

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: P195436

Luminaire Tested: **NAV-AF-04-D-UNV-5MQ-7050-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195436
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-04-D-UNV-5MQ-7050-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 5000K, 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: 17118 lumens
Efficiency: N/A
Efficacy: 132.7 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type V - Short - Full Cutoff
BUG Rating: B4 - U0 - G2

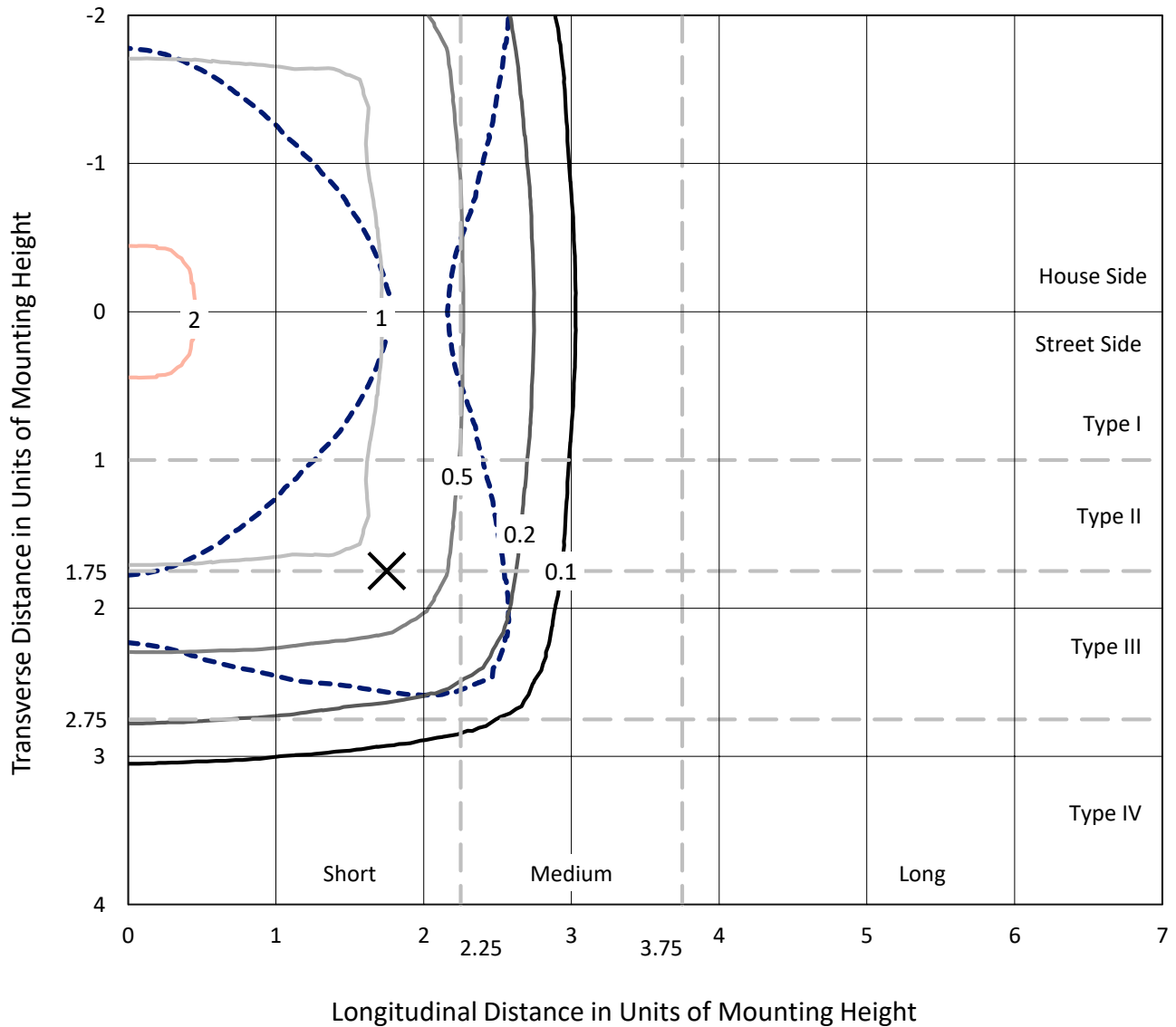
Input Watts (W): 129
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



REPORT NUMBER: P195436
 CATALOG NUMBER: NAV-AF-04-D-UNV-5MQ-7050-600

Iso-Footcandle Lines of Horizontal Illumination

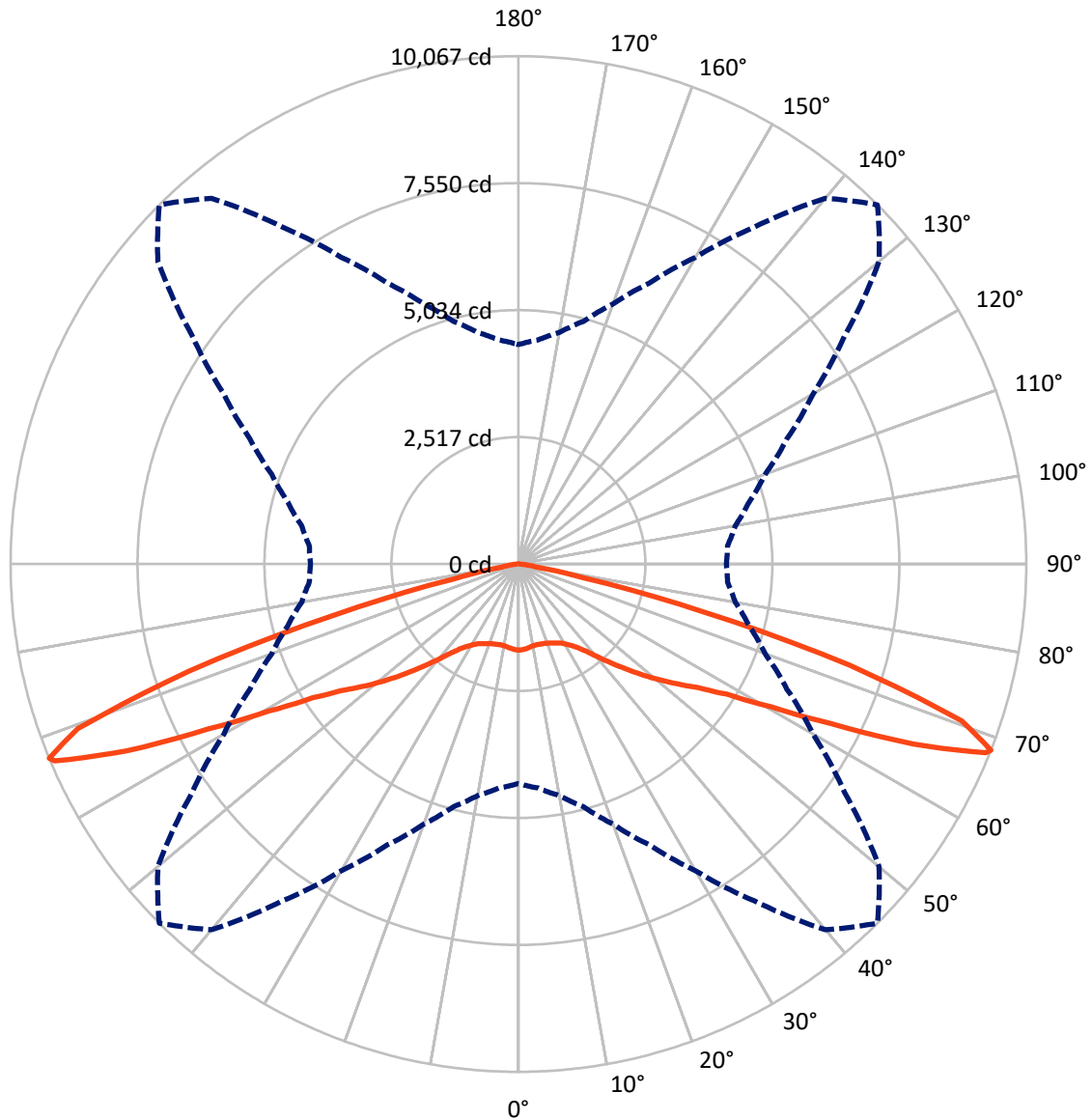
× Max cd
 - - - 1/2 Max cd



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

REPORT NUMBER: P195436
CATALOG NUMBER: NAV-AF-04-D-UNV-5MQ-7050-600

Luminous Intensity Polar Plot



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

REPORT NUMBER: P195436

CATALOG NUMBER: NAV-AF-04-D-UNV-5MQ-7050-600

FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	8559.0	0.0	8559.0
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	8559.0	0.0	8559.0
	% Fixture	50.0	0.0	50.0
Total	Lumens	17118.0	0.0	17118.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	159.8	0.9
10°-20°	463.4	2.7
20°-30°	787.8	4.6
30°-40°	1289.3	7.5
40°-50°	2304.1	13.5
50°-60°	3891.2	22.7
60°-70°	6033.8	35.2
70°-80°	2074.6	12.1
80°-90°	114.0	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°	17118.0	100.0
0°-180°	17118.0	100.0



REPORT NUMBER: P195436

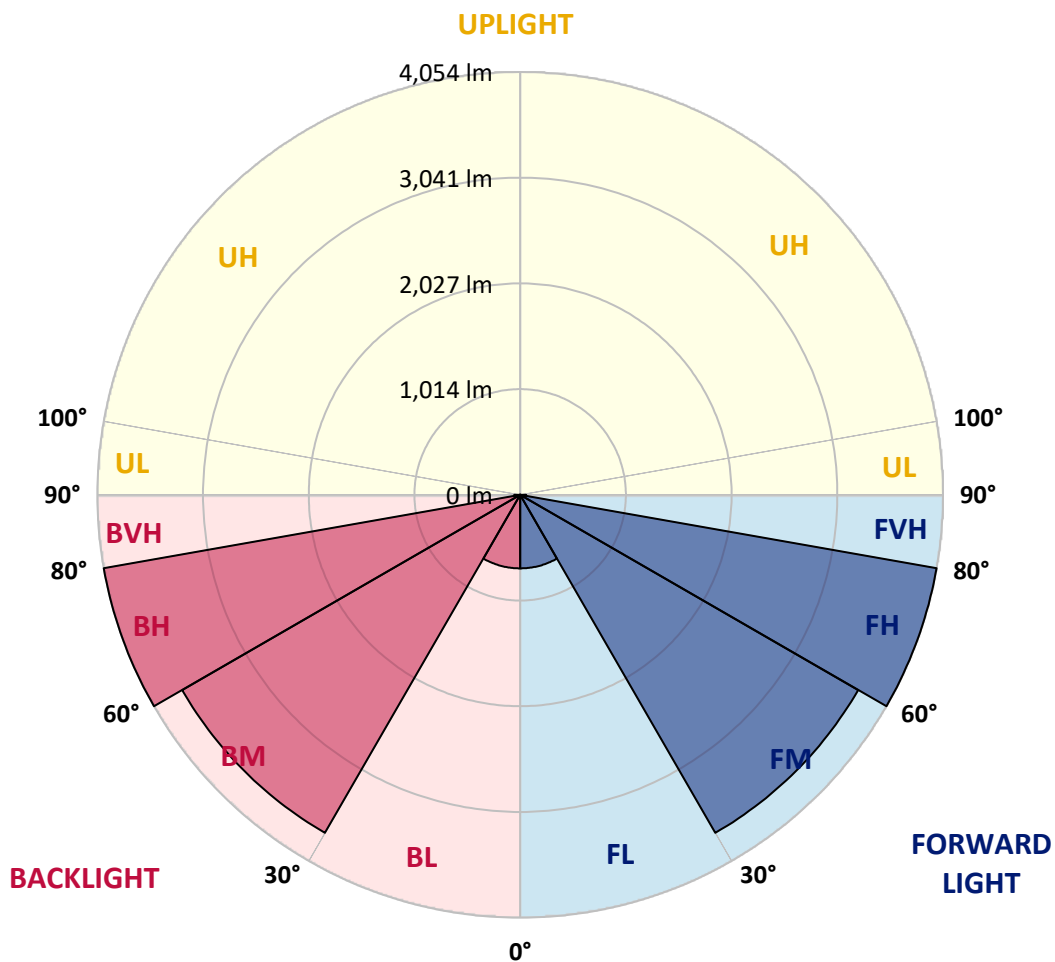
CATALOG NUMBER: NAV-AF-04-D-UNV-5MQ-7050-600

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	705.5	4.1			
FM	(30°-60°)	3742.3	21.9			
FH	(60°-80°)	4054.2	23.7			G2/5000
FVH	(80°-90°)	57.0	0.3			G1/100
BL	(0°-30°)	705.5	4.1	B2/1000		
BM	(30°-60°)	3742.3	21.9	B3/5000		
BH	(60°-80°)	4054.2	23.7	B4/5000		G2/5000
BVH	(80°-90°)	57.0	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





REPORT NUMBER: P195436

CATALOG NUMBER: NAV-AF-04-D-UNV-5MQ-7050-600

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1707.6	1707.6	1707.6	1707.6	1707.6	1707.6	1707.6	1707.6	1707.6	1707.6	1707.6
2.5°	1714.9	1714.9	1717.0	1716.0	1712.8	1709.7	1706.5	1703.4	1701.3	1699.2	1697.1
5°	1697.1	1697.1	1700.2	1698.1	1696.0	1692.9	1690.8	1687.7	1685.6	1683.5	1684.5
7.5°	1674.0	1676.1	1678.2	1677.2	1673.0	1671.9	1668.8	1667.7	1665.6	1662.5	1663.5
10°	1654.1	1655.2	1657.3	1656.2	1655.2	1652.0	1651.0	1649.9	1648.9	1644.7	1643.6
12.5°	1634.2	1636.3	1638.4	1639.4	1638.4	1639.4	1640.5	1641.5	1640.5	1638.4	1638.4
15°	1618.5	1620.6	1623.7	1626.9	1627.9	1634.2	1638.4	1642.6	1645.7	1646.8	1643.6
17.5°	1610.1	1613.2	1617.4	1623.7	1629.0	1636.3	1643.6	1649.9	1655.2	1656.2	1653.1
20°	1609.0	1612.2	1618.5	1625.8	1635.2	1644.7	1656.2	1665.6	1670.9	1674.0	1670.9
22.5°	1616.4	1620.6	1629.0	1638.4	1649.9	1662.5	1677.2	1687.7	1698.1	1702.3	1699.2
25°	1637.3	1641.5	1651.0	1662.5	1675.1	1690.8	1705.5	1719.1	1729.6	1734.8	1730.6
27.5°	1681.4	1682.4	1692.9	1705.5	1720.2	1733.8	1752.6	1758.9	1767.3	1772.6	1767.3
30°	1743.2	1745.3	1754.7	1774.7	1788.3	1806.1	1816.6	1822.9	1832.3	1837.6	1831.3
32.5°	1837.6	1839.6	1848.0	1866.9	1879.5	1893.1	1905.7	1909.9	1919.3	1925.6	1918.3
35°	1970.7	1974.9	1982.2	1994.8	2005.3	2015.8	2025.2	2022.0	2028.3	2036.7	2029.4
37.5°	2153.1	2152.0	2154.1	2163.6	2174.0	2180.3	2195.0	2187.7	2194.0	2201.3	2197.1
40°	2365.9	2365.9	2364.8	2381.6	2385.8	2392.1	2407.8	2398.4	2406.7	2415.1	2407.8
42.5°	2608.0	2612.2	2617.4	2631.1	2642.6	2644.7	2652.0	2647.8	2658.3	2665.7	2658.3
45°	2886.8	2893.1	2899.4	2930.9	2936.1	2940.3	2945.5	2931.9	2943.4	2949.7	2947.6
47.5°	3176.1	3187.7	3201.3	3233.8	3254.8	3264.2	3268.4	3252.7	3253.7	3263.1	3264.2
50°	3503.2	3515.8	3529.4	3566.1	3586.0	3602.8	3608.0	3590.2	3592.3	3599.6	3601.7
52.5°	3805.1	3819.8	3849.1	3898.4	3926.7	3956.0	3958.1	3936.1	3945.5	3950.8	3946.6
55°	4089.2	4108.0	4146.8	4212.8	4264.2	4321.9	4348.1	4324.0	4324.0	4319.8	4317.7
57.5°	4420.4	4441.4	4481.2	4557.7	4629.0	4711.8	4783.1	4807.2	4851.2	4865.9	4842.8
60°	4919.4	4941.4	4982.3	5082.9	5173.0	5293.6	5411.0	5506.4	5661.5	5745.4	5669.9
62.5°	5375.3	5408.9	5505.3	5681.4	5876.4	6099.7	6358.6	6543.1	6825.0	6965.5	6775.8
65°	5271.6	5339.7	5528.4	5805.1	6207.6	6691.9	7219.2	7725.5	8308.3	8607.0	8221.3
67.5°	4604.9	4662.5	4865.9	5187.7	5689.8	6357.5	7177.3	8225.5	9427.8	9987.6	9305.2
68°	4350.2	4458.1	4660.4	4980.2	5486.5	6142.6	7017.9	8150.0	9462.4	10067.2	9330.3
70°	3335.5	3374.3	3568.2	3855.4	4401.5	5045.1	5928.8	7219.2	8702.4	9325.1	8567.2
72.5°	1584.9	1608.0	1733.8	2016.8	2363.8	2887.9	3667.8	4884.8	6221.3	6869.1	6113.3
75°	580.7	586.0	615.3	682.4	812.4	1009.4	1383.7	2140.5	3168.8	3778.9	3181.4
77.5°	313.4	314.5	326.0	342.8	365.8	392.0	448.6	601.7	970.7	1320.8	1025.2
80°	197.1	196.0	207.6	221.2	236.9	249.5	254.7	272.5	307.1	359.5	330.2
82.5°	100.6	110.1	136.3	150.9	174.0	178.2	173.0	171.9	182.4	197.1	203.4
85°	55.6	49.3	72.3	96.4	104.8	108.0	109.0	102.7	100.6	98.5	103.8
87.5°	28.3	26.2	31.4	48.2	51.4	41.9	43.0	36.7	25.2	25.2	26.2
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°	1707.6	1707.6	1707.6	1707.6	1707.6	1707.6	1707.6	1707.6
2.5°	1695.0	1696.0	1693.9	1693.9	1693.9	1695.0	1693.9	1692.9
5°	1681.4	1683.5	1683.5	1684.5	1685.6	1685.6	1685.6	1685.6
7.5°	1661.4	1662.5	1664.6	1664.6	1664.6	1664.6	1664.6	1664.6
10°	1642.6	1640.5	1639.4	1637.3	1637.3	1634.2	1635.2	1636.3
12.5°	1633.1	1629.0	1626.9	1623.7	1621.6	1618.5	1618.5	1619.5
15°	1637.3	1631.1	1624.8	1622.7	1620.6	1618.5	1616.4	1617.4
17.5°	1645.7	1638.4	1631.1	1626.9	1622.7	1619.5	1618.5	1619.5
20°	1663.5	1653.1	1641.5	1634.2	1625.8	1623.7	1620.6	1623.7
22.5°	1687.7	1675.1	1660.4	1646.8	1637.3	1633.1	1629.0	1632.1
25°	1717.0	1703.4	1688.7	1673.0	1662.5	1659.4	1654.1	1654.1
27.5°	1757.9	1746.4	1733.8	1719.1	1708.6	1705.5	1697.1	1697.1
30°	1822.9	1811.3	1799.8	1787.2	1776.8	1773.6	1763.1	1763.1
32.5°	1908.8	1896.3	1888.9	1878.4	1870.0	1864.8	1852.2	1851.2
35°	2024.1	2012.6	2011.6	2004.2	1995.8	1996.9	1984.3	1982.2
37.5°	2189.8	2180.3	2183.5	2177.2	2169.8	2176.1	2168.8	2168.8
40°	2401.5	2398.4	2401.5	2397.3	2398.4	2399.4	2393.1	2395.2
42.5°	2657.3	2648.9	2667.8	2665.7	2662.5	2670.9	2656.2	2645.7
45°	2951.8	2948.7	2967.5	2970.7	2964.4	2969.6	2943.4	2942.4
47.5°	3271.5	3271.5	3288.3	3286.2	3279.9	3281.0	3249.5	3229.6
50°	3604.9	3602.8	3619.5	3615.4	3607.0	3605.9	3573.4	3553.5
52.5°	3951.8	3951.8	3975.9	3964.4	3944.5	3935.1	3895.2	3869.0
55°	4335.5	4330.3	4337.6	4299.9	4261.1	4232.8	4183.5	4163.6
57.5°	4820.8	4760.0	4707.6	4659.4	4604.9	4571.3	4513.7	4492.7
60°	5509.5	5347.0	5276.8	5180.4	5090.2	5045.1	4968.6	4927.7
62.5°	6463.4	6194.0	6003.2	5790.4	5585.0	5440.3	5324.0	5272.6
65°	7566.1	6979.1	6493.8	6037.8	5651.0	5343.9	5173.0	5119.6
67.5°	7985.4	6907.9	6070.3	5416.2	4946.6	4580.8	4376.4	4333.4
68°	7896.3	6744.3	5874.3	5204.5	4732.8	4363.8	4160.4	4121.7
70°	6965.5	5689.8	4771.6	4104.9	3664.6	3313.5	3169.9	3108.0
72.5°	4748.5	3654.1	2803.0	2242.2	1913.0	1690.8	1558.7	1513.6
75°	2185.6	1477.0	986.4	736.9	625.8	572.3	531.5	521.0
77.5°	637.3	463.3	398.3	369.0	347.0	328.1	314.5	313.4
80°	302.9	284.1	275.7	256.8	236.9	219.1	206.5	208.6
82.5°	203.4	198.1	198.1	179.2	147.8	126.8	104.8	94.3
85°	108.0	112.2	118.5	112.2	97.5	72.3	47.2	51.4
87.5°	36.7	41.9	44.0	43.0	38.8	29.4	22.0	22.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)