

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: P196882

Luminaire Tested: **NAV-AF-04-D-UNV-5MQ-8030-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196882
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-8030-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 80 CRI, 3000K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE V MEDIUM OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 17129 lumens
Efficiency: N/A
Efficacy: 100.2 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

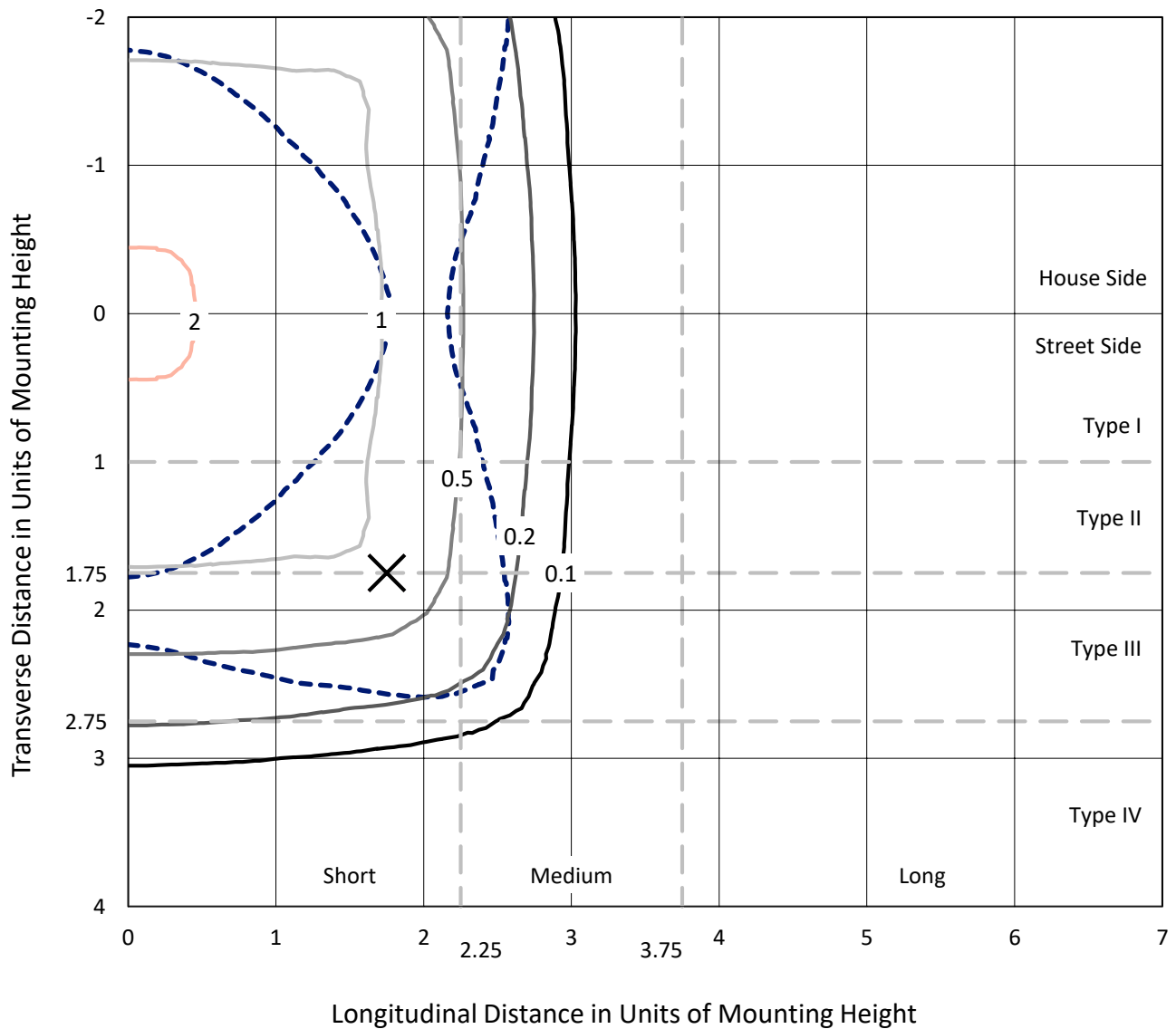
Input Watts (W): 171
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

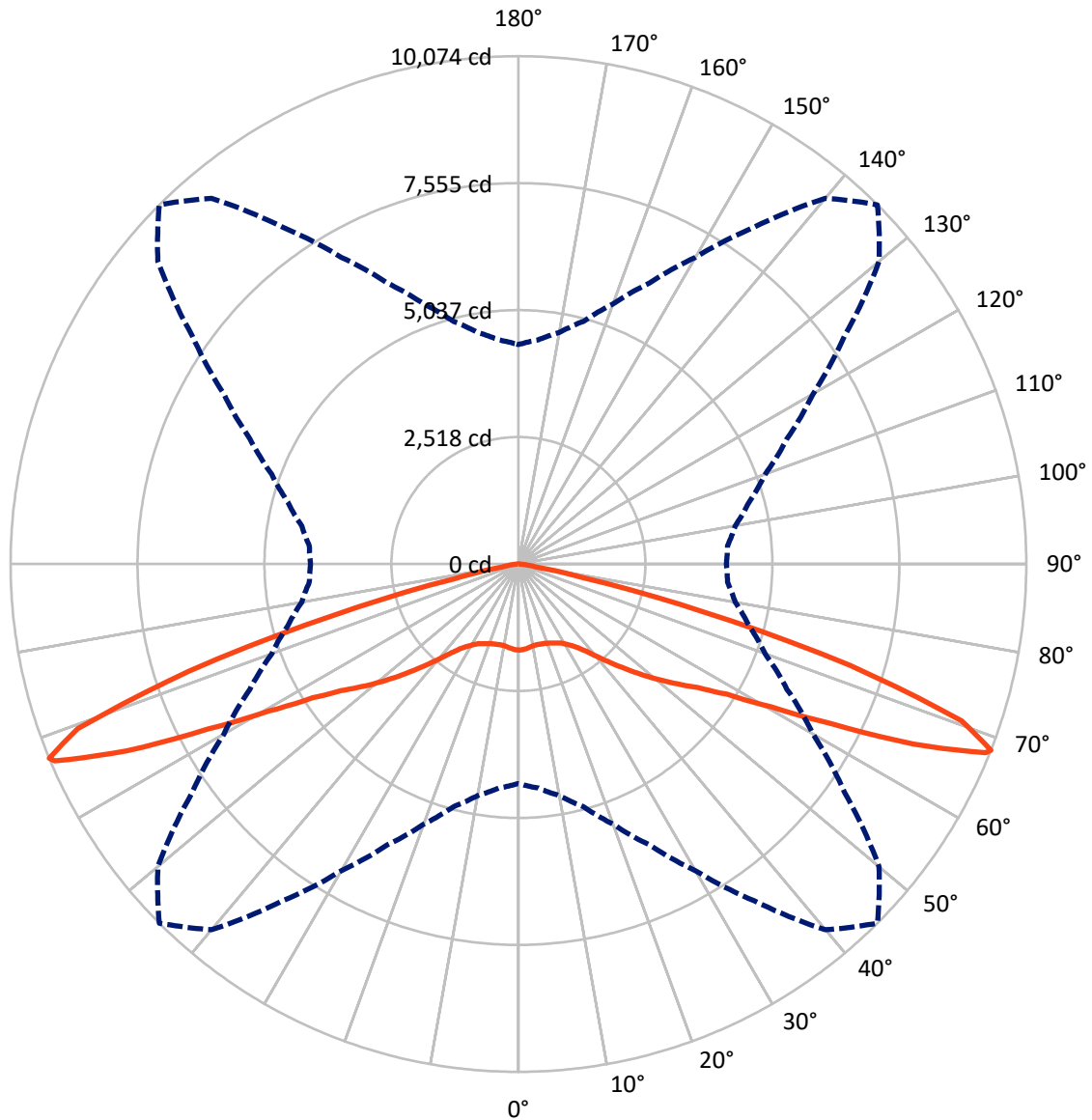
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 2.7 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	8564.5	0.0	8564.5
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	8564.5	0.0	8564.5
	% Fixture	50.0	0.0	50.0
Total	Lumens	17129.0	0.0	17129.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	159.9	0.9
10°-20°	463.7	2.7
20°-30°	788.3	4.6
30°-40°	1290.1	7.5
40°-50°	2305.6	13.5
50°-60°	3893.7	22.7
60°-70°	6037.7	35.2
70°-80°	2075.9	12.1
80°-90°	114.1	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°	17129.0	100.0
0°-180°	17129.0	100.0



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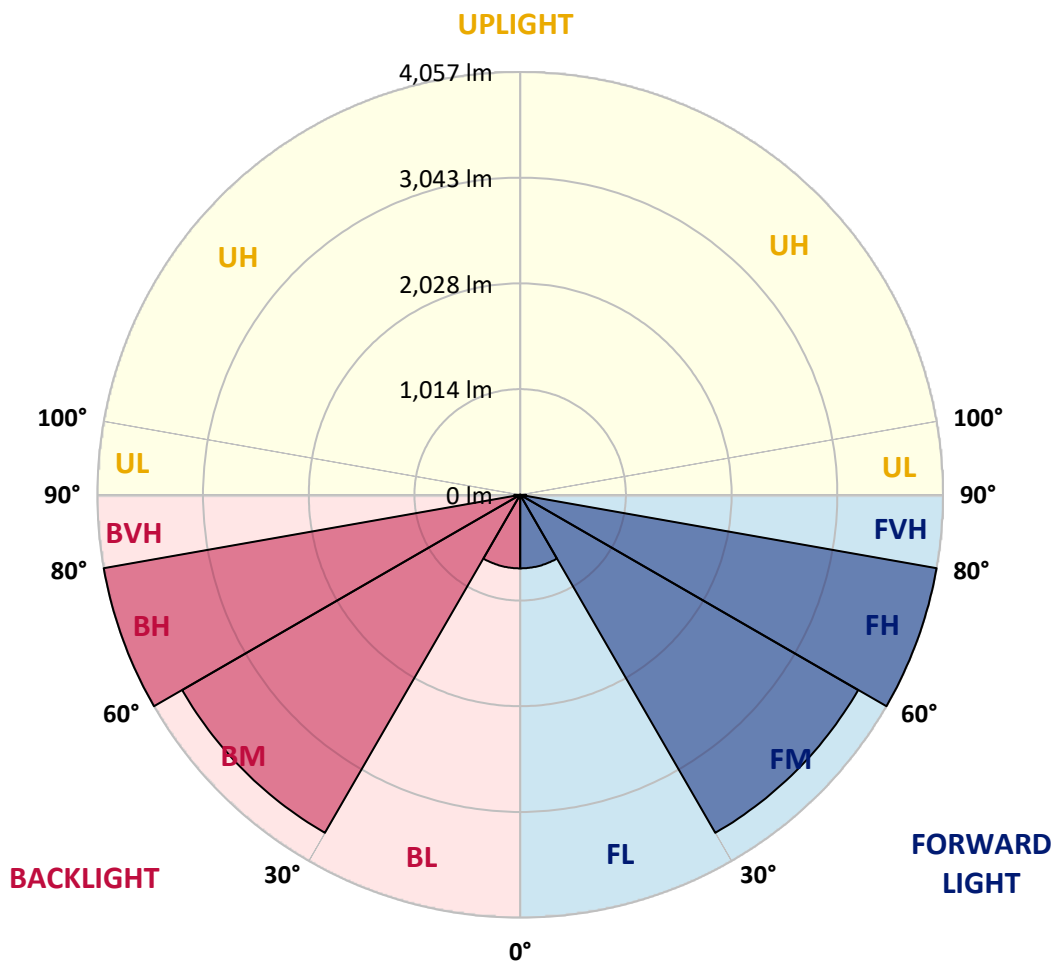
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	706.0	4.1			
FM	(30°-60°)	3744.7	21.9			
FH	(60°-80°)	4056.8	23.7			G2/5000
FVH	(80°-90°)	57.0	0.3			G1/100
BL	(0°-30°)	706.0	4.1	B2/1000		
BM	(30°-60°)	3744.7	21.9	B3/5000		
BH	(60°-80°)	4056.8	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





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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1708.7	1708.7	1708.7	1708.7	1708.7	1708.7	1708.7	1708.7	1708.7	1708.7	1708.7
2.5°	1716.0	1716.0	1718.1	1717.1	1713.9	1710.8	1707.6	1704.5	1702.4	1700.3	1698.2
5°	1698.2	1698.2	1701.3	1699.2	1697.1	1694.0	1691.9	1688.7	1686.6	1684.5	1685.6
7.5°	1675.1	1677.2	1679.3	1678.3	1674.1	1673.0	1669.9	1668.8	1666.7	1663.6	1664.6
10°	1655.2	1656.2	1658.3	1657.3	1656.2	1653.1	1652.0	1651.0	1649.9	1645.7	1644.7
12.5°	1635.2	1637.3	1639.4	1640.5	1639.4	1640.5	1641.5	1642.6	1641.5	1639.4	1639.4
15°	1619.5	1621.6	1624.8	1627.9	1629.0	1635.2	1639.4	1643.6	1646.8	1647.8	1644.7
17.5°	1611.1	1614.3	1618.5	1624.8	1630.0	1637.3	1644.7	1651.0	1656.2	1657.3	1654.1
20°	1610.1	1613.2	1619.5	1626.9	1636.3	1645.7	1657.3	1666.7	1672.0	1675.1	1672.0
22.5°	1617.4	1621.6	1630.0	1639.4	1651.0	1663.6	1678.3	1688.7	1699.2	1703.4	1700.3
25°	1638.4	1642.6	1652.0	1663.6	1676.2	1691.9	1706.6	1720.2	1730.7	1735.9	1731.7
27.5°	1682.4	1683.5	1694.0	1706.6	1721.3	1734.9	1753.8	1760.1	1768.5	1773.7	1768.5
30°	1744.3	1746.4	1755.9	1775.8	1789.4	1807.3	1817.8	1824.0	1833.5	1838.7	1832.4
32.5°	1838.7	1840.8	1849.2	1868.1	1880.7	1894.3	1906.9	1911.1	1920.5	1926.8	1919.5
35°	1971.9	1976.1	1983.5	1996.1	2006.6	2017.0	2026.5	2023.3	2029.6	2038.0	2030.7
37.5°	2154.5	2153.4	2155.5	2164.9	2175.4	2181.7	2196.4	2189.1	2195.4	2202.7	2198.5
40°	2367.4	2367.4	2366.3	2383.1	2387.3	2393.6	2409.3	2399.9	2408.3	2416.7	2409.3
42.5°	2609.7	2613.9	2619.1	2632.8	2644.3	2646.4	2653.7	2649.5	2660.0	2667.4	2660.0
45°	2888.7	2895.0	2901.3	2932.7	2938.0	2942.2	2947.4	2933.8	2945.3	2951.6	2949.5
47.5°	3178.2	3189.7	3203.4	3235.9	3256.9	3266.3	3270.5	3254.8	3255.8	3265.2	3266.3
50°	3505.4	3518.0	3531.7	3568.4	3588.3	3605.1	3610.3	3592.5	3594.6	3601.9	3604.0
52.5°	3807.5	3822.2	3851.6	3900.9	3929.2	3958.6	3960.7	3938.6	3948.1	3953.3	3949.1
55°	4091.8	4110.7	4149.5	4215.6	4267.0	4324.6	4350.9	4326.7	4326.7	4322.5	4320.4
57.5°	4423.2	4444.2	4484.1	4560.6	4632.0	4714.8	4786.2	4810.3	4854.3	4869.0	4845.9
60°	4922.5	4944.5	4985.5	5086.1	5176.4	5297.0	5414.5	5509.9	5665.1	5749.1	5673.5
62.5°	5378.8	5412.4	5508.9	5685.1	5880.2	6103.6	6362.7	6547.3	6829.4	6970.0	6780.1
65°	5275.0	5343.1	5531.9	5808.8	6211.6	6696.2	7223.8	7730.4	8313.6	8612.6	8226.6
67.5°	4607.8	4665.5	4869.0	5191.0	5693.5	6361.6	7181.9	8230.8	9433.9	9994.0	9311.1
68°	4353.0	4461.0	4663.4	4983.4	5490.0	6146.6	7022.4	8155.2	9468.5	10073.7	9336.3
70°	3337.6	3376.4	3570.5	3857.9	4404.4	5048.4	5932.6	7223.8	8708.0	9331.1	8572.7
72.5°	1585.9	1609.0	1734.9	2018.1	2365.3	2889.7	3670.1	4887.9	6225.3	6873.5	6117.2
75°	581.1	586.3	615.7	682.8	812.9	1010.1	1384.6	2141.9	3170.8	3781.3	3183.4
77.5°	313.6	314.7	326.2	343.0	366.1	392.3	448.9	602.1	971.3	1321.6	1025.8
80°	197.2	196.1	207.7	221.3	237.1	249.6	254.9	272.7	307.3	359.8	330.4
82.5°	100.7	110.1	136.4	151.0	174.1	178.3	173.1	172.0	182.5	197.2	203.5
85°	55.6	49.3	72.4	96.5	104.9	108.0	109.1	102.8	100.7	98.6	103.8
87.5°	28.3	26.2	31.5	48.2	51.4	42.0	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°	1708.7	1708.7	1708.7	1708.7	1708.7	1708.7	1708.7	1708.7
2.5°	1696.1	1697.1	1695.0	1695.0	1695.0	1696.1	1695.0	1694.0
5°	1682.4	1684.5	1684.5	1685.6	1686.6	1686.6	1686.6	1686.6
7.5°	1662.5	1663.6	1665.7	1665.7	1665.7	1665.7	1665.7	1665.7
10°	1643.6	1641.5	1640.5	1638.4	1638.4	1635.2	1636.3	1637.3
12.5°	1634.2	1630.0	1627.9	1624.8	1622.7	1619.5	1619.5	1620.6
15°	1638.4	1632.1	1625.8	1623.7	1621.6	1619.5	1617.4	1618.5
17.5°	1646.8	1639.4	1632.1	1627.9	1623.7	1620.6	1619.5	1620.6
20°	1664.6	1654.1	1642.6	1635.2	1626.9	1624.8	1621.6	1624.8
22.5°	1688.7	1676.2	1661.5	1647.8	1638.4	1634.2	1630.0	1633.1
25°	1718.1	1704.5	1689.8	1674.1	1663.6	1660.4	1655.2	1655.2
27.5°	1759.0	1747.5	1734.9	1720.2	1709.7	1706.6	1698.2	1698.2
30°	1824.0	1812.5	1801.0	1788.4	1777.9	1774.7	1764.3	1764.3
32.5°	1910.1	1897.5	1890.1	1879.6	1871.2	1866.0	1853.4	1852.4
35°	2025.4	2013.9	2012.9	2005.5	1997.1	1998.2	1985.6	1983.5
37.5°	2191.2	2181.7	2184.9	2178.6	2171.2	2177.5	2170.2	2170.2
40°	2403.0	2399.9	2403.0	2398.8	2399.9	2400.9	2394.7	2396.8
42.5°	2659.0	2650.6	2669.5	2667.4	2664.2	2672.6	2657.9	2647.4
45°	2953.7	2950.6	2969.5	2972.6	2966.3	2971.6	2945.3	2944.3
47.5°	3273.6	3273.6	3290.4	3288.3	3282.0	3283.1	3251.6	3231.7
50°	3607.2	3605.1	3621.9	3617.7	3609.3	3608.2	3575.7	3555.8
52.5°	3954.4	3954.4	3978.5	3967.0	3947.0	3937.6	3897.7	3871.5
55°	4338.3	4333.0	4340.4	4302.6	4263.8	4235.5	4186.2	4166.3
57.5°	4823.9	4763.1	4710.6	4662.4	4607.8	4574.3	4516.6	4495.6
60°	5513.1	5350.5	5280.2	5183.7	5093.5	5048.4	4971.8	4930.9
62.5°	6467.6	6198.0	6007.1	5794.2	5588.6	5443.8	5327.4	5276.0
65°	7571.0	6983.6	6498.0	6041.7	5654.7	5347.3	5176.4	5122.9
67.5°	7990.6	6912.3	6074.2	5419.7	4949.8	4583.7	4379.2	4336.2
68°	7901.4	6748.7	5878.1	5207.8	4735.8	4366.6	4163.1	4124.3
70°	6970.0	5693.5	4774.6	4107.5	3667.0	3315.6	3171.9	3110.0
72.5°	4751.5	3656.5	2804.8	2243.6	1914.3	1691.9	1559.7	1514.6
75°	2187.0	1477.9	987.0	737.4	626.2	572.7	531.8	521.3
77.5°	637.7	463.6	398.6	369.2	347.2	328.3	314.7	313.6
80°	303.1	284.3	275.9	257.0	237.1	219.2	206.6	208.7
82.5°	203.5	198.2	198.2	179.4	147.9	126.9	104.9	94.4
85°	108.0	112.2	118.5	112.2	97.5	72.4	47.2	51.4
87.5°	36.7	42.0	44.1	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)