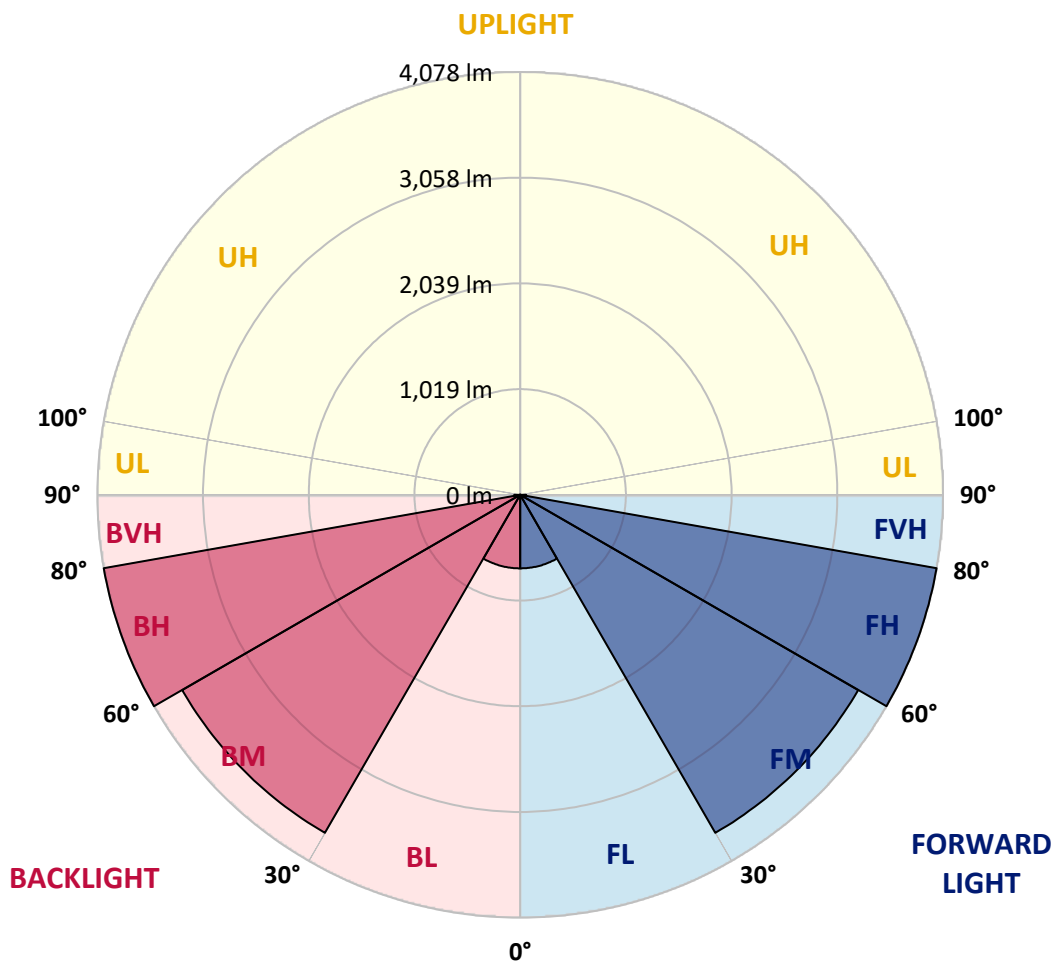
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	709.6	4.1			
FM	(30°-60°)	3763.9	21.9			
FH	(60°-80°)	4077.7	23.7			G2/5000
FVH	(80°-90°)	57.3	0.3			G1/100
BL	(0°-30°)	709.6	4.1	B2/1000		
BM	(30°-60°)	3763.9	21.9	B3/5000		
BH	(60°-80°)	4077.7	23.7	B4/5000		G2/5000
BVH	(80°-90°)	57.3	0.3			G1/100
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°	1717.4	1717.4	1717.4	1717.4	1717.4	1717.4	1717.4	1717.4	1717.4	1717.4	1717.4
2.5°	1724.8	1724.8	1726.9	1725.9	1722.7	1719.6	1716.4	1713.2	1711.1	1709.0	1706.9
5°	1706.9	1706.9	1710.1	1708.0	1705.8	1702.7	1700.6	1697.4	1695.3	1693.2	1694.3
7.5°	1683.7	1685.8	1687.9	1686.9	1682.7	1681.6	1678.4	1677.4	1675.3	1672.1	1673.2
10°	1663.7	1664.7	1666.8	1665.8	1664.7	1661.6	1660.5	1659.5	1658.4	1654.2	1653.1
12.5°	1643.6	1645.8	1647.9	1648.9	1647.9	1648.9	1650.0	1651.0	1650.0	1647.9	1647.9
15°	1627.8	1629.9	1633.1	1636.3	1637.3	1643.6	1647.9	1652.1	1655.2	1656.3	1653.1
17.5°	1619.4	1622.6	1626.8	1633.1	1638.4	1645.8	1653.1	1659.5	1664.7	1665.8	1662.6
20°	1618.3	1621.5	1627.8	1635.2	1644.7	1654.2	1665.8	1675.3	1680.5	1683.7	1680.5
22.5°	1625.7	1629.9	1638.4	1647.9	1659.5	1672.1	1686.9	1697.4	1708.0	1712.2	1709.0
25°	1646.8	1651.0	1660.5	1672.1	1684.8	1700.6	1715.3	1729.0	1739.6	1744.9	1740.6
27.5°	1691.1	1692.1	1702.7	1715.3	1730.1	1743.8	1762.8	1769.1	1777.5	1782.8	1777.5
30°	1753.3	1755.4	1764.9	1784.9	1798.6	1816.6	1827.1	1833.4	1842.9	1848.2	1841.9
32.5°	1848.2	1850.3	1858.7	1877.7	1890.4	1904.1	1916.7	1920.9	1930.4	1936.7	1929.4
35°	1982.1	1986.3	1993.7	2006.3	2016.9	2027.4	2036.9	2033.7	2040.1	2048.5	2041.1
37.5°	2165.5	2164.5	2166.6	2176.1	2186.6	2192.9	2207.7	2200.3	2206.6	2214.0	2209.8
40°	2379.5	2379.5	2378.5	2395.4	2399.6	2405.9	2421.7	2412.2	2420.7	2429.1	2421.7
42.5°	2623.1	2627.3	2632.6	2646.3	2657.9	2660.0	2667.4	2663.1	2673.7	2681.1	2673.7
45°	2903.5	2909.9	2916.2	2947.8	2953.1	2957.3	2962.6	2948.9	2960.5	2966.8	2964.7
47.5°	3194.5	3206.1	3219.8	3252.5	3273.6	3283.1	3287.3	3271.5	3272.5	3282.0	3283.1
50°	3523.5	3536.1	3549.8	3586.7	3606.7	3623.6	3628.9	3611.0	3613.1	3620.4	3622.6
52.5°	3827.1	3841.9	3871.4	3920.9	3949.4	3978.9	3981.0	3958.9	3968.4	3973.6	3969.4
55°	4112.8	4131.8	4170.8	4237.2	4288.9	4346.9	4373.2	4349.0	4349.0	4344.8	4342.6
57.5°	4446.0	4467.0	4507.1	4584.1	4655.8	4739.1	4810.7	4835.0	4879.3	4894.0	4870.8
60°	4947.8	4969.9	5011.1	5112.3	5202.9	5324.2	5442.3	5538.2	5694.2	5778.6	5702.7
62.5°	5406.4	5440.2	5537.2	5714.3	5910.4	6134.9	6395.4	6580.9	6864.5	7005.8	6815.0
65°	5302.1	5370.6	5560.4	5838.7	6243.5	6730.6	7260.9	7770.2	8356.3	8656.8	8268.8
67.5°	4631.5	4689.5	4894.0	5217.7	5722.7	6394.3	7218.8	8273.1	9482.3	10045.3	9359.0
68°	4375.3	4483.9	4687.4	5009.0	5518.2	6178.2	7058.5	8197.1	9517.1	10125.5	9384.3
70°	3354.8	3393.8	3588.8	3877.7	4427.0	5074.3	5963.1	7260.9	8752.8	9379.0	8616.8
72.5°	1594.1	1617.3	1743.8	2028.5	2377.4	2904.6	3689.0	4913.0	6257.2	6908.8	6148.7
75°	584.1	589.4	618.9	686.3	817.1	1015.3	1391.7	2152.9	3187.1	3800.7	3199.8
77.5°	315.2	316.3	327.9	344.8	367.9	394.3	451.2	605.2	976.3	1328.4	1031.1
80°	198.2	197.2	208.8	222.5	238.3	250.9	256.2	274.1	308.9	361.6	332.1
82.5°	101.2	110.7	137.1	151.8	175.0	179.2	174.0	172.9	183.4	198.2	204.5
85°	55.9	49.6	72.7	97.0	105.4	108.6	109.6	103.3	101.2	99.1	104.4
87.5°	28.5	26.4	31.6	48.5	51.7	42.2	43.2	36.9	25.3	25.3	26.4
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°	1717.4	1717.4	1717.4	1717.4	1717.4	1717.4	1717.4	1717.4
2.5°	1704.8	1705.8	1703.7	1703.7	1703.7	1704.8	1703.7	1702.7
5°	1691.1	1693.2	1693.2	1694.3	1695.3	1695.3	1695.3	1695.3
7.5°	1671.1	1672.1	1674.2	1674.2	1674.2	1674.2	1674.2	1674.2
10°	1652.1	1650.0	1648.9	1646.8	1646.8	1643.6	1644.7	1645.8
12.5°	1642.6	1638.4	1636.3	1633.1	1631.0	1627.8	1627.8	1628.9
15°	1646.8	1640.5	1634.2	1632.0	1629.9	1627.8	1625.7	1626.8
17.5°	1655.2	1647.9	1640.5	1636.3	1632.0	1628.9	1627.8	1628.9
20°	1673.2	1662.6	1651.0	1643.6	1635.2	1633.1	1629.9	1633.1
22.5°	1697.4	1684.8	1670.0	1656.3	1646.8	1642.6	1638.4	1641.5
25°	1726.9	1713.2	1698.5	1682.7	1672.1	1668.9	1663.7	1663.7
27.5°	1768.1	1756.5	1743.8	1729.0	1718.5	1715.3	1706.9	1706.9
30°	1833.4	1821.8	1810.2	1797.6	1787.0	1783.9	1773.3	1773.3
32.5°	1919.9	1907.2	1899.8	1889.3	1880.9	1875.6	1862.9	1861.9
35°	2035.8	2024.2	2023.2	2015.8	2007.4	2008.4	1995.8	1993.7
37.5°	2202.4	2192.9	2196.1	2189.8	2182.4	2188.7	2181.3	2181.3
40°	2415.4	2412.2	2415.4	2411.2	2412.2	2413.3	2407.0	2409.1
42.5°	2672.6	2664.2	2683.2	2681.1	2677.9	2686.3	2671.6	2661.0
45°	2968.9	2965.7	2984.7	2987.9	2981.5	2986.8	2960.5	2959.4
47.5°	3290.5	3290.5	3307.3	3305.2	3298.9	3299.9	3268.3	3248.3
50°	3625.7	3623.6	3640.5	3636.3	3627.8	3626.8	3594.1	3574.1
52.5°	3974.7	3974.7	3998.9	3987.3	3967.3	3957.8	3917.8	3891.4
55°	4360.6	4355.3	4362.7	4324.7	4285.7	4257.2	4207.7	4187.7
57.5°	4848.7	4787.6	4734.8	4686.3	4631.5	4597.8	4539.8	4518.7
60°	5541.4	5378.0	5307.3	5210.3	5119.7	5074.3	4997.4	4956.2
62.5°	6500.8	6229.8	6037.9	5823.9	5617.3	5471.8	5354.8	5303.1
65°	7609.9	7019.5	6531.4	6072.7	5683.7	5374.8	5202.9	5149.2
67.5°	8031.6	6947.8	6105.4	5447.5	4975.2	4607.3	4401.7	4358.5
68°	7942.0	6783.3	5908.3	5234.6	4760.1	4389.0	4184.5	4145.5
70°	7005.8	5722.7	4799.2	4128.6	3685.8	3332.6	3188.2	3126.0
72.5°	4776.0	3675.3	2819.2	2255.1	1924.1	1700.6	1567.7	1522.4
75°	2198.2	1485.5	992.1	741.2	629.4	575.6	534.5	524.0
77.5°	641.0	466.0	400.6	371.1	349.0	330.0	316.3	315.2
80°	304.7	285.7	277.3	258.3	238.3	220.3	207.7	209.8
82.5°	204.5	199.3	199.3	180.3	148.7	127.6	105.4	94.9
85°	108.6	112.8	119.1	112.8	98.0	72.7	47.4	51.7
87.5°	36.9	42.2	44.3	43.2	39.0	29.5	22.1	22.1
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)