

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: P195950

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

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P195950  
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  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(2) 70 CRI, 4000K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE V  
NARROW OPTICS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 12809.4 lumens  
Efficiency: N/A  
Efficacy: 113.4 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): 113  
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

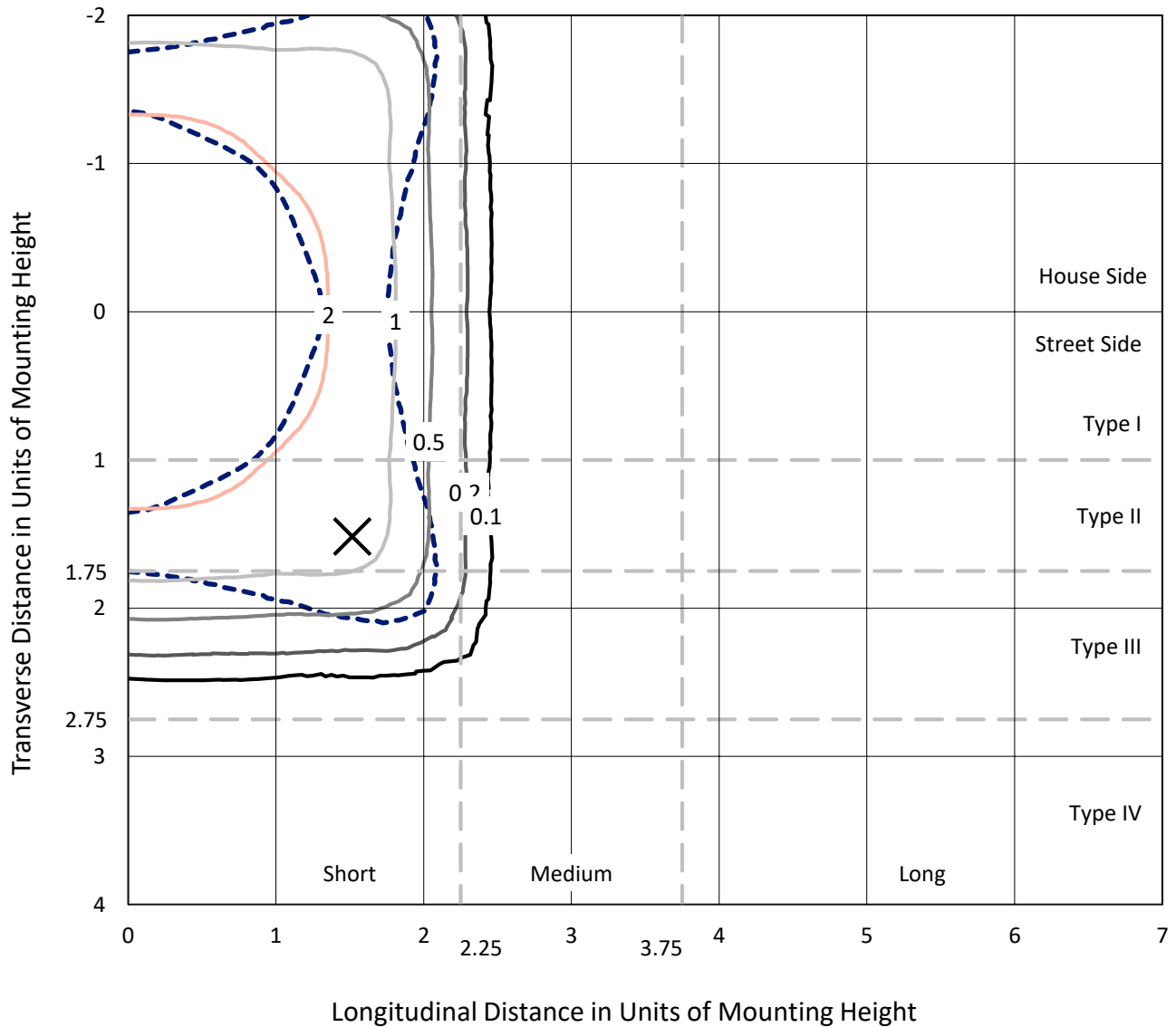


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### Iso-Footcandle Lines of Horizontal Illumination

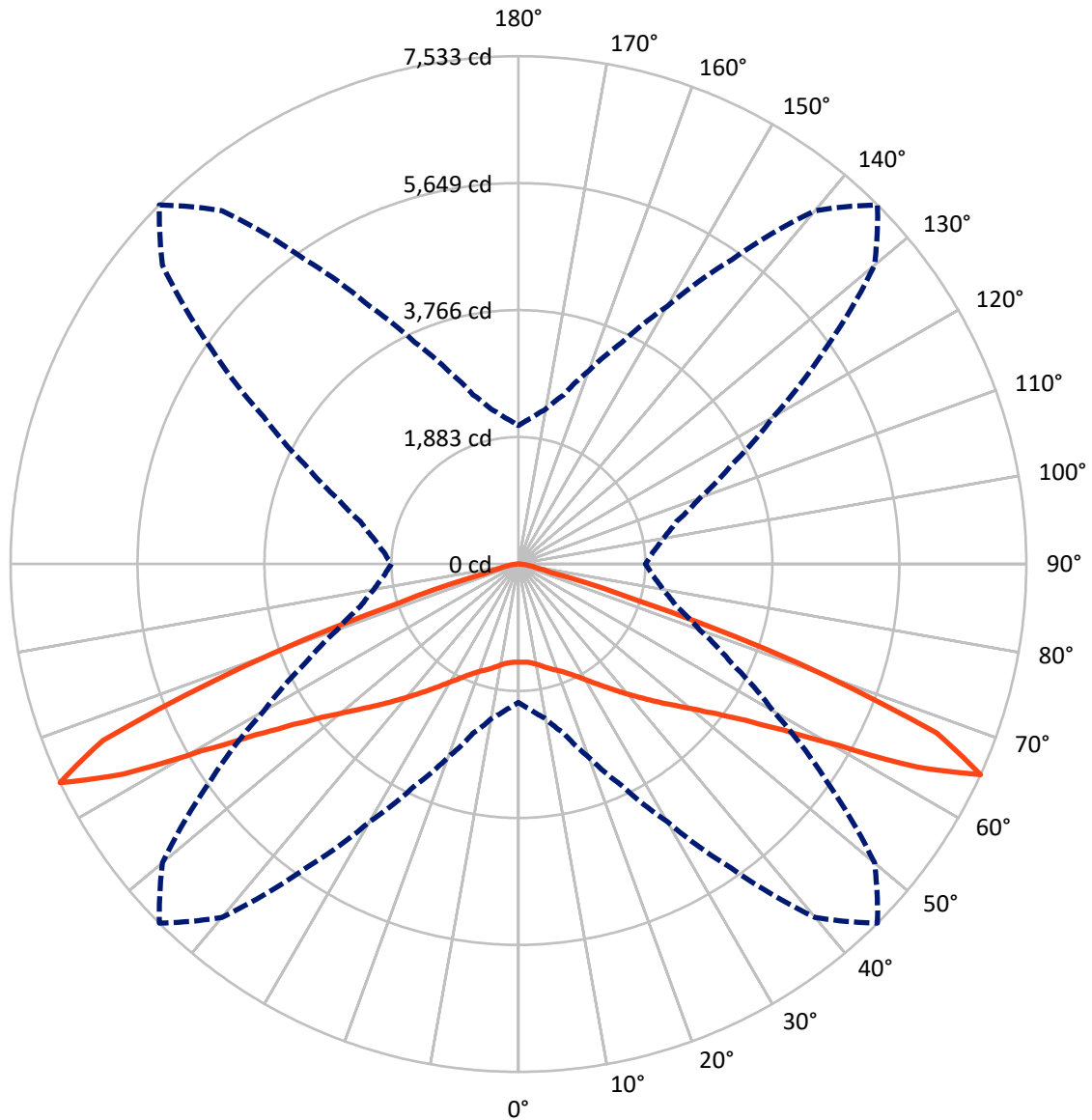
× Max cd  
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 3.6 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
<b>House Side</b>	Lumens	6404.7	0.0	6404.7
	% Fixture	50.0	0.0	50.0
<b>Street Side</b>	Lumens	6404.7	0.0	6404.7
	% Fixture	50.0	0.0	50.0
<b>Total</b>	Lumens	12809.4	0.0	12809.4
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	141.9	1.1
10°-20°	454.8	3.6
20°-30°	848.3	6.6
30°-40°	1430.4	11.2
40°-50°	2323.4	18.1
50°-60°	3640.4	28.4
60°-70°	3436.4	26.8
70°-80°	463.1	3.6
80°-90°	70.6	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°	12809.4	100.0
0°-180°	12809.4	100.0



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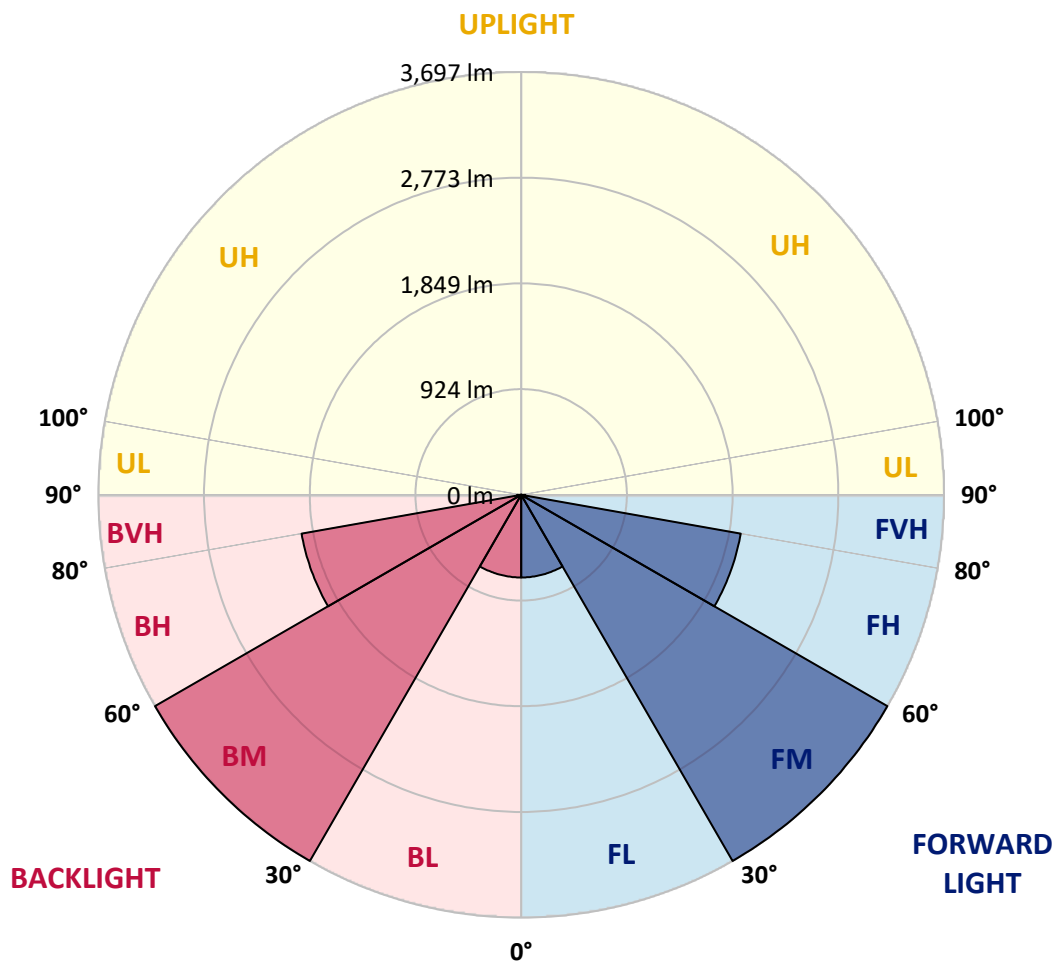
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	722.5	5.6			
FM (30°-60°)	3697.2	28.9			
FH (60°-80°)	1949.8	15.2			G2/5000
FVH (80°-90°)	35.3	0.3			G1/100
BL (0°-30°)	722.5	5.6	B2/1000		
BM (30°-60°)	3697.2	28.9	B3/5000		
BH (60°-80°)	1949.8	15.2	B3/2500		G2/5000
BVH (80°-90°)	35.3	0.3			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: 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°	1457.1	1457.1	1457.1	1457.1	1457.1	1457.1	1457.1	1457.1	1457.1	1457.1	1457.1
2.5°	1469.1	1469.1	1471.4	1470.6	1467.4	1465.1	1462.6	1459.4	1457.8	1456.3	1455.5
5°	1477.0	1477.0	1479.4	1478.6	1476.2	1473.0	1471.4	1469.1	1466.6	1465.1	1465.8
7.5°	1497.0	1497.7	1498.5	1497.7	1495.3	1493.0	1489.7	1489.0	1485.7	1483.4	1485.0
10°	1527.3	1527.3	1528.1	1528.9	1527.3	1521.6	1521.6	1520.1	1516.9	1513.7	1514.5
12.5°	1560.8	1560.8	1561.5	1561.5	1561.5	1558.4	1559.2	1558.4	1554.4	1552.8	1554.4
15°	1593.6	1594.3	1594.3	1595.9	1595.9	1596.7	1599.9	1599.9	1598.3	1597.5	1597.5
17.5°	1631.8	1633.4	1634.2	1636.6	1637.4	1639.0	1642.1	1643.0	1643.8	1641.4	1642.1
20°	1682.9	1683.7	1686.0	1686.8	1690.0	1690.0	1691.7	1690.8	1689.3	1686.0	1686.0
22.5°	1740.3	1741.9	1746.7	1746.7	1750.7	1748.3	1749.1	1746.7	1742.7	1741.2	1739.5
25°	1815.3	1817.7	1821.7	1820.1	1821.7	1817.7	1817.7	1817.7	1815.3	1813.0	1812.2
27.5°	1910.3	1906.3	1910.3	1907.1	1906.3	1903.1	1903.9	1902.3	1899.9	1899.1	1895.9
30°	2009.3	2004.5	2006.8	2007.6	2006.0	2005.3	2002.0	1999.7	1995.7	1996.5	1994.0
32.5°	2122.5	2117.7	2120.2	2121.0	2119.3	2121.0	2120.2	2114.5	2109.7	2113.0	2113.0
35°	2257.3	2254.2	2260.6	2263.0	2258.2	2255.8	2252.6	2246.2	2239.0	2243.8	2244.7
37.5°	2419.4	2415.4	2420.2	2426.5	2417.7	2413.0	2400.3	2390.6	2385.8	2388.3	2391.5
40°	2587.8	2588.6	2602.1	2603.7	2594.1	2588.6	2575.8	2561.4	2547.9	2547.9	2551.9
42.5°	2764.9	2767.3	2783.2	2788.9	2785.6	2775.3	2757.7	2740.2	2722.6	2725.8	2730.6
45°	2965.1	2962.0	2978.7	2992.3	2989.9	2986.7	2969.9	2938.0	2922.1	2921.2	2929.2
47.5°	3175.9	3182.2	3199.8	3222.9	3222.1	3214.1	3192.6	3163.1	3133.5	3136.0	3145.5
50°	3421.6	3430.4	3459.9	3483.0	3486.2	3483.9	3458.3	3424.0	3382.5	3384.9	3397.6
52.5°	3641.8	3654.6	3688.9	3736.8	3766.3	3779.9	3763.1	3731.2	3688.9	3691.3	3704.8
55°	3841.3	3861.2	3912.4	3977.7	4036.8	4091.9	4116.7	4115.8	4084.7	4091.9	4109.4
57.5°	3966.6	3994.5	4072.0	4177.2	4294.6	4405.4	4501.2	4591.4	4611.4	4648.8	4648.8
60°	3798.2	3863.7	3966.6	4146.9	4377.5	4626.5	4896.3	5158.7	5327.9	5461.1	5389.3
62.5°	3171.9	3268.4	3412.9	3650.6	4009.7	4454.1	4996.0	5606.4	6243.2	6632.5	6346.9
65°	2052.3	2173.6	2330.8	2598.1	3050.5	3622.7	4411.9	5509.0	6841.6	7532.6	6894.3
67.5°	813.1	895.3	991.0	1181.0	1573.5	2135.3	3021.1	4374.3	6041.2	6693.2	5977.4
70°	388.6	402.1	420.5	461.2	559.3	754.8	1213.6	2155.3	3704.8	4391.9	3616.3
72.5°	280.9	283.3	292.1	305.7	334.3	374.2	454.8	659.1	1277.6	1857.6	1279.1
75°	213.1	216.3	221.1	228.2	243.4	262.5	292.9	351.1	437.3	504.3	436.5
77.5°	161.9	165.2	169.2	176.4	184.3	197.9	209.1	232.2	268.9	283.3	281.7
80°	118.0	123.7	130.0	136.5	142.0	148.4	149.2	160.4	181.2	194.7	190.7
82.5°	75.0	79.8	96.6	103.7	104.5	106.1	105.4	106.1	117.3	126.8	123.7
85°	47.9	51.0	59.8	67.8	66.2	69.5	69.5	67.8	63.0	54.2	64.7
87.5°	23.9	24.8	28.7	35.9	34.3	30.3	29.6	29.6	21.6	18.3	19.9
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°	1457.1	1457.1	1457.1	1457.1	1457.1	1457.1	1457.1	1457.1
2.5°	1453.1	1454.6	1452.3	1452.3	1451.5	1453.1	1450.6	1450.6
5°	1464.3	1466.6	1465.8	1465.8	1467.4	1469.1	1468.2	1467.4
7.5°	1484.2	1485.7	1487.4	1488.2	1489.7	1489.0	1490.5	1489.7
10°	1514.5	1512.9	1515.3	1512.9	1513.7	1512.1	1512.9	1512.9
12.5°	1552.8	1550.4	1548.8	1547.2	1547.2	1544.0	1544.0	1544.9
15°	1596.7	1592.7	1589.6	1587.9	1586.3	1586.3	1583.9	1585.5
17.5°	1639.8	1635.8	1630.2	1630.2	1627.8	1626.2	1624.7	1628.6
20°	1685.3	1681.3	1678.0	1677.3	1672.5	1670.9	1671.7	1676.5
22.5°	1737.9	1735.5	1735.5	1733.9	1730.7	1728.4	1728.4	1733.9
25°	1809.0	1804.2	1805.0	1805.7	1804.2	1804.2	1802.5	1806.5
27.5°	1895.9	1891.9	1894.3	1895.9	1894.3	1896.8	1894.3	1897.5
30°	1998.0	1995.7	1998.0	2000.5	1996.5	1996.5	1994.9	1997.3
32.5°	2120.2	2117.0	2118.5	2118.5	2113.0	2108.2	2101.8	2106.6
35°	2254.2	2250.2	2253.4	2255.8	2249.4	2244.7	2235.0	2239.0
37.5°	2401.8	2403.4	2407.4	2417.7	2416.2	2408.2	2401.1	2404.2
40°	2567.0	2575.0	2592.6	2599.7	2598.1	2590.1	2580.6	2582.1
42.5°	2753.7	2764.1	2782.4	2794.4	2788.9	2777.6	2765.6	2770.5
45°	2957.1	2973.1	2997.0	3009.1	3001.8	2989.9	2973.1	2981.9
47.5°	3172.7	3204.6	3236.5	3252.5	3250.0	3233.2	3211.8	3214.1
50°	3430.4	3472.7	3513.3	3529.3	3517.3	3491.8	3461.5	3460.7
52.5°	3751.2	3796.7	3830.1	3826.1	3796.7	3756.8	3722.4	3720.9
55°	4151.7	4166.9	4162.1	4127.8	4075.9	4013.6	3969.8	3962.6
57.5°	4636.1	4585.0	4510.0	4406.3	4289.7	4171.7	4091.9	4062.3
60°	5228.2	4997.5	4729.4	4447.0	4189.2	3996.2	3874.0	3799.9
62.5°	5717.3	5049.4	4450.1	3959.4	3558.0	3319.5	3152.7	3049.7
65°	5549.7	4362.4	3494.2	2861.4	2423.4	2176.8	2000.5	1883.2
67.5°	4287.4	2914.9	2028.4	1405.9	1066.0	902.4	788.4	714.1
70°	2161.6	1117.9	677.5	477.9	408.6	379.8	360.7	349.5
72.5°	634.3	423.7	351.9	311.2	286.4	268.9	257.8	252.2
75°	351.1	286.4	253.0	229.9	213.9	201.9	194.7	190.0
77.5°	241.8	208.3	191.5	176.4	163.6	154.8	149.2	144.4
80°	169.2	152.4	145.3	137.3	127.7	120.5	112.5	109.4
82.5°	112.5	105.4	103.7	97.4	91.8	83.8	69.5	64.7
85°	66.2	65.5	65.5	63.0	59.0	51.9	41.5	41.5
87.5°	23.1	23.9	24.8	26.3	25.6	21.6	17.6	16.8
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)