

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: P195981

Luminaire Tested: **NAV-AF-03-D-UNV-5WQ-1200**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P195981  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24131)  
Test Lab: INNOVATION CENTER P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: LUMARK  
Catalog Number: NAV-AF-03-D-UNV-5WQ-1200  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(3) 70 CRI, 4000K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE V WIDE OPTICS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 21147.4 lumens  
Efficiency: N/A  
Efficacy: 110.7 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')  
IES Classification: Type V - Short - Semi-Cutoff  
BUG Rating: B5 - U0 - G3

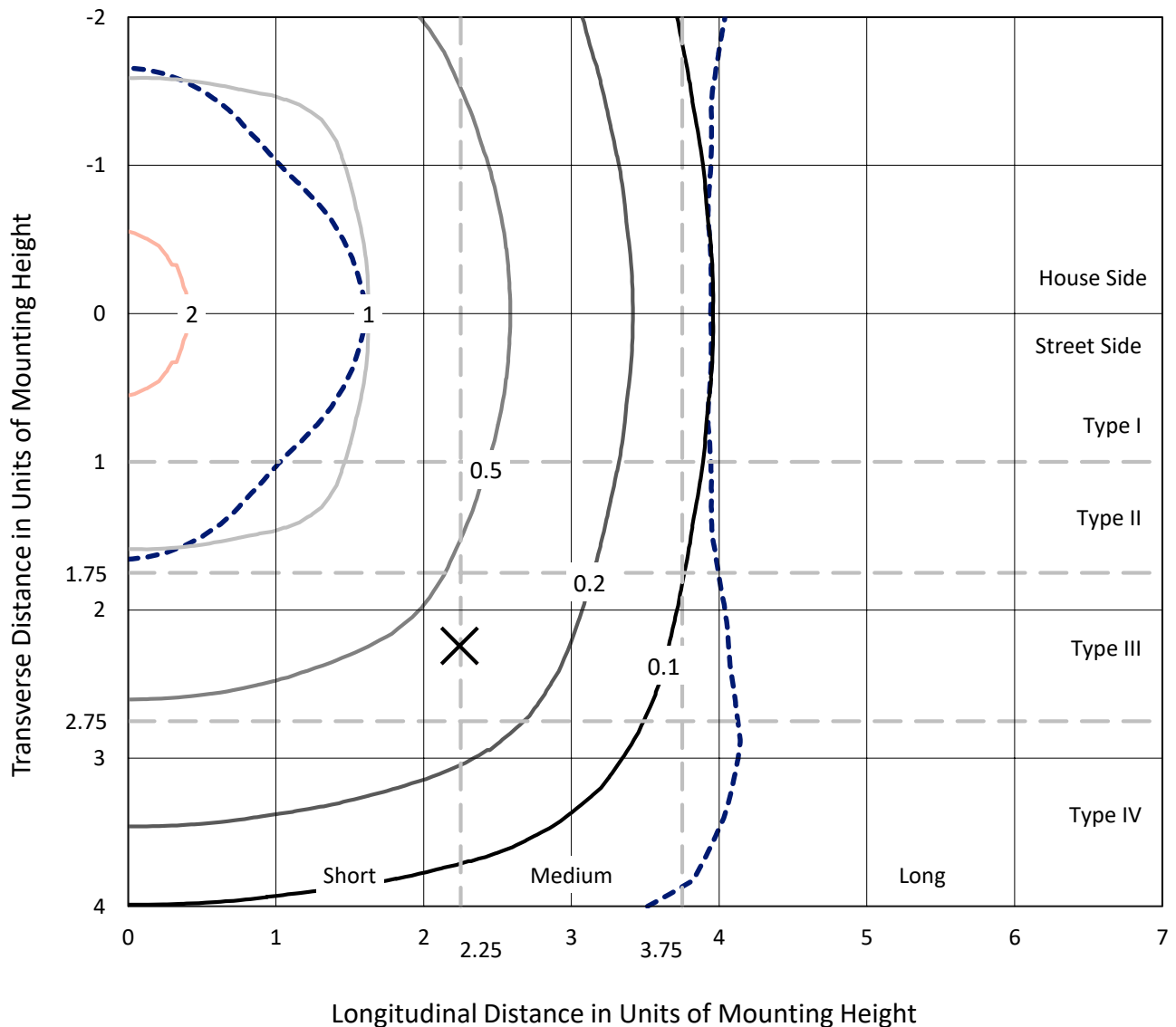
Input Watts (W): 191  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

× Max cd  
 - - - 1/2 Max cd

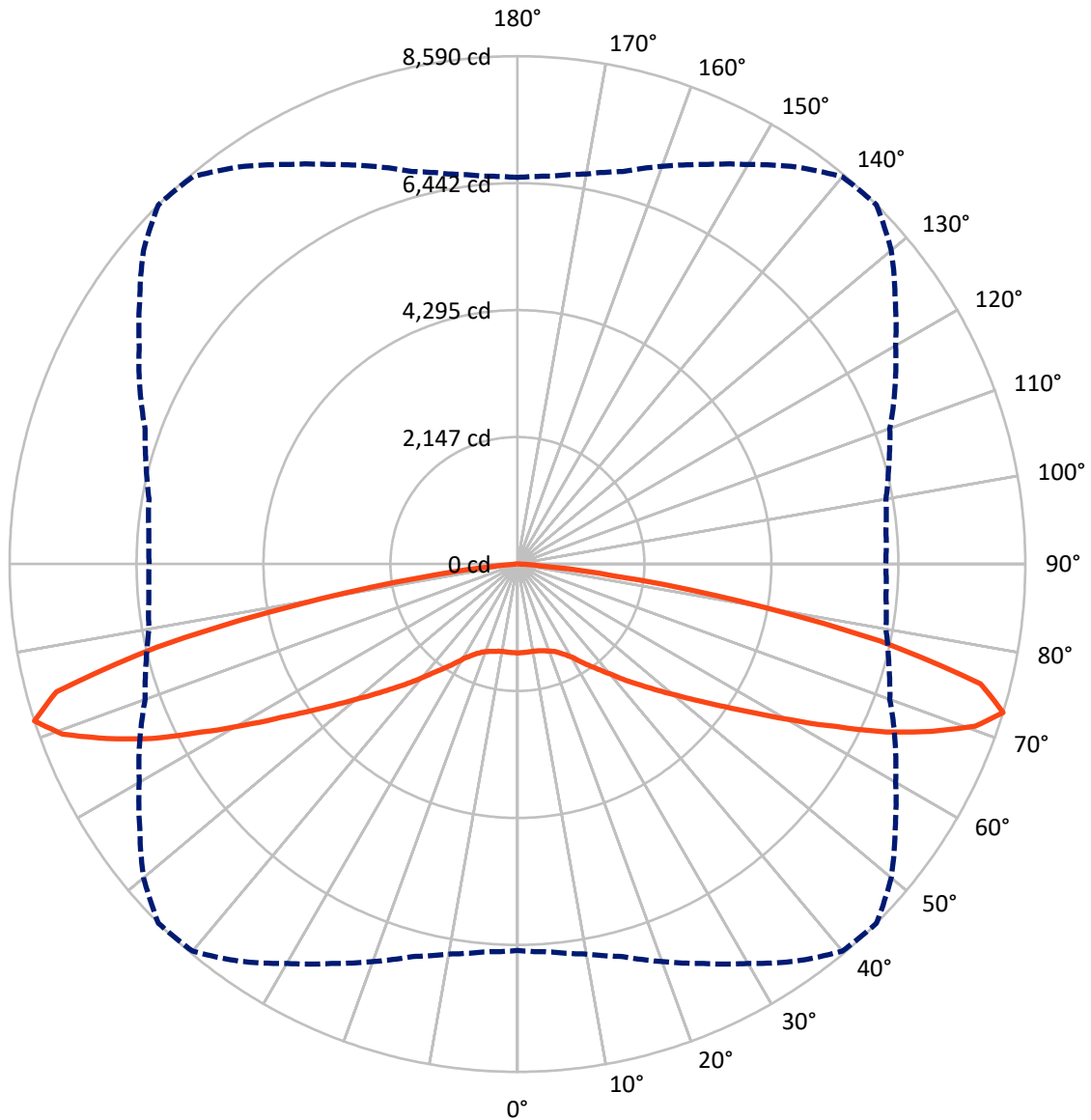


Based on 25 foot mounting height. Maximum calculated value = 2.4 fc  
 Type V - Short - Semi-Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 45-Deg Lateral    - - - Horizontal Cone Through 72.5-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	10573.7	0.0	10573.7
	% Fixture	50.0	0.0	50.0
<b>Street Side</b>	Lumens	10573.7	0.0	10573.7
	% Fixture	50.0	0.0	50.0
<b>Total</b>	Lumens	21147.4	0.0	21147.4
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	143.5	0.7
10°-20°	434.3	2.1
20°-30°	784.0	3.7
30°-40°	1337.3	6.3
40°-50°	2276.8	10.8
50°-60°	3664.2	17.3
60°-70°	6093.6	28.8
70°-80°	5894.9	27.9
80°-90°	518.8	2.5
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°	21147.4	100.0
0°-180°	21147.4	100.0

**Coefficient of Utilization**



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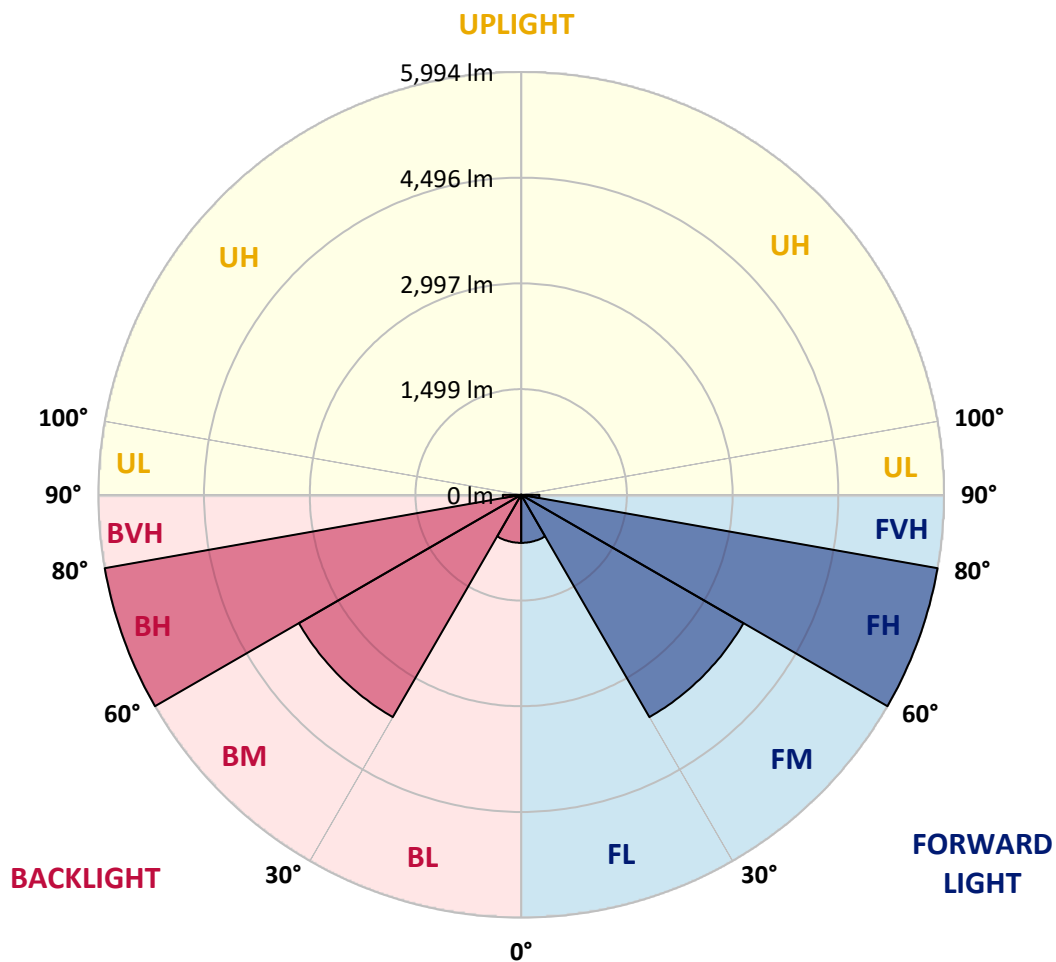
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	680.9	3.2			
FM	(30°-60°)	3639.2	17.2			
FH	(60°-80°)	5994.2	28.3			G3/7500
FVH	(80°-90°)	259.4	1.2			G3/500
BL	(0°-30°)	680.9	3.2	B2/1000		
BM	(30°-60°)	3639.2	17.2	B3/5000		
BH	(60°-80°)	5994.2	28.3	B5		G3/7500
BVH	(80°-90°)	259.4	1.2			G3/500
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B5-U0-G3**

Type V Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1503.4	1503.4	1503.4	1503.4	1503.4	1503.4	1503.4	1503.4	1503.4	1503.4	1503.4
2.5°	1515.1	1515.1	1516.4	1515.1	1512.5	1511.2	1507.3	1504.8	1502.1	1500.9	1498.2
5°	1516.4	1516.4	1517.8	1516.4	1513.9	1511.2	1508.6	1504.8	1502.1	1499.5	1498.2
7.5°	1521.6	1523.0	1524.3	1523.0	1517.8	1515.1	1511.2	1507.3	1502.1	1499.5	1496.9
10°	1532.1	1532.1	1532.1	1530.7	1526.9	1521.6	1516.4	1512.5	1506.0	1499.5	1495.7
12.5°	1539.8	1541.2	1541.2	1538.6	1533.4	1526.9	1521.6	1517.8	1512.5	1507.3	1503.4
15°	1551.6	1551.6	1550.3	1545.1	1537.3	1532.1	1529.4	1528.2	1526.9	1524.3	1520.3
17.5°	1575.0	1573.7	1569.8	1562.0	1552.8	1549.0	1546.4	1546.4	1546.4	1545.1	1542.5
20°	1608.9	1608.9	1603.7	1590.7	1582.8	1578.9	1575.0	1575.0	1575.0	1571.2	1567.2
22.5°	1663.5	1664.9	1657.0	1641.4	1631.0	1623.2	1618.0	1614.1	1610.1	1607.6	1601.0
25°	1737.7	1736.5	1727.4	1707.8	1699.9	1692.2	1681.7	1675.3	1670.1	1666.2	1658.3
27.5°	1815.8	1814.5	1804.1	1787.2	1782.0	1770.3	1762.4	1753.3	1746.8	1740.3	1732.5
30°	1916.1	1909.5	1901.8	1888.7	1886.1	1877.0	1866.6	1853.6	1843.2	1832.7	1823.6
32.5°	2005.9	2005.9	1994.1	1987.7	1992.8	1988.9	1990.3	1982.5	1975.9	1972.0	1962.9
35°	2130.8	2130.8	2125.6	2117.8	2119.1	2110.0	2108.7	2110.0	2115.3	2115.3	2104.8
37.5°	2297.4	2300.0	2283.1	2280.6	2274.0	2261.0	2254.5	2257.1	2268.8	2275.3	2261.0
40°	2504.4	2509.6	2504.4	2487.5	2479.6	2457.5	2444.5	2444.5	2453.6	2460.2	2455.0
42.5°	2708.8	2717.9	2708.8	2695.8	2689.2	2672.4	2665.8	2671.0	2682.7	2690.6	2682.7
45°	2936.6	2943.0	2931.4	2915.7	2907.9	2898.8	2895.0	2898.8	2911.8	2919.6	2917.0
47.5°	3160.4	3169.5	3155.3	3148.7	3148.7	3139.6	3150.1	3160.4	3172.2	3190.4	3182.6
50°	3379.1	3390.9	3381.8	3383.0	3393.4	3410.4	3429.9	3450.7	3471.6	3491.0	3493.7
52.5°	3574.4	3592.6	3593.9	3617.4	3649.9	3675.9	3730.6	3776.1	3825.6	3842.5	3834.7
55°	3780.0	3804.8	3837.3	3873.8	3925.8	3979.2	4071.7	4153.6	4218.8	4259.1	4252.5
57.5°	4074.2	4099.0	4132.8	4192.7	4270.8	4343.7	4469.9	4597.4	4696.4	4757.6	4727.7
60°	4455.6	4481.6	4525.9	4589.7	4691.3	4790.2	4963.3	5146.8	5300.4	5370.7	5316.0
62.5°	4960.7	4985.4	5014.0	5098.6	5211.8	5339.4	5556.8	5792.5	5987.6	6055.4	5978.5
65°	5680.4	5710.4	5719.5	5788.5	5899.2	6017.6	6251.9	6517.4	6740.0	6850.7	6697.1
67.5°	6491.4	6503.1	6539.6	6620.2	6733.6	6840.3	7025.1	7276.4	7489.8	7551.0	7386.9
70°	6966.5	6989.9	7053.8	7165.7	7301.0	7469.0	7670.7	7941.5	8183.6	8212.2	8004.0
72.5°	6537.0	6585.1	6698.4	6872.8	7156.6	7454.7	7802.1	8201.8	8549.3	8589.7	8255.2
75°	5243.1	5297.8	5433.2	5624.5	5960.3	6402.9	6905.3	7505.4	8026.1	8092.5	7649.9
77.5°	2794.7	2862.3	3058.9	3316.6	3795.7	4381.4	4986.7	5671.3	6114.0	6263.6	5944.7
80°	704.2	740.6	835.6	986.6	1310.8	1783.3	2305.2	3041.9	3591.3	3824.3	3591.3
82.5°	273.3	300.6	326.7	344.9	376.1	441.3	609.2	993.2	1338.1	1647.9	1426.6
85°	105.5	111.9	161.4	183.5	183.5	201.7	231.7	273.3	338.4	369.7	309.7
87.5°	41.6	45.5	56.0	85.9	88.5	78.1	83.3	93.7	71.6	59.8	67.7
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°	1503.4	1503.4	1503.4	1503.4	1503.4	1503.4	1503.4	1503.4
2.5°	1496.9	1495.7	1493.0	1494.3	1493.0	1493.0	1493.0	1493.0
5°	1495.7	1495.7	1493.0	1493.0	1493.0	1494.3	1493.0	1493.0
7.5°	1494.3	1493.0	1490.4	1489.1	1489.1	1487.8	1487.8	1487.8
10°	1491.7	1489.1	1486.6	1485.2	1485.2	1482.6	1482.6	1482.6
12.5°	1498.2	1494.3	1491.7	1490.4	1490.4	1490.4	1491.7	1491.7
15°	1516.4	1508.6	1504.8	1503.4	1504.8	1507.3	1508.6	1510.0
17.5°	1536.0	1528.2	1521.6	1519.1	1520.3	1524.3	1528.2	1530.7
20°	1560.7	1554.2	1546.4	1543.7	1543.7	1549.0	1551.6	1555.5
22.5°	1595.8	1590.7	1584.1	1580.3	1577.6	1584.1	1588.0	1590.7
25°	1651.9	1646.6	1641.4	1637.5	1636.2	1642.7	1645.3	1646.6
27.5°	1726.0	1720.8	1718.3	1716.9	1713.0	1715.6	1719.5	1718.3
30°	1822.3	1826.3	1822.3	1822.3	1815.8	1818.4	1815.8	1813.2
32.5°	1951.2	1947.3	1935.6	1927.8	1918.6	1918.6	1914.8	1910.9
35°	2080.1	2067.1	2060.5	2064.4	2060.5	2063.2	2056.6	2050.1
37.5°	2232.4	2224.5	2223.3	2234.9	2232.4	2234.9	2234.9	2225.8
40°	2434.1	2428.9	2438.0	2457.5	2465.3	2464.1	2466.6	2455.0
42.5°	2665.8	2656.7	2660.6	2677.6	2686.7	2689.2	2687.9	2677.6
45°	2897.5	2900.1	2900.1	2918.4	2927.5	2932.7	2923.6	2919.6
47.5°	3159.2	3163.1	3154.0	3165.6	3168.3	3177.4	3169.5	3163.1
50°	3461.2	3446.8	3426.0	3429.9	3429.9	3427.3	3418.2	3410.4
52.5°	3798.2	3765.7	3726.7	3713.6	3699.3	3685.0	3666.8	3652.4
55°	4182.2	4126.3	4056.0	4023.5	3996.2	3963.6	3921.9	3907.6
57.5°	4627.4	4531.1	4437.4	4378.8	4308.6	4265.6	4212.2	4209.5
60°	5155.9	5025.8	4860.4	4773.2	4702.9	4652.2	4611.8	4596.2
62.5°	5766.4	5542.4	5364.1	5270.4	5188.4	5157.2	5106.5	5112.9
65°	6392.5	6164.7	5991.5	5916.0	5839.3	5818.4	5771.6	5788.5
67.5°	7070.6	6883.2	6693.2	6622.9	6552.6	6531.7	6483.6	6497.9
70°	7678.6	7440.3	7224.3	7086.3	6966.5	6870.2	6809.1	6784.3
72.5°	7799.6	7386.9	7047.2	6702.3	6503.1	6328.7	6257.1	6229.8
75°	7008.1	6367.8	5883.5	5478.7	5254.8	5001.0	4973.7	4935.9
77.5°	5451.4	4722.5	4136.7	3616.0	3315.4	3005.5	2898.8	2818.1
80°	3251.6	2499.2	1936.9	1357.7	1107.8	891.6	838.3	782.4
82.5°	1163.7	745.8	502.5	391.8	350.2	322.8	302.0	274.7
85°	281.2	236.9	223.9	203.1	200.5	170.5	121.0	108.0
87.5°	89.8	82.0	83.3	79.4	83.3	62.5	50.7	45.5
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)