

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: P196997

Luminaire Tested: **NAV-AF-05-D-UNV-RW-8030-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196997
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24161)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-AF-05-D-UNV-RW-8030-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 80 CRI, 3000K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND RECTANGULAR WIDE OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 16520 lumens
Efficiency: N/A
Efficacy: 102.0 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type II - Medium - Full Cutoff
BUG Rating: B4 - U0 - G4

Input Watts (W): 162
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

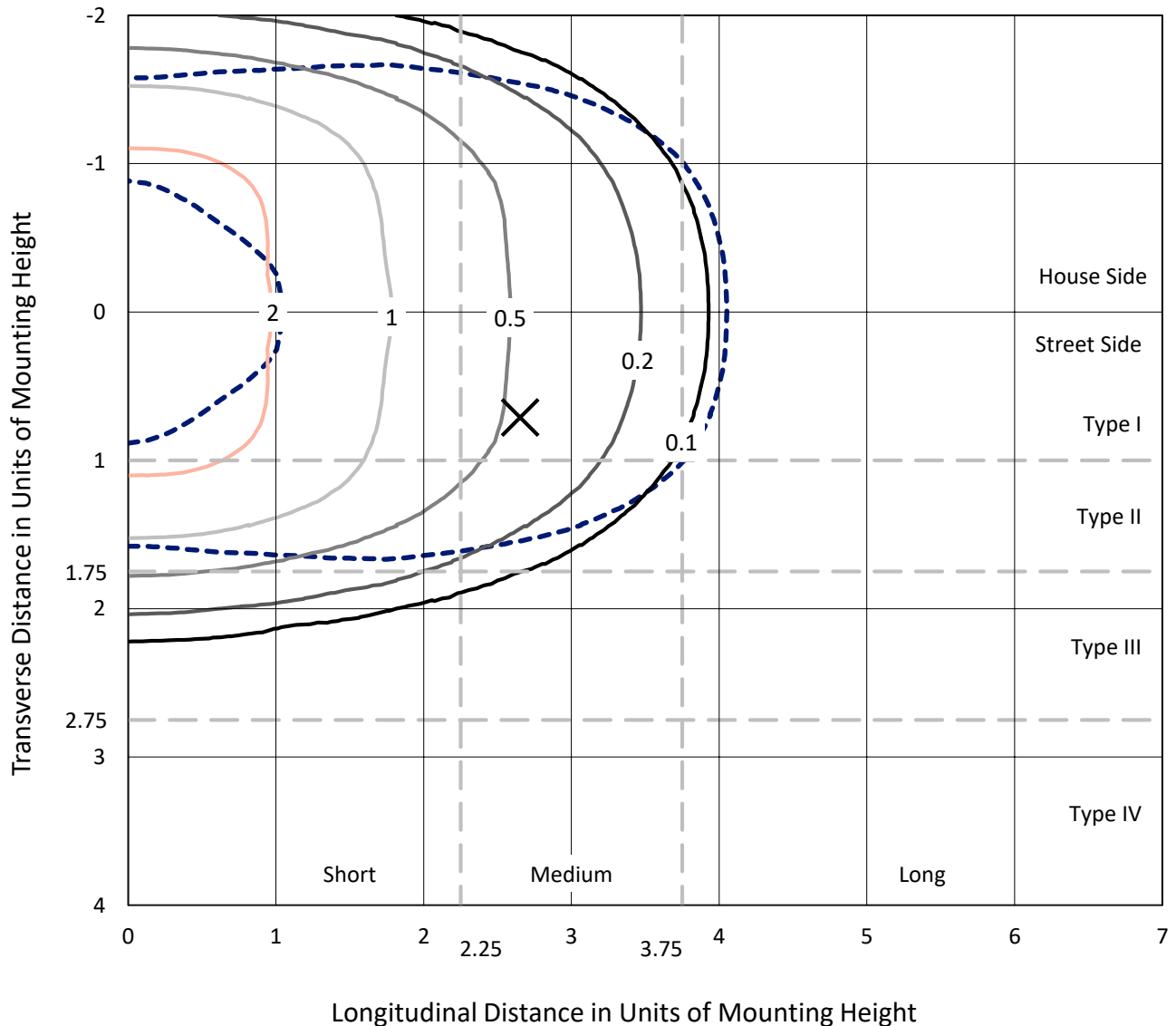


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Iso-Footcandle Lines of Horizontal Illumination

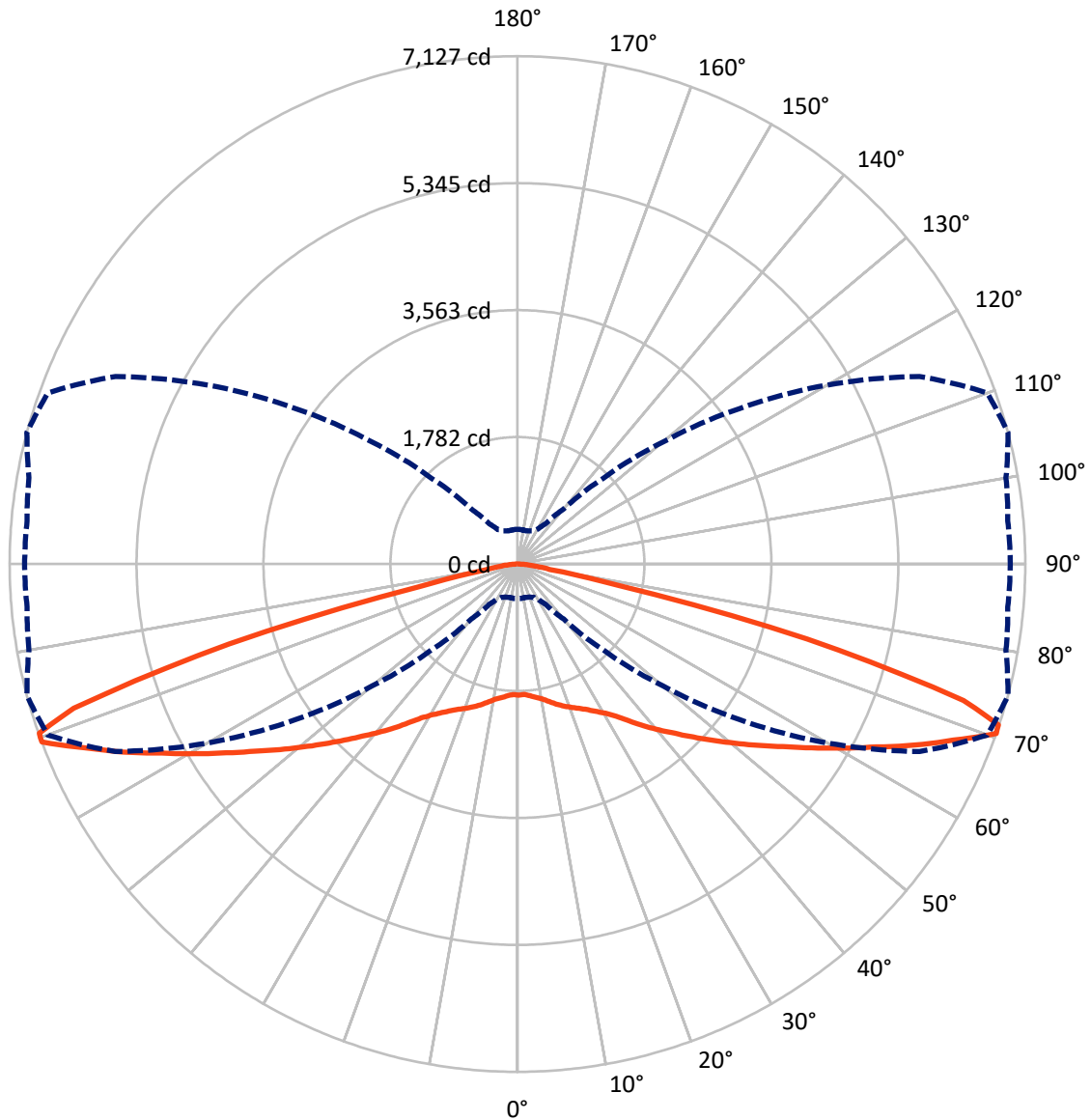
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3 fc
 Type II - Medium - Full Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 75-Deg Lateral - - - Horizontal Cone Through 70-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	8260.0	0.0	8260.0
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	8260.0	0.0	8260.0
	% Fixture	50.0	0.0	50.0
Total	Lumens	16520.0	0.0	16520.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	176.5	1.1
10°-20°	547.3	3.3
20°-30°	1027.8	6.2
30°-40°	1810.6	11.0
40°-50°	3000.7	18.2
50°-60°	4174.4	25.3
60°-70°	3940.7	23.9
70°-80°	1683.1	10.2
80°-90°	159.0	1.0
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°	16520.0	100.0
0°-180°	16520.0	100.0



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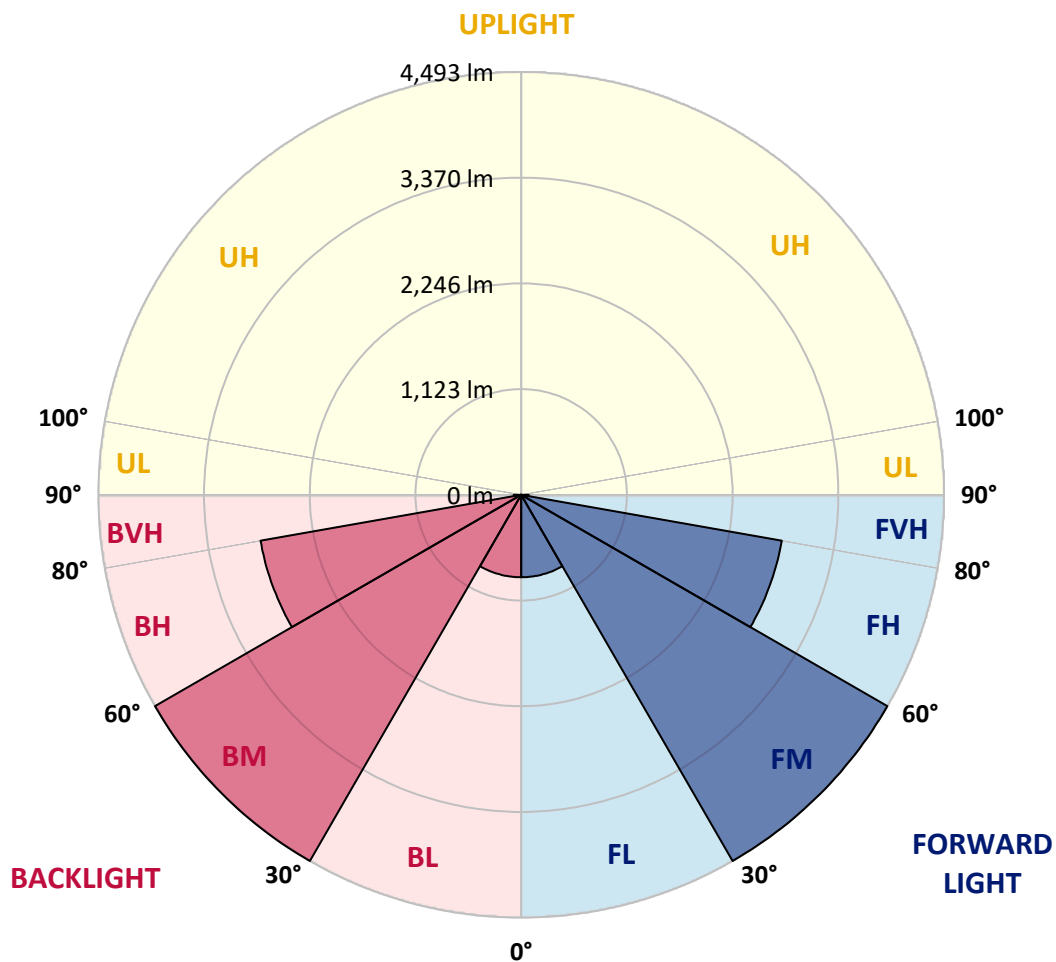
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	875.8	5.3			
FM	(30°-60°)	4492.8	27.2			
FH	(60°-80°)	2811.9	17.0			G2/5000
FVH	(80°-90°)	79.5	0.5			G1/100
BL	(0°-30°)	875.8	5.3	B2/1000		
BM	(30°-60°)	4492.8	27.2	B3/5000		
BH	(60°-80°)	2811.9	17.0	B4/5000		G4/5000
BVH	(80°-90°)	79.5	0.5			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B4-U0-G4

Type II Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1839.7	1839.7	1839.7	1839.7	1839.7	1839.7	1839.7	1839.7	1839.7	1839.7	1839.7
2.5°	1851.1	1850.0	1851.1	1847.9	1849.0	1847.9	1847.9	1843.8	1843.8	1841.7	1838.6
5°	1830.3	1832.4	1832.4	1832.4	1835.5	1835.5	1839.7	1840.7	1843.8	1846.9	1849.0
7.5°	1796.2	1797.2	1800.3	1802.4	1808.6	1816.9	1825.2	1834.5	1842.8	1853.1	1864.5
10°	1767.2	1769.3	1774.4	1779.6	1791.0	1801.4	1815.9	1830.3	1844.8	1862.4	1880.0
12.5°	1751.7	1754.8	1763.1	1771.3	1788.9	1802.4	1822.1	1844.8	1864.5	1881.1	1900.7
15°	1753.7	1754.8	1766.2	1777.5	1802.4	1821.0	1849.0	1875.9	1899.7	1918.3	1941.1
17.5°	1783.8	1785.8	1797.2	1813.8	1837.6	1861.4	1891.4	1919.4	1951.5	1973.2	2000.1
20°	1842.8	1845.9	1858.3	1875.9	1901.8	1926.6	1957.7	1986.7	2019.8	2045.7	2072.6
22.5°	1919.4	1924.6	1938.0	1959.8	1985.6	2015.7	2047.8	2077.8	2108.8	2134.7	2157.5
25°	2021.9	2028.1	2042.6	2064.3	2090.2	2122.3	2155.4	2186.5	2218.6	2238.2	2256.9
27.5°	2159.6	2169.9	2185.4	2203.0	2225.8	2260.0	2291.0	2316.9	2348.0	2369.7	2382.1
30°	2344.9	2359.4	2371.8	2390.4	2407.0	2443.2	2468.1	2488.8	2512.6	2525.0	2528.1
32.5°	2571.6	2585.1	2597.5	2610.9	2633.7	2666.8	2690.6	2702.0	2714.5	2712.4	2701.0
35°	2827.3	2837.7	2844.9	2868.7	2906.0	2927.7	2945.3	2949.5	2951.5	2929.8	2908.1
37.5°	3096.5	3108.9	3115.1	3152.4	3187.6	3212.4	3220.7	3230.0	3223.8	3187.6	3148.2
40°	3387.4	3400.8	3419.5	3451.6	3493.0	3516.8	3527.1	3526.1	3520.9	3478.5	3414.3
42.5°	3673.1	3689.7	3705.2	3761.1	3795.3	3835.7	3840.8	3839.8	3828.4	3779.7	3705.2
45°	3915.4	3935.0	3967.1	4029.2	4084.1	4132.8	4152.4	4159.7	4148.3	4096.5	4011.6
47.5°	4115.2	4128.6	4169.0	4244.6	4315.0	4386.4	4425.8	4453.7	4452.7	4415.4	4325.3
50°	4251.8	4267.4	4317.0	4401.9	4489.9	4573.8	4651.4	4714.6	4744.6	4717.7	4633.8
52.5°	4291.2	4310.8	4376.1	4477.5	4580.0	4692.8	4808.8	4920.6	4987.9	5004.5	4939.2
55°	4125.5	4147.3	4242.5	4383.3	4552.1	4718.7	4894.7	5054.2	5192.9	5257.1	5231.2
57.5°	3643.1	3658.6	3779.7	3962.0	4203.2	4496.1	4792.2	5084.2	5322.3	5489.0	5518.0
60°	2881.1	2900.8	3033.3	3225.9	3500.2	3870.8	4285.0	4763.2	5230.2	5612.2	5801.6
62.5°	1944.2	1957.7	2085.0	2261.0	2561.2	2918.4	3380.1	3985.8	4651.4	5333.7	5867.9
65°	1020.8	1020.8	1106.7	1229.9	1469.0	1788.9	2262.1	2883.2	3675.2	4527.2	5420.6
67.5°	592.2	591.1	610.8	638.8	714.3	843.7	1104.6	1561.2	2310.7	3302.5	4319.1
70°	488.6	485.5	482.4	482.4	493.8	513.5	563.2	688.5	1007.3	1703.0	2657.5
71°	466.9	464.8	456.6	453.4	458.6	469.0	490.7	548.7	715.4	1161.6	1984.6
72.5°	441.0	435.8	423.4	418.2	419.3	423.4	429.6	452.4	503.1	660.5	1131.5
75°	401.7	389.3	373.7	366.5	363.4	362.3	362.3	368.6	379.9	398.6	463.8
77.5°	356.1	338.5	322.0	314.7	309.5	306.4	304.4	300.2	298.2	306.4	330.2
80°	301.3	282.6	269.2	265.0	261.9	255.7	247.4	239.1	234.0	238.1	252.6
82.5°	232.9	214.3	216.4	217.4	212.2	201.9	193.6	184.3	175.0	172.9	180.1
85°	185.3	176.0	169.8	183.2	171.9	159.4	148.0	132.5	110.8	91.1	99.4
87.5°	79.7	80.8	115.9	175.0	153.2	123.2	102.5	82.8	52.8	39.3	40.4
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°	1839.7	1839.7	1839.7	1839.7	1839.7	1839.7	1839.7	1839.7
2.5°	1837.6	1837.6	1834.5	1832.4	1832.4	1832.4	1830.3	1831.4
5°	1850.0	1852.1	1854.2	1853.1	1856.2	1859.3	1858.3	1857.3
7.5°	1870.7	1876.9	1883.1	1886.2	1890.4	1894.5	1895.6	1892.5
10°	1891.4	1903.8	1913.2	1921.4	1926.6	1930.8	1933.9	1932.8
12.5°	1917.3	1934.9	1951.5	1968.0	1979.4	1985.6	1991.8	1989.8
15°	1959.8	1979.4	2000.1	2021.9	2039.5	2048.8	2058.1	2056.0
17.5°	2017.7	2035.3	2051.9	2073.6	2095.4	2105.7	2116.1	2115.0
20°	2090.2	2103.7	2113.0	2125.4	2146.1	2157.5	2166.8	2163.7
22.5°	2173.0	2177.2	2178.2	2182.3	2198.9	2212.4	2224.8	2227.9
25°	2263.1	2260.0	2253.8	2250.7	2262.1	2276.5	2292.1	2296.2
27.5°	2374.9	2364.5	2349.0	2336.6	2339.7	2358.3	2375.9	2380.1
30°	2515.7	2491.9	2458.8	2434.9	2430.8	2450.5	2469.1	2475.3
32.5°	2676.2	2644.1	2598.5	2562.3	2546.7	2564.3	2580.9	2590.2
35°	2866.6	2831.4	2776.6	2730.0	2705.1	2716.5	2745.5	2755.9
37.5°	3092.3	3043.7	2982.6	2923.6	2882.2	2884.2	2915.3	2927.7
40°	3341.8	3271.4	3193.8	3120.3	3060.2	3056.1	3084.0	3093.4
42.5°	3601.7	3511.6	3420.5	3324.2	3249.7	3236.2	3272.5	3273.5
45°	3881.2	3765.3	3652.4	3540.6	3463.0	3439.1	3474.3	3478.5
47.5°	4179.4	4034.4	3900.9	3779.7	3695.9	3658.6	3692.8	3699.0
50°	4489.9	4339.8	4184.5	4050.0	3951.6	3906.0	3946.4	3950.6
52.5°	4797.4	4655.6	4501.3	4347.1	4228.0	4176.3	4223.9	4238.4
55°	5107.0	4970.3	4825.4	4671.1	4521.0	4475.4	4527.2	4542.7
57.5°	5428.9	5297.4	5166.0	5010.7	4864.7	4795.3	4851.2	4873.0
60°	5784.0	5668.1	5543.8	5387.5	5243.6	5162.9	5210.5	5235.3
62.5°	6132.9	6109.1	5996.2	5833.7	5651.5	5570.8	5611.1	5628.7
65°	6161.9	6548.0	6542.9	6381.4	6126.7	5991.1	6002.5	6010.7
67.5°	5378.2	6264.4	6830.7	6881.4	6597.7	6385.5	6360.7	6365.8
70°	3807.7	5024.1	6226.1	7014.9	7126.8	6962.1	6908.3	6916.6
71°	3050.9	4310.8	5633.9	6695.0	7118.5	7070.8	7040.8	7062.6
72.5°	1947.3	3176.2	4464.1	5733.3	6546.0	6778.9	6813.1	6826.5
75°	707.1	1366.5	2312.8	3313.9	4200.1	4809.8	5145.3	5172.2
77.5°	379.9	489.7	756.8	1130.5	1420.4	1575.7	1594.3	1601.6
80°	279.5	324.0	370.6	423.4	456.6	462.8	451.4	427.6
82.5°	197.7	223.6	242.3	260.9	274.3	263.0	218.4	166.7
85°	114.9	126.3	136.7	146.0	148.0	139.8	92.1	75.6
87.5°	45.6	49.7	48.7	54.9	52.8	48.7	36.2	31.1
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)