

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: P194967

Luminaire Tested: **NAV-AF-03-D-UNV-5MQ-7060**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P194967
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-03-D-UNV-5MQ-7060
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 70 CRI, 5700K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE V
MEDIUM OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 19291 lumens
Efficiency: N/A
Efficacy: 116.2 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')
IES Classification: Type V - Short - Full Cutoff
BUG Rating: B4 - U0 - G2

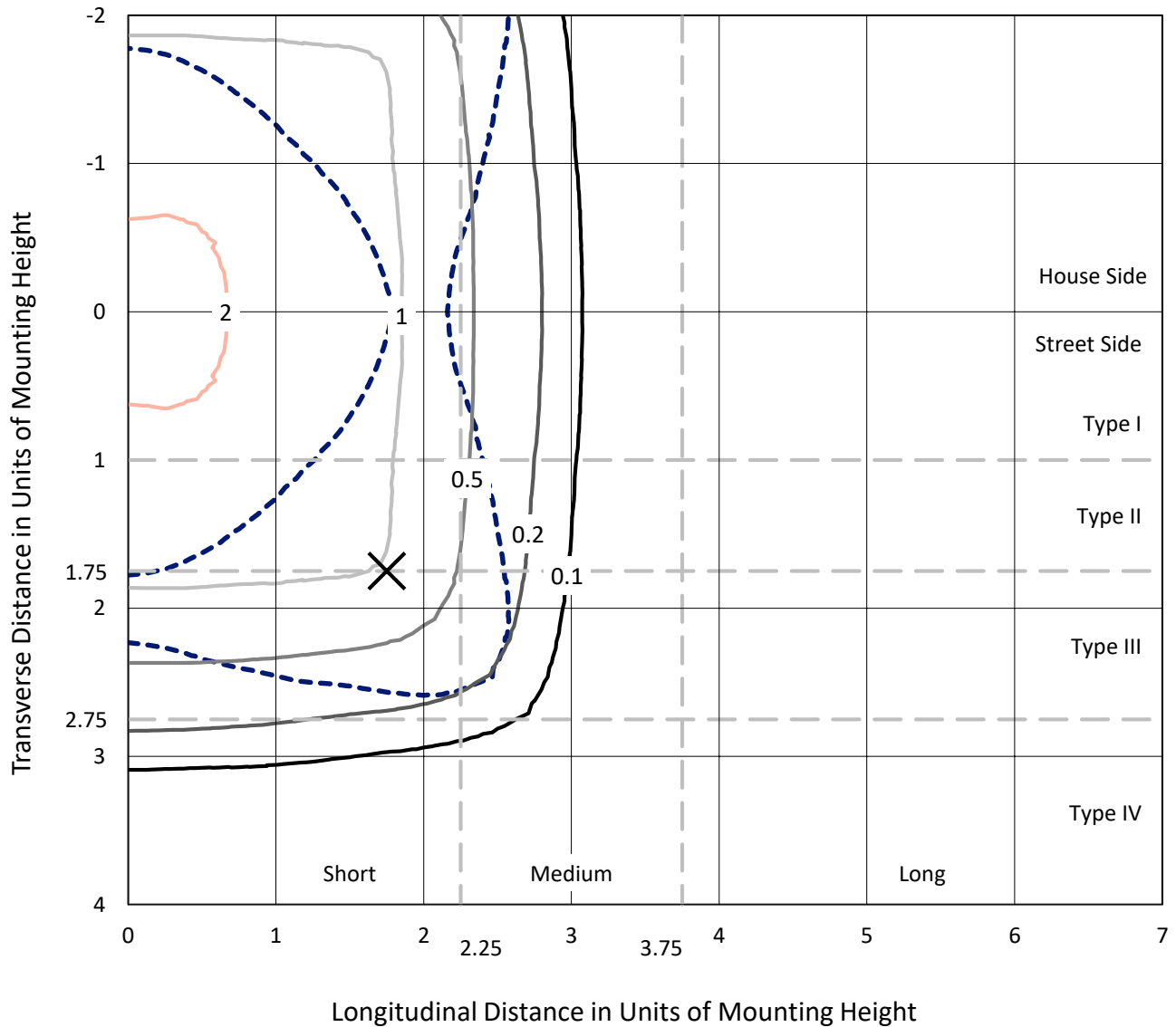
Input Watts (W): 166
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

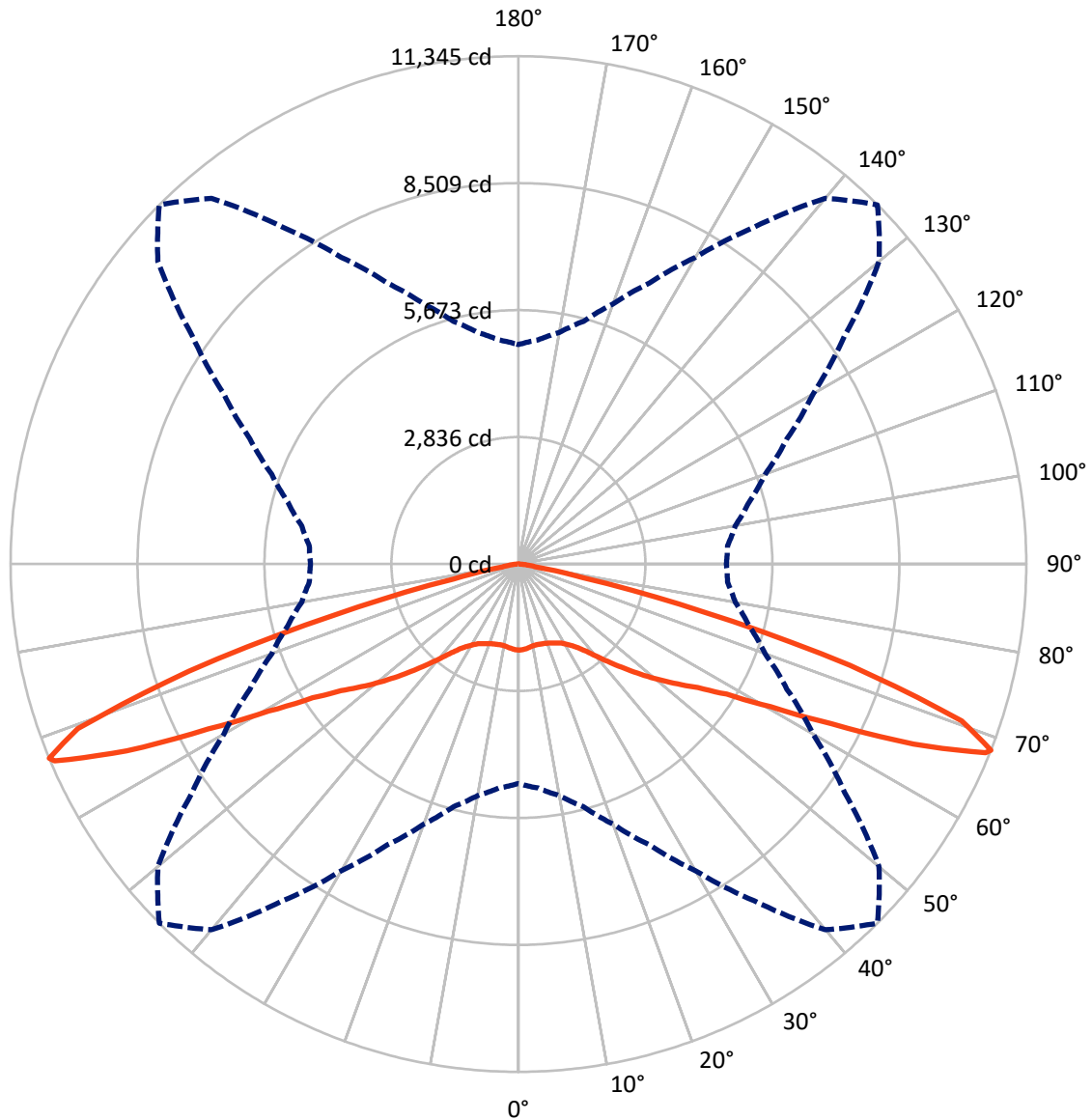
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.1 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	9645.5	0.0	9645.5
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	9645.5	0.0	9645.5
	% Fixture	50.0	0.0	50.0
Total	Lumens	19291.0	0.0	19291.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	180.1	0.9
10°-20°	522.2	2.7
20°-30°	887.8	4.6
30°-40°	1452.9	7.5
40°-50°	2596.6	13.5
50°-60°	4385.2	22.7
60°-70°	6799.8	35.2
70°-80°	2337.9	12.1
80°-90°	128.5	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°	19291.0	100.0
0°-180°	19291.0	100.0



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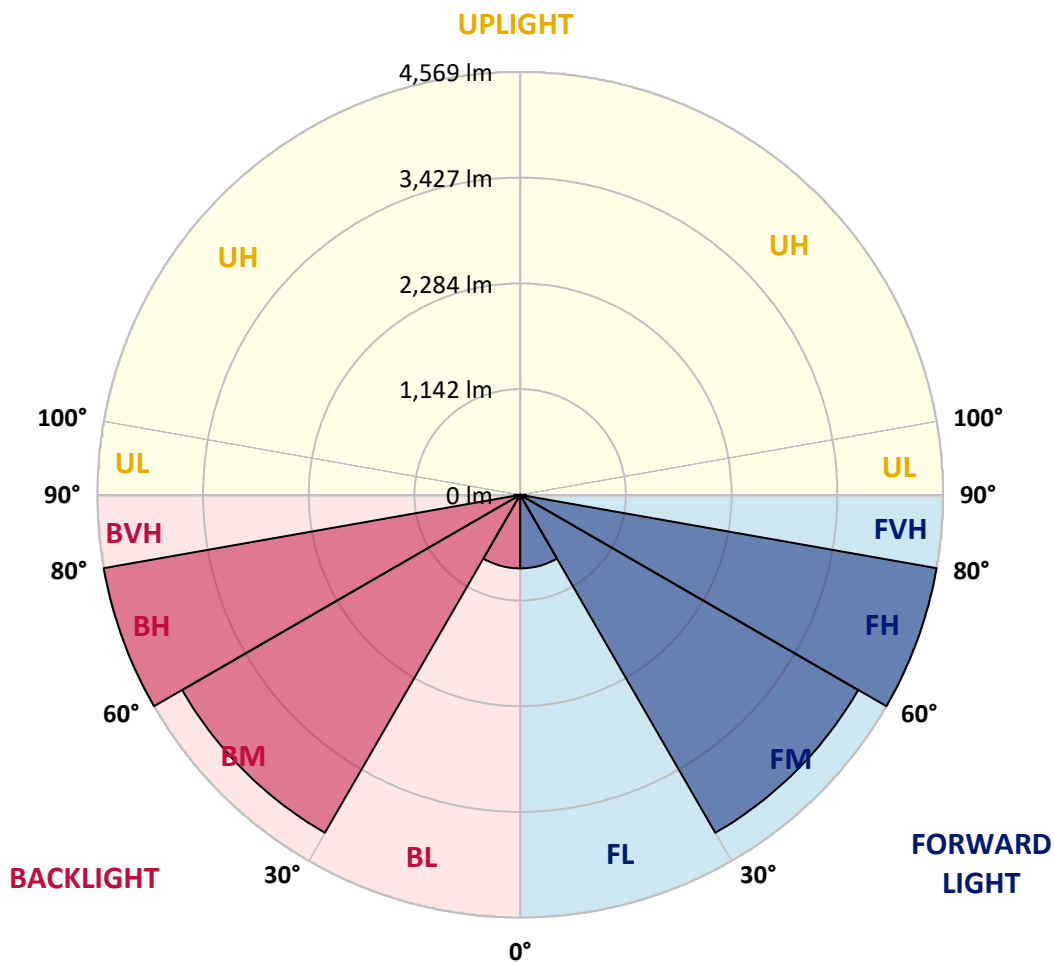
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	795.1	4.1			
FM	(30°-60°)	4217.3	21.9			
FH	(60°-80°)	4568.9	23.7			G2/5000
FVH	(80°-90°)	64.2	0.3			G1/100
BL	(0°-30°)	795.1	4.1	B2/1000		
BM	(30°-60°)	4217.3	21.9	B3/5000		
BH	(60°-80°)	4568.9	23.7	B4/5000		G2/5000
BVH	(80°-90°)	64.2	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°	1924.3	1924.3	1924.3	1924.3	1924.3	1924.3	1924.3	1924.3	1924.3	1924.3	1924.3
2.5°	1932.6	1932.6	1935.0	1933.8	1930.2	1926.7	1923.2	1919.6	1917.2	1914.9	1912.5
5°	1912.5	1912.5	1916.1	1913.7	1911.3	1907.8	1905.4	1901.9	1899.5	1897.2	1898.3
7.5°	1886.5	1888.9	1891.3	1890.1	1885.4	1884.2	1880.6	1879.4	1877.1	1873.5	1874.7
10°	1864.1	1865.3	1867.6	1866.5	1865.3	1861.7	1860.5	1859.4	1858.2	1853.5	1852.3
12.5°	1841.6	1844.0	1846.4	1847.6	1846.4	1847.6	1848.7	1849.9	1848.7	1846.4	1846.4
15°	1823.9	1826.3	1829.8	1833.4	1834.6	1841.6	1846.4	1851.1	1854.6	1855.8	1852.3
17.5°	1814.5	1818.0	1822.7	1829.8	1835.7	1844.0	1852.3	1859.4	1865.3	1866.5	1862.9
20°	1813.3	1816.8	1823.9	1832.2	1842.8	1853.5	1866.5	1877.1	1883.0	1886.5	1883.0
22.5°	1821.6	1826.3	1835.7	1846.4	1859.4	1873.5	1890.1	1901.9	1913.7	1918.4	1914.9
25°	1845.2	1849.9	1860.5	1873.5	1887.7	1905.4	1922.0	1937.3	1949.1	1955.0	1950.3
27.5°	1894.8	1896.0	1907.8	1922.0	1938.5	1953.9	1975.1	1982.2	1991.7	1997.6	1991.7
30°	1964.5	1966.9	1977.5	1999.9	2015.3	2035.4	2047.2	2054.3	2064.9	2070.8	2063.7
32.5°	2070.8	2073.2	2082.6	2103.9	2118.1	2133.4	2147.6	2152.3	2163.0	2170.0	2161.8
35°	2220.8	2225.6	2233.8	2248.0	2259.8	2271.6	2282.3	2278.7	2285.8	2295.3	2287.0
37.5°	2426.4	2425.2	2427.6	2438.2	2450.0	2457.1	2473.6	2465.4	2472.5	2480.7	2476.0
40°	2666.2	2666.2	2665.0	2683.9	2688.6	2695.7	2713.4	2702.8	2712.3	2721.7	2713.4
42.5°	2939.1	2943.8	2949.7	2965.1	2978.1	2980.4	2988.7	2984.0	2995.8	3004.0	2995.8
45°	3253.3	3260.4	3267.5	3302.9	3308.8	3313.5	3319.4	3304.1	3317.1	3324.2	3321.8
47.5°	3579.3	3592.3	3607.7	3644.3	3667.9	3678.6	3683.3	3665.6	3666.7	3677.4	3678.6
50°	3947.9	3962.1	3977.4	4018.8	4041.2	4060.1	4066.0	4045.9	4048.3	4056.6	4058.9
52.5°	4288.1	4304.7	4337.7	4393.2	4425.1	4458.2	4460.6	4435.8	4446.4	4452.3	4447.6
55°	4608.2	4629.5	4673.2	4747.6	4805.5	4870.5	4900.0	4872.9	4872.9	4868.1	4865.8
57.5°	4981.5	5005.2	5050.0	5136.3	5216.6	5309.9	5390.3	5417.4	5467.0	5483.6	5457.6
60°	5543.8	5568.6	5614.7	5728.1	5829.7	5965.6	6097.9	6205.4	6380.2	6474.7	6389.6
62.5°	6057.7	6095.5	6204.2	6402.6	6622.4	6874.0	7165.8	7373.7	7691.4	7849.7	7635.9
65°	5940.7	6017.5	6230.2	6542.0	6995.6	7541.4	8135.6	8706.2	9363.0	9699.6	9264.9
67.5°	5189.4	5254.4	5483.6	5846.2	6412.1	7164.6	8088.3	9269.6	10624.6	11255.4	10486.4
68°	4902.4	5024.1	5252.1	5612.3	6182.9	6922.4	7908.8	9184.6	10663.6	11345.2	10514.7
70°	3758.9	3802.6	4021.1	4344.8	4960.3	5685.6	6681.4	8135.6	9807.1	10508.8	9654.7
72.5°	1786.1	1812.1	1953.9	2272.8	2663.8	3254.5	4133.4	5504.8	7011.0	7741.0	6889.3
75°	654.4	660.3	693.4	769.0	915.5	1137.6	1559.3	2412.2	3571.1	4258.6	3585.2
77.5°	353.2	354.4	367.4	386.3	412.3	441.8	505.6	678.1	1093.9	1488.4	1155.3
80°	222.1	220.9	233.9	249.3	267.0	281.1	287.1	307.1	346.1	405.2	372.1
82.5°	113.4	124.0	153.6	170.1	196.1	200.8	194.9	193.7	205.5	222.1	229.2
85°	62.6	55.5	81.5	108.7	118.1	121.7	122.9	115.8	113.4	111.0	116.9
87.5°	31.9	29.5	35.4	54.3	57.9	47.3	48.4	41.3	28.4	28.4	29.5
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°	1924.3	1924.3	1924.3	1924.3	1924.3	1924.3	1924.3	1924.3
2.5°	1910.2	1911.3	1909.0	1909.0	1909.0	1910.2	1909.0	1907.8
5°	1894.8	1897.2	1897.2	1898.3	1899.5	1899.5	1899.5	1899.5
7.5°	1872.4	1873.5	1875.9	1875.9	1875.9	1875.9	1875.9	1875.9
10°	1851.1	1848.7	1847.6	1845.2	1845.2	1841.6	1842.8	1844.0
12.5°	1840.5	1835.7	1833.4	1829.8	1827.5	1823.9	1823.9	1825.1
15°	1845.2	1838.1	1831.0	1828.6	1826.3	1823.9	1821.6	1822.7
17.5°	1854.6	1846.4	1838.1	1833.4	1828.6	1825.1	1823.9	1825.1
20°	1874.7	1862.9	1849.9	1841.6	1832.2	1829.8	1826.3	1829.8
22.5°	1901.9	1887.7	1871.2	1855.8	1845.2	1840.5	1835.7	1839.3
25°	1935.0	1919.6	1903.1	1885.4	1873.5	1870.0	1864.1	1864.1
27.5°	1981.0	1968.0	1953.9	1937.3	1925.5	1922.0	1912.5	1912.5
30°	2054.3	2041.3	2028.3	2014.1	2002.3	1998.8	1986.9	1986.9
32.5°	2151.1	2137.0	2128.7	2116.9	2107.4	2101.5	2087.4	2086.2
35°	2281.1	2268.1	2266.9	2258.6	2249.2	2250.4	2236.2	2233.8
37.5°	2467.7	2457.1	2460.6	2453.6	2445.3	2452.4	2444.1	2444.1
40°	2706.4	2702.8	2706.4	2701.6	2702.8	2704.0	2696.9	2699.3
42.5°	2994.6	2985.1	3006.4	3004.0	3000.5	3009.9	2993.4	2981.6
45°	3326.5	3323.0	3344.3	3347.8	3340.7	3346.6	3317.1	3315.9
47.5°	3686.8	3686.8	3705.7	3703.4	3696.3	3697.5	3662.0	3639.6
50°	4062.5	4060.1	4079.0	4074.3	4064.8	4063.7	4027.0	4004.6
52.5°	4453.5	4453.5	4480.7	4467.7	4445.2	4434.6	4389.7	4360.2
55°	4885.8	4879.9	4888.2	4845.7	4802.0	4770.1	4714.6	4692.1
57.5°	5432.8	5364.3	5305.2	5250.9	5189.4	5151.6	5086.7	5063.0
60°	6208.9	6025.8	5946.7	5838.0	5736.4	5685.6	5599.4	5553.3
62.5°	7283.9	6980.3	6765.3	6525.5	6294.0	6130.9	5999.8	5941.9
65°	8526.6	7865.1	7318.1	6804.3	6368.4	6022.3	5829.7	5769.5
67.5°	8999.1	7784.8	6840.9	6103.8	5574.5	5162.3	4931.9	4883.5
68°	8898.7	7600.5	6620.0	5865.1	5333.6	4917.7	4688.6	4644.9
70°	7849.7	6412.1	5377.3	4626.0	4129.8	3734.1	3572.2	3502.5
72.5°	5351.3	4118.0	3158.8	2526.8	2155.9	1905.4	1756.6	1705.8
75°	2463.0	1664.4	1111.6	830.5	705.2	645.0	598.9	587.1
77.5°	718.2	522.1	448.9	415.8	391.0	369.7	354.4	353.2
80°	341.4	320.1	310.7	289.4	267.0	246.9	232.7	235.1
82.5°	229.2	223.3	223.3	202.0	166.6	142.9	118.1	106.3
85°	121.7	126.4	133.5	126.4	109.9	81.5	53.2	57.9
87.5°	41.3	47.3	49.6	48.4	43.7	33.1	24.8	24.8
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)