

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: P196407

Luminaire Tested: **NAV-AF-03-D-UNV-5MQ-7030**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196407
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-7030
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 70 CRI, 3000K, 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: 18657.1 lumens
Efficiency: N/A
Efficacy: 112.4 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

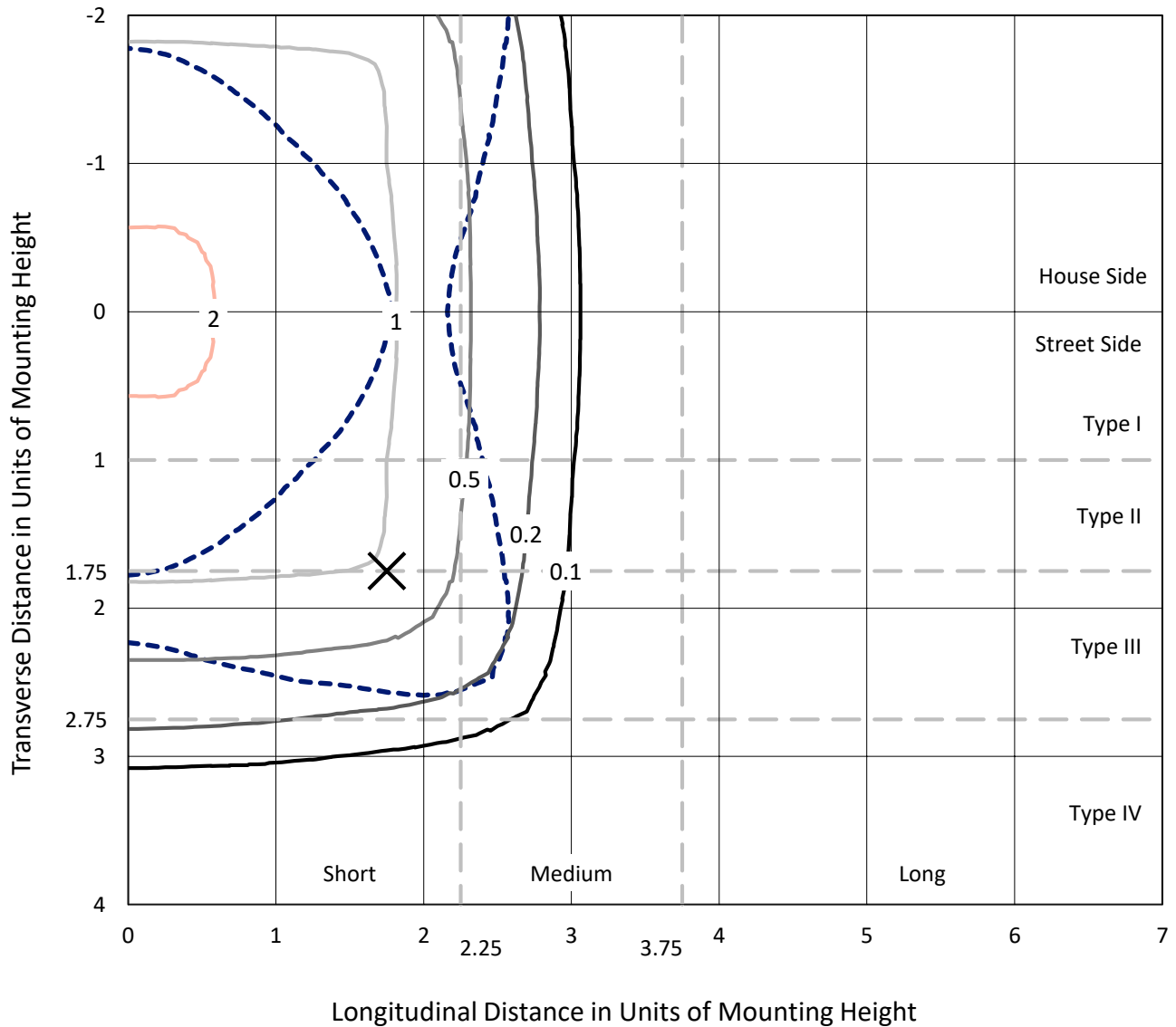
Input Watts (W): 166
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

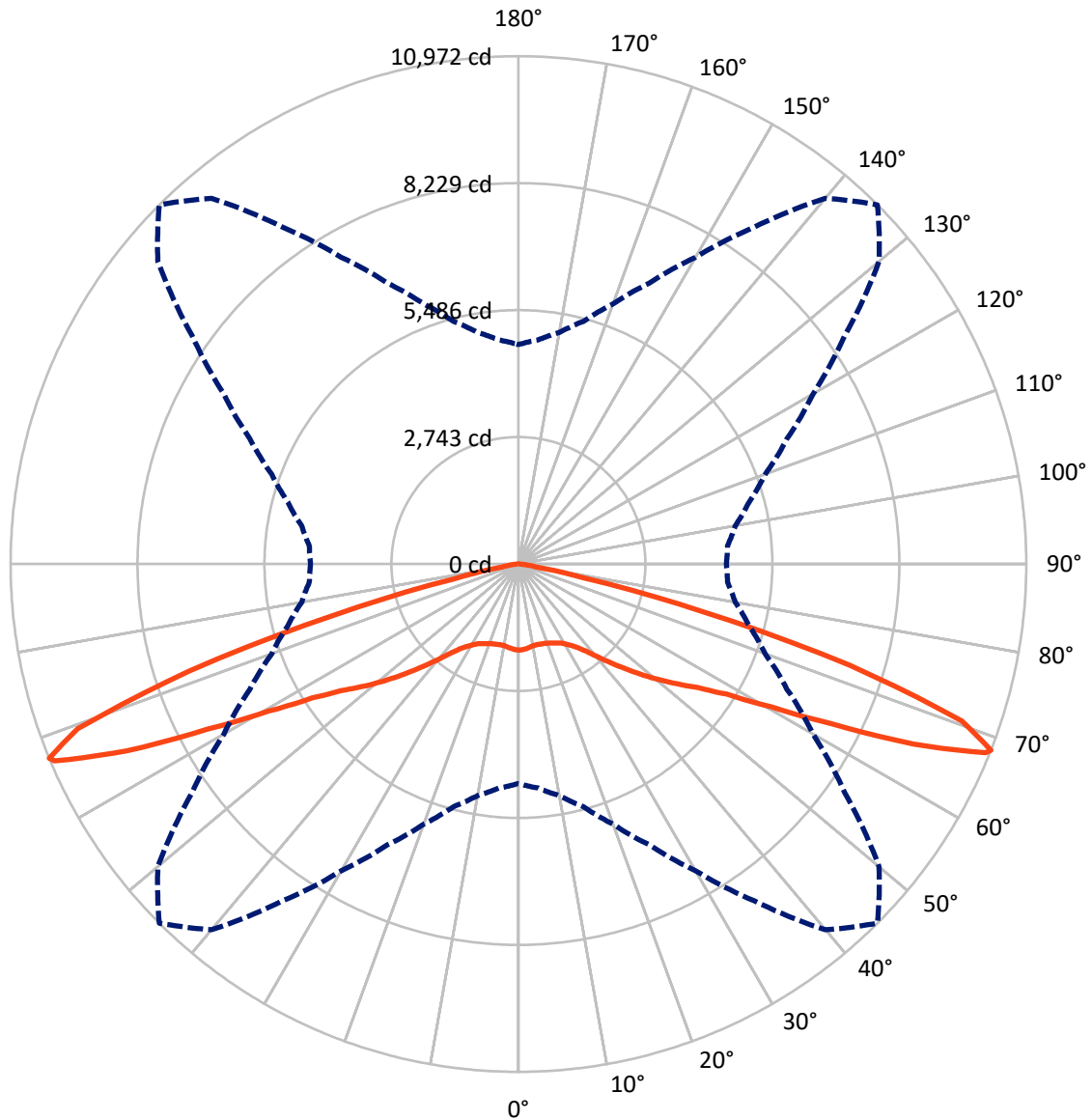
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3 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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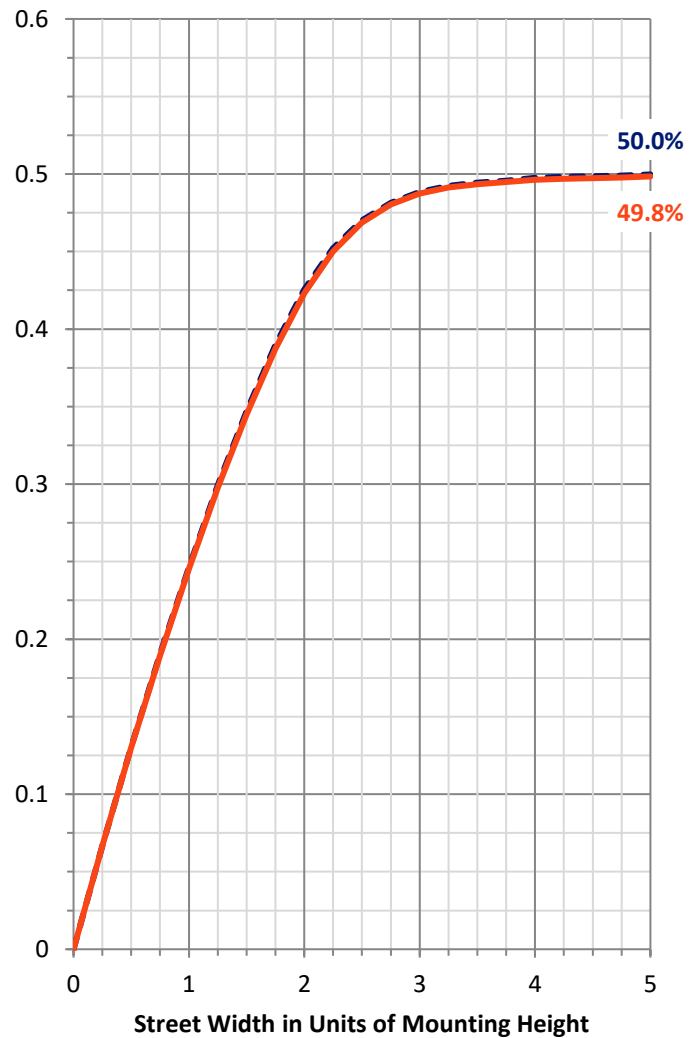
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	9328.6	0.0	9328.6
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	9328.6	0.0	9328.6
	% Fixture	50.0	0.0	50.0
Total	Lumens	18657.1	0.0	18657.1
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	174.1	0.9
10°-20°	505.1	2.7
20°-30°	858.7	4.6
30°-40°	1405.2	7.5
40°-50°	2511.2	13.5
50°-60°	4241.1	22.7
60°-70°	6576.4	35.2
70°-80°	2261.1	12.1
80°-90°	124.3	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°	18657.1	100.0
0°-180°	18657.1	100.0



--- HS — SS

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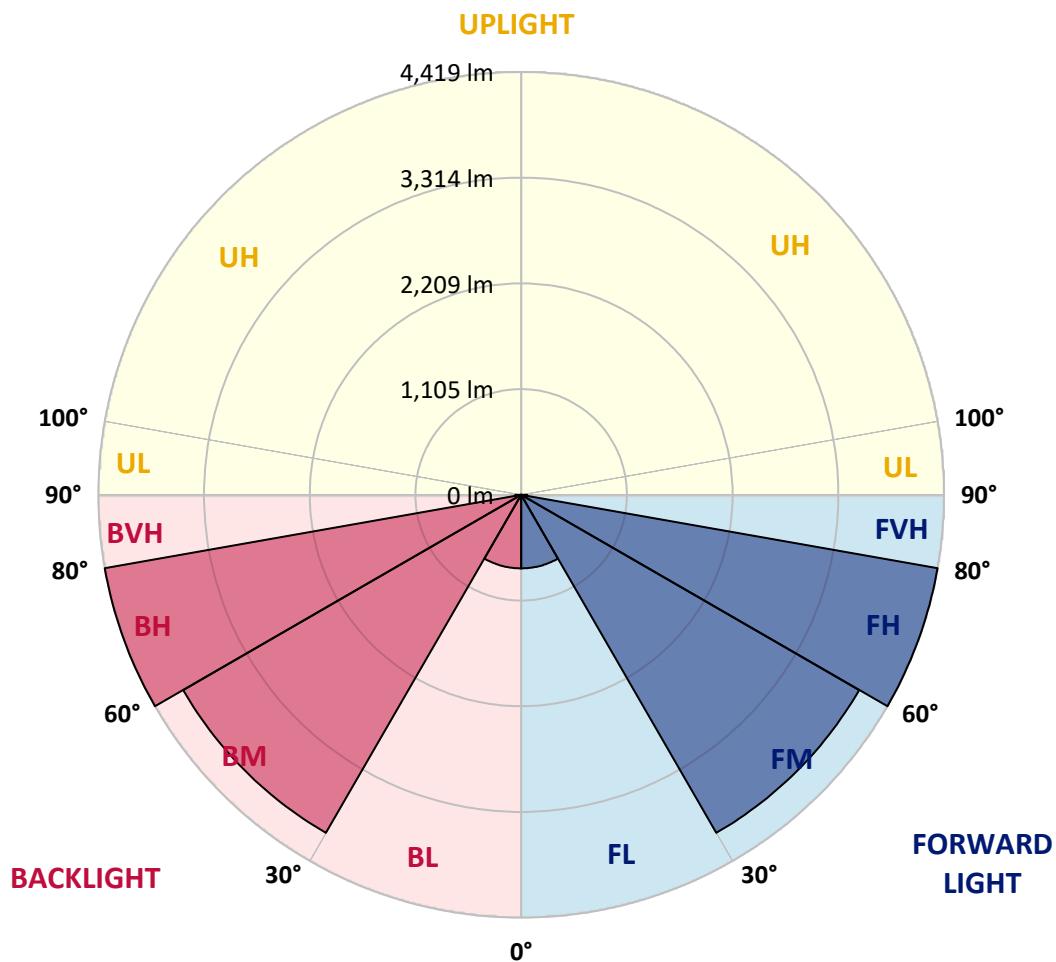
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	768.9	4.1			
FM	(30°-60°)	4078.8	21.9			
FH	(60°-80°)	4418.7	23.7			G2/5000
FVH	(80°-90°)	62.1	0.3			G1/100
BL	(0°-30°)	768.9	4.1	B2/1000		
BM	(30°-60°)	4078.8	21.9	B3/5000		
BH	(60°-80°)	4418.7	23.7	B4/5000		G2/5000
BVH	(80°-90°)	62.1	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°	1861.1	1861.1	1861.1	1861.1	1861.1	1861.1	1861.1	1861.1	1861.1	1861.1	1861.1
2.5°	1869.1	1869.1	1871.4	1870.2	1866.8	1863.4	1859.9	1856.6	1854.2	1852.0	1849.6
5°	1849.6	1849.6	1853.1	1850.9	1848.5	1845.1	1842.8	1839.4	1837.0	1834.8	1836.0
7.5°	1824.5	1826.9	1829.1	1828.0	1823.4	1822.2	1818.8	1817.6	1815.5	1811.9	1813.1
10°	1802.9	1804.0	1806.3	1805.1	1804.0	1800.6	1799.4	1798.3	1797.1	1792.5	1791.5
12.5°	1781.2	1783.4	1785.8	1786.8	1785.8	1786.8	1788.0	1789.1	1788.0	1785.8	1785.8
15°	1764.0	1766.2	1769.7	1773.2	1774.3	1781.2	1785.8	1790.3	1793.7	1794.8	1791.5
17.5°	1754.8	1758.3	1762.9	1769.7	1775.5	1783.4	1791.5	1798.3	1804.0	1805.1	1801.6
20°	1753.7	1757.1	1764.0	1771.9	1782.2	1792.5	1805.1	1815.5	1821.2	1824.5	1821.2
22.5°	1761.7	1766.2	1775.5	1785.8	1798.3	1811.9	1828.0	1839.4	1850.9	1855.4	1852.0
25°	1784.5	1789.1	1799.4	1811.9	1825.7	1842.8	1858.8	1873.7	1885.0	1890.8	1886.3
27.5°	1832.5	1833.7	1845.1	1858.8	1874.8	1889.6	1910.2	1917.1	1926.2	1931.9	1926.2
30°	1899.9	1902.2	1912.5	1934.2	1949.0	1968.6	1979.9	1986.8	1997.0	2002.7	1995.9
32.5°	2002.7	2005.0	2014.2	2034.7	2048.5	2063.4	2077.0	2081.6	2091.9	2098.8	2090.7
35°	2147.8	2152.4	2160.4	2174.2	2185.5	2196.9	2207.2	2203.9	2210.8	2219.8	2211.9
37.5°	2346.7	2345.5	2347.8	2358.1	2369.5	2376.4	2392.3	2384.4	2391.2	2399.3	2394.6
40°	2578.6	2578.6	2577.4	2595.7	2600.3	2607.2	2624.3	2614.0	2623.1	2632.3	2624.3
42.5°	2842.5	2847.1	2852.8	2867.6	2880.2	2882.5	2890.5	2885.9	2897.3	2905.3	2897.3
45°	3146.4	3153.2	3160.1	3194.4	3200.1	3204.7	3210.4	3195.5	3208.1	3215.0	3212.7
47.5°	3461.8	3474.3	3489.0	3524.6	3547.4	3557.7	3562.3	3545.1	3546.2	3556.5	3557.7
50°	3818.2	3831.8	3846.7	3886.7	3908.4	3926.7	3932.5	3913.0	3915.3	3923.3	3925.5
52.5°	4147.2	4163.3	4195.2	4248.9	4279.6	4311.7	4314.0	4290.1	4300.3	4306.0	4301.4
55°	4456.8	4477.3	4519.6	4591.6	4647.6	4710.5	4739.0	4712.8	4712.8	4708.2	4705.9
57.5°	4817.9	4840.7	4884.1	4967.5	5045.1	5135.4	5213.2	5239.4	5287.4	5303.5	5278.4
60°	5361.7	5385.6	5430.1	5539.9	5638.1	5769.6	5897.5	6001.5	6170.5	6261.9	6179.7
62.5°	5858.6	5895.2	6000.3	6192.3	6404.8	6648.1	6930.4	7131.4	7438.7	7591.8	7385.1
65°	5745.5	5819.8	6025.4	6327.1	6765.8	7293.6	7868.3	8420.1	9055.3	9380.9	8960.5
67.5°	5019.0	5081.7	5303.5	5654.1	6201.3	6929.1	7822.5	8965.0	10275.5	10885.6	10141.8
68°	4741.3	4859.0	5079.5	5427.9	5979.8	6695.0	7648.9	8882.8	10313.2	10972.4	10169.2
70°	3635.4	3677.6	3889.0	4202.0	4797.2	5498.8	6461.9	7868.3	9484.9	10163.6	9337.6
72.5°	1727.4	1752.5	1889.6	2198.2	2576.4	3147.5	3997.6	5323.9	6780.6	7486.7	6662.9
75°	632.9	638.6	670.7	743.7	885.4	1100.2	1508.1	2332.9	3453.6	4118.6	3467.5
77.5°	341.7	342.7	355.3	373.5	398.7	427.3	488.9	655.8	1057.9	1439.5	1117.4
80°	214.8	213.6	226.1	241.0	258.2	271.9	277.6	297.0	334.8	391.9	359.9
82.5°	109.7	119.9	148.5	164.6	189.7	194.3	188.5	187.4	198.8	214.8	221.7
85°	60.5	53.6	78.8	105.1	114.2	117.7	118.8	112.0	109.7	107.4	113.1
87.5°	30.8	28.5	34.3	52.6	55.9	45.7	46.9	40.0	27.5	27.5	28.5
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°	1861.1	1861.1	1861.1	1861.1	1861.1	1861.1	1861.1	1861.1
2.5°	1847.3	1848.5	1846.3	1846.3	1846.3	1847.3	1846.3	1845.1
5°	1832.5	1834.8	1834.8	1836.0	1837.0	1837.0	1837.0	1837.0
7.5°	1810.9	1811.9	1814.2	1814.2	1814.2	1814.2	1814.2	1814.2
10°	1790.3	1788.0	1786.8	1784.5	1784.5	1781.2	1782.2	1783.4
12.5°	1780.0	1775.5	1773.2	1769.7	1767.4	1764.0	1764.0	1765.1
15°	1784.5	1777.6	1770.9	1768.6	1766.2	1764.0	1761.7	1762.9
17.5°	1793.7	1785.8	1777.6	1773.2	1768.6	1765.1	1764.0	1765.1
20°	1813.1	1801.6	1789.1	1781.2	1771.9	1769.7	1766.2	1769.7
22.5°	1839.4	1825.7	1809.7	1794.8	1784.5	1780.0	1775.5	1778.8
25°	1871.4	1856.6	1840.6	1823.4	1811.9	1808.6	1802.9	1802.9
27.5°	1916.0	1903.4	1889.6	1873.7	1862.3	1858.8	1849.6	1849.6
30°	1986.8	1974.2	1961.6	1948.0	1936.5	1933.2	1921.7	1921.7
32.5°	2080.4	2066.7	2058.8	2047.3	2038.2	2032.4	2018.8	2017.6
35°	2206.2	2193.6	2192.4	2184.4	2175.3	2176.5	2162.7	2160.4
37.5°	2386.7	2376.4	2379.7	2372.9	2364.9	2371.8	2363.9	2363.9
40°	2617.5	2614.0	2617.5	2612.8	2614.0	2615.1	2608.2	2610.5
42.5°	2896.3	2887.0	2907.6	2905.3	2901.9	2911.0	2895.1	2883.6
45°	3217.2	3213.8	3234.4	3237.8	3230.9	3236.7	3208.1	3207.0
47.5°	3565.6	3565.6	3583.9	3581.6	3574.9	3575.9	3541.6	3520.0
50°	3929.0	3926.7	3945.1	3940.4	3931.2	3930.2	3894.8	3873.0
52.5°	4307.1	4307.1	4333.4	4320.8	4299.2	4288.9	4245.5	4216.9
55°	4725.4	4719.6	4727.5	4686.4	4644.2	4613.4	4559.6	4538.0
57.5°	5254.3	5187.9	5131.0	5078.4	5019.0	4982.3	4919.5	4896.7
60°	6004.9	5827.8	5751.3	5646.2	5547.8	5498.8	5415.3	5370.8
62.5°	7044.5	6750.9	6543.0	6311.1	6087.2	5929.5	5802.6	5746.7
65°	8246.5	7606.6	7077.7	6580.6	6159.2	5824.4	5638.1	5579.9
67.5°	8703.4	7528.9	6616.0	5903.2	5391.4	4992.6	4769.8	4723.1
68°	8606.4	7350.8	6402.5	5672.4	5158.3	4756.2	4534.5	4492.2
70°	7591.8	6201.3	5200.5	4473.9	3994.1	3611.3	3454.9	3387.5
72.5°	5175.4	3982.7	3055.0	2443.8	2085.0	1842.8	1698.9	1649.7
75°	2382.1	1609.7	1075.1	803.2	682.1	623.8	579.3	567.8
77.5°	694.7	505.0	434.2	402.2	378.1	357.6	342.7	341.7
80°	330.2	309.6	300.5	279.9	258.2	238.7	225.1	227.4
82.5°	221.7	215.9	215.9	195.3	161.0	138.2	114.2	102.8
85°	117.7	122.3	129.2	122.3	106.2	78.8	51.5	55.9
87.5°	40.0	45.7	48.0	46.9	42.3	32.0	24.0	24.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)