

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: P196436

Luminaire Tested: **NAV-AF-02-D-UNV-5NQ-7030-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196436
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24130)
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-5NQ-7030-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 70 CRI, 3000K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE V
NARROW OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 13285.9 lumens
Efficiency: N/A
Efficacy: 103.0 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type V - Short - Full Cutoff
BUG Rating: B3 - U0 - G2

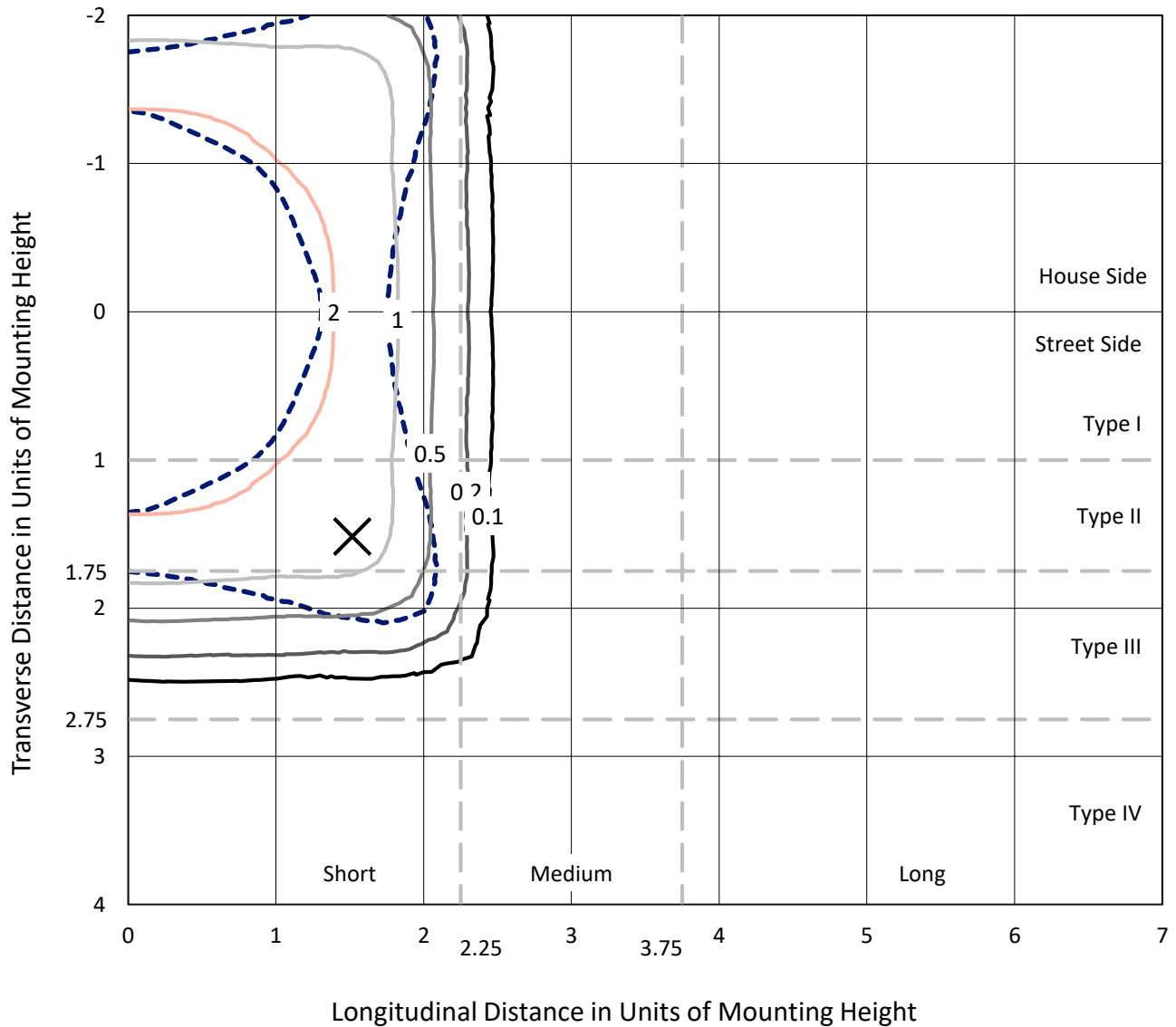
Input Watts (W): 129
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

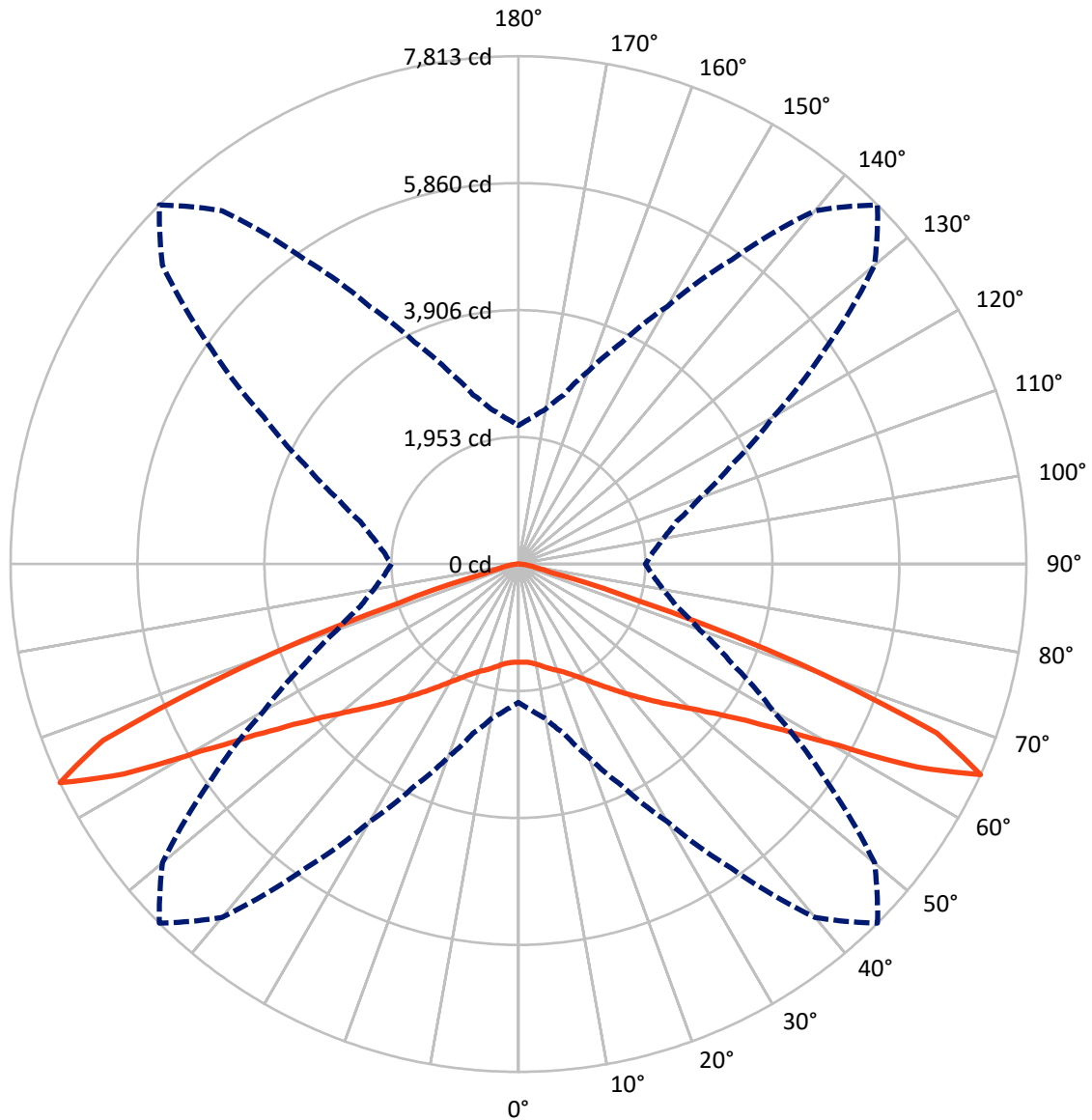
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 3.8 fc
 Type V - Short - Full Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 45-Deg Lateral - - - Horizontal Cone Through 65-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	6643.0	0.0	6643.0
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	6643.0	0.0	6643.0
	% Fixture	50.0	0.0	50.0
Total	Lumens	13285.9	0.0	13285.9
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	147.2	1.1
10°-20°	471.7	3.6
20°-30°	879.9	6.6
30°-40°	1483.6	11.2
40°-50°	2409.9	18.1
50°-60°	3775.9	28.4
60°-70°	3564.3	26.8
70°-80°	480.3	3.6
80°-90°	73.2	0.6
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°	13285.9	100.0
0°-180°	13285.9	100.0



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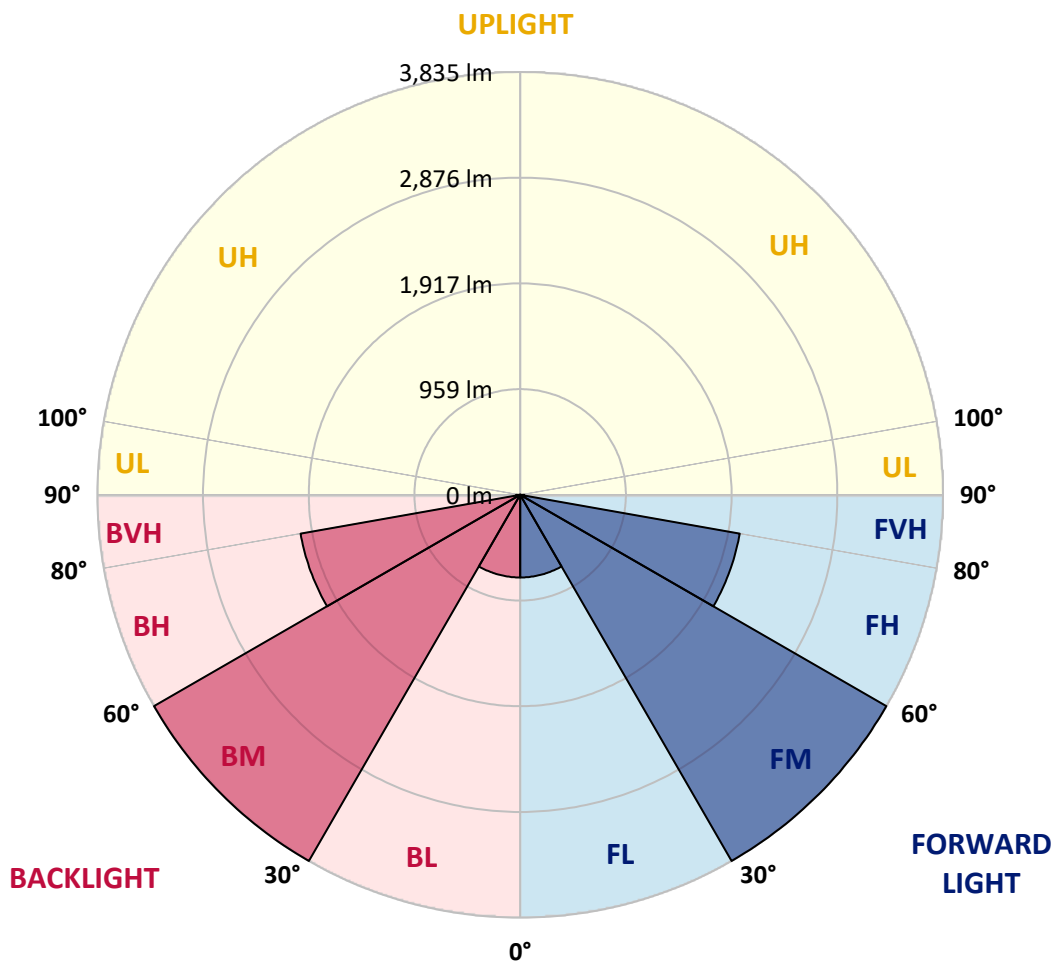
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	749.4	5.6			
FM (30°-60°)	3834.7	28.9			
FH (60°-80°)	2022.3	15.2			G2/5000
FVH (80°-90°)	36.6	0.3			G1/100
BL (0°-30°)	749.4	5.6	B2/1000		
BM (30°-60°)	3834.7	28.9	B3/5000		
BH (60°-80°)	2022.3	15.2	B3/2500		G2/5000
BVH (80°-90°)	36.6	0.3			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G2

Type V Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1511.3	1511.3	1511.3	1511.3	1511.3	1511.3	1511.3	1511.3	1511.3	1511.3	1511.3
2.5°	1523.6	1523.6	1526.2	1525.4	1522.0	1519.6	1517.1	1513.8	1512.0	1510.4	1509.6
5°	1532.0	1532.0	1534.4	1533.6	1531.2	1527.8	1526.2	1523.6	1521.2	1519.6	1520.4
7.5°	1552.7	1553.4	1554.3	1553.4	1550.9	1548.5	1545.2	1544.4	1541.1	1538.6	1540.2
10°	1584.0	1584.0	1585.0	1585.8	1584.0	1578.2	1578.2	1576.6	1573.4	1570.0	1570.8
12.5°	1618.9	1618.9	1619.7	1619.7	1619.7	1616.4	1617.1	1616.4	1612.2	1610.6	1612.2
15°	1652.8	1653.6	1653.6	1655.3	1655.3	1656.1	1659.4	1659.4	1657.8	1656.9	1656.9
17.5°	1692.5	1694.2	1694.9	1697.5	1698.3	1700.0	1703.3	1704.1	1704.9	1702.5	1703.3
20°	1745.5	1746.3	1748.8	1749.6	1752.9	1752.9	1754.6	1753.7	1752.1	1748.8	1748.8
22.5°	1805.1	1806.7	1811.7	1811.7	1815.8	1813.3	1814.1	1811.7	1807.5	1805.9	1804.2
25°	1882.9	1885.4	1889.5	1887.8	1889.5	1885.4	1885.4	1885.4	1882.9	1880.4	1879.6
27.5°	1981.3	1977.3	1981.3	1978.0	1977.3	1973.9	1974.8	1973.1	1970.6	1969.7	1966.4
30°	2084.0	2078.9	2081.5	2082.4	2080.7	2079.9	2076.6	2074.1	2069.9	2070.8	2068.3
32.5°	2201.5	2196.5	2199.1	2199.8	2198.2	2199.8	2199.1	2193.3	2188.3	2191.5	2191.5
35°	2341.4	2338.0	2344.7	2347.2	2342.2	2339.7	2336.4	2329.7	2322.3	2327.3	2328.1
37.5°	2509.3	2505.2	2510.2	2516.8	2507.7	2502.8	2489.5	2479.6	2474.6	2477.1	2480.4
40°	2684.1	2684.8	2698.9	2700.6	2690.6	2684.8	2671.6	2656.7	2642.7	2642.7	2646.8
42.5°	2867.7	2870.2	2886.7	2892.5	2889.3	2878.6	2860.3	2842.1	2824.0	2827.2	2832.1
45°	3075.5	3072.2	3089.6	3103.6	3101.1	3097.8	3080.4	3047.3	3030.8	3030.0	3038.3
47.5°	3293.9	3300.6	3318.9	3342.8	3342.0	3333.7	3311.3	3280.7	3250.1	3252.6	3262.5
50°	3548.8	3558.0	3588.6	3612.6	3615.9	3613.4	3587.0	3551.4	3508.4	3510.8	3524.0
52.5°	3777.3	3790.5	3826.2	3875.8	3906.4	3920.6	3903.1	3870.0	3826.2	3828.7	3842.6
55°	3984.2	4004.9	4057.9	4125.7	4187.1	4244.0	4269.8	4269.0	4236.6	4244.0	4262.3
57.5°	4114.1	4143.1	4223.4	4332.6	4454.3	4569.3	4668.6	4762.2	4783.0	4821.8	4821.8
60°	3939.6	4007.4	4114.1	4301.2	4540.4	4798.6	5078.4	5350.7	5526.2	5664.3	5589.8
62.5°	3289.8	3390.0	3539.8	3786.4	4158.9	4619.8	5181.8	5815.0	6475.4	6879.3	6583.0
65°	2128.7	2254.4	2417.5	2694.8	3164.0	3757.4	4576.0	5713.9	7096.2	7812.9	7150.8
67.5°	843.4	928.6	1027.9	1224.9	1632.2	2214.8	3133.4	4537.1	6266.0	6942.3	6199.8
70°	403.0	417.2	436.2	478.3	580.1	783.0	1258.7	2235.5	3842.6	4555.3	3750.9
72.5°	291.2	293.8	302.8	317.0	346.8	388.2	471.8	683.6	1325.0	1926.7	1326.7
75°	221.0	224.3	229.2	236.6	252.4	272.3	303.7	364.2	453.5	523.1	452.7
77.5°	168.0	171.3	175.5	182.9	191.2	205.3	216.9	240.8	278.9	293.8	292.2
80°	122.5	128.3	134.9	141.5	147.3	153.9	154.8	166.4	187.9	201.9	197.8
82.5°	77.8	82.7	100.2	107.6	108.3	110.1	109.3	110.1	121.8	131.5	128.3
85°	49.6	53.0	62.1	70.4	68.8	72.0	72.0	70.4	65.3	56.3	67.0
87.5°	24.8	25.6	29.8	37.2	35.6	31.4	30.6	30.6	22.4	19.0	20.6
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°	1511.3	1511.3	1511.3	1511.3	1511.3	1511.3	1511.3	1511.3
2.5°	1507.1	1508.8	1506.2	1506.2	1505.5	1507.1	1504.6	1504.6
5°	1518.7	1521.2	1520.4	1520.4	1522.0	1523.6	1522.8	1522.0
7.5°	1539.4	1541.1	1542.7	1543.5	1545.2	1544.4	1546.0	1545.2
10°	1570.8	1569.2	1571.7	1569.2	1570.0	1568.4	1569.2	1569.2
12.5°	1610.6	1608.1	1606.4	1604.8	1604.8	1601.5	1601.5	1602.3
15°	1656.1	1652.0	1648.6	1647.0	1645.3	1645.3	1642.8	1644.5
17.5°	1700.8	1696.7	1690.9	1690.9	1688.4	1686.8	1685.1	1689.1
20°	1747.9	1743.8	1740.5	1739.7	1734.7	1733.1	1734.0	1738.9
22.5°	1802.6	1800.1	1800.1	1798.4	1795.1	1792.6	1792.6	1798.4
25°	1876.2	1871.3	1872.1	1872.9	1871.3	1871.3	1869.7	1873.8
27.5°	1966.4	1962.3	1964.8	1966.4	1964.8	1967.3	1964.8	1968.1
30°	2072.4	2069.9	2072.4	2074.9	2070.8	2070.8	2069.1	2071.5
32.5°	2199.1	2195.7	2197.3	2197.3	2191.5	2186.6	2179.9	2184.9
35°	2338.0	2333.9	2337.3	2339.7	2333.1	2328.1	2318.2	2322.3
37.5°	2491.2	2492.9	2497.0	2507.7	2506.1	2497.7	2490.3	2493.7
40°	2662.5	2670.8	2689.0	2696.4	2694.8	2686.4	2676.6	2678.3
42.5°	2856.1	2867.0	2886.0	2898.3	2892.5	2880.9	2868.6	2873.5
45°	3067.2	3083.8	3108.7	3121.0	3113.6	3101.1	3083.8	3092.9
47.5°	3290.7	3323.7	3356.9	3373.4	3370.9	3353.6	3331.2	3333.7
50°	3558.0	3601.8	3644.1	3660.6	3648.1	3621.7	3590.3	3589.5
52.5°	3890.7	3937.9	3972.6	3968.6	3937.9	3896.5	3860.9	3859.2
55°	4306.1	4321.9	4317.0	4281.4	4227.6	4163.0	4117.4	4110.0
57.5°	4808.5	4755.6	4677.8	4570.2	4449.4	4326.8	4244.0	4213.5
60°	5422.6	5183.5	4905.4	4612.4	4345.0	4144.8	4018.1	3941.2
62.5°	5930.0	5237.3	4615.6	4106.7	3690.4	3443.0	3270.0	3163.2
65°	5756.3	4524.7	3624.2	2967.9	2513.5	2257.8	2074.9	1953.2
67.5°	4446.9	3023.3	2103.9	1458.3	1105.7	936.1	817.7	740.8
70°	2242.1	1159.6	702.6	495.7	423.7	394.0	374.1	362.5
72.5°	658.0	439.4	365.0	322.8	297.0	278.9	267.3	261.5
75°	364.2	297.0	262.3	238.4	221.8	209.3	201.9	197.0
77.5°	250.7	216.0	198.7	182.9	169.7	160.6	154.8	149.8
80°	175.5	158.1	150.7	142.4	132.4	125.0	116.7	113.4
82.5°	116.7	109.3	107.6	100.9	95.2	86.9	72.0	67.0
85°	68.8	67.8	67.8	65.3	61.3	53.7	43.0	43.0
87.5°	24.0	24.8	25.6	27.4	26.4	22.4	18.2	17.4
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)