

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: P195903

Luminaire Tested: **NAV-AF-03-D-UNV-T4W-7050**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195903
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24127)
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-T4W-7050
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 70 CRI, 5000K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV WIDE OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 17900 lumens
Efficiency: N/A
Efficacy: 107.8 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')
IES Classification: Type IV - Short - Semi-Cutoff
BUG Rating: B3 - U0 - G3

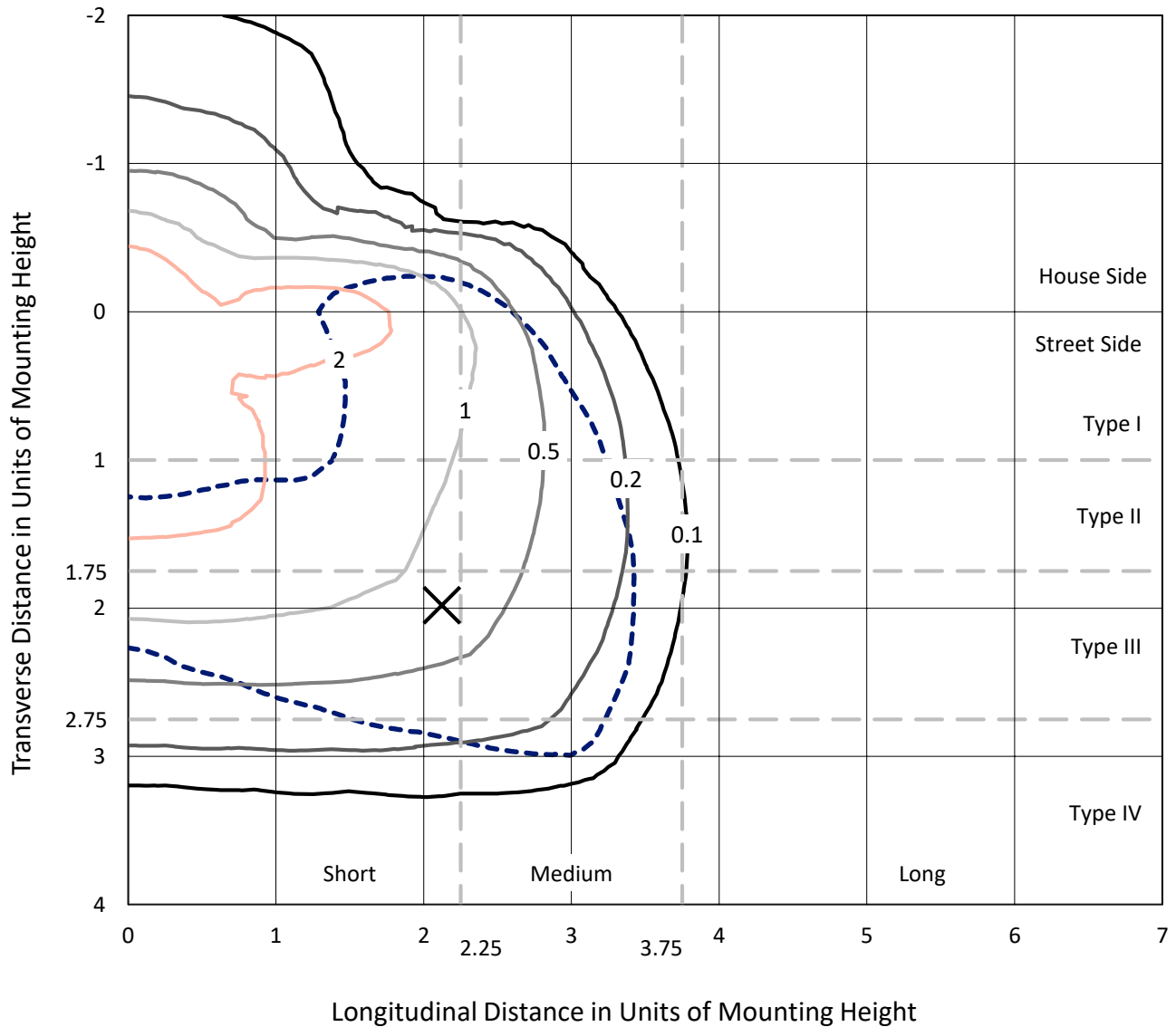
Input Watts (W): 166
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

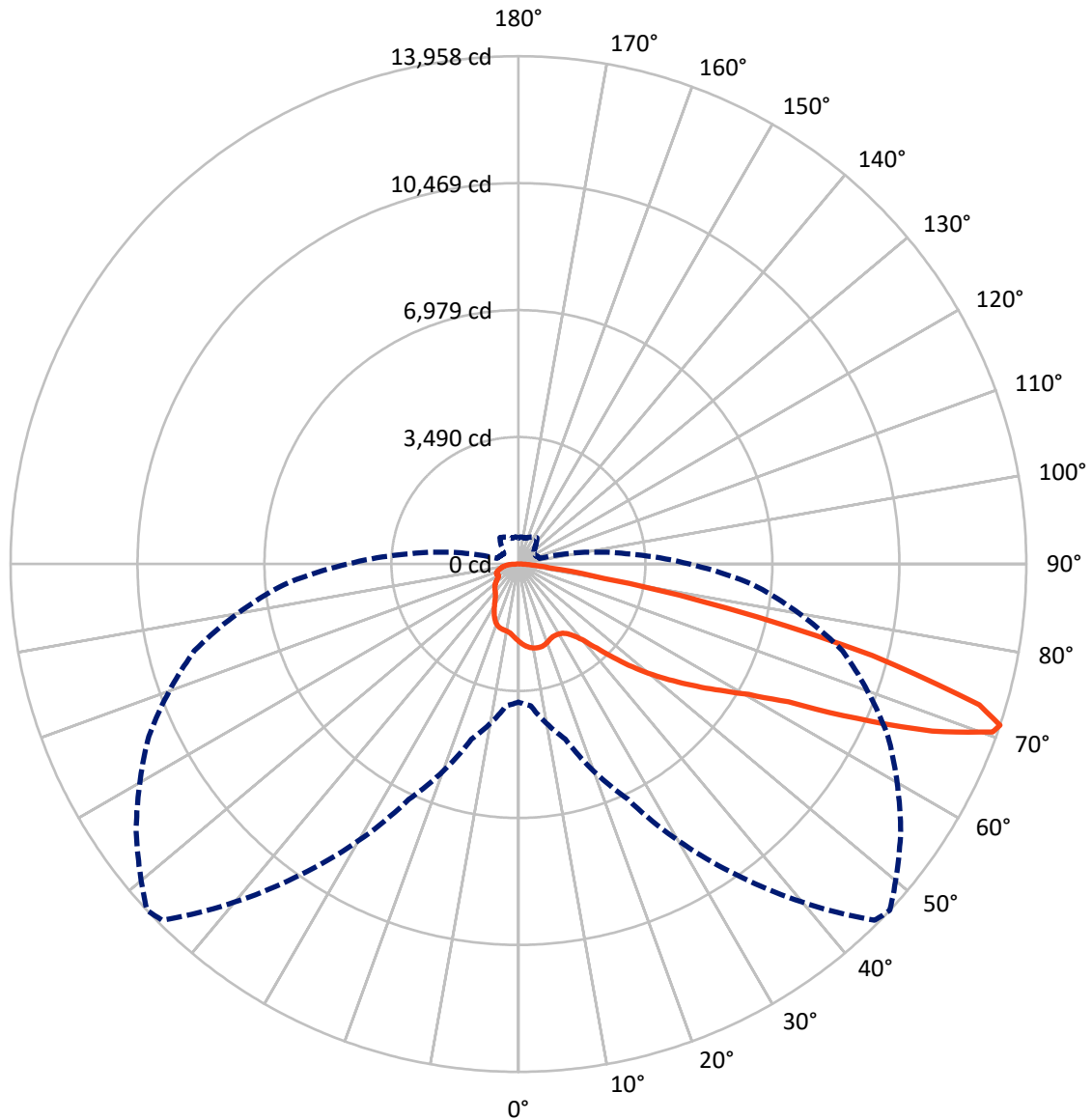
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.9 fc
 Type IV - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 47-Deg Lateral - - - Horizontal Cone Through 71-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	3836.2	0.0	3836.2
	% Fixture	21.4	0.0	21.4
Street Side	Lumens	14063.8	0.0	14063.8
	% Fixture	78.6	0.0	78.6
Total	Lumens	17900.0	0.0	17900.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	203.2	1.1
10°-20°	594.6	3.3
20°-30°	883.5	4.9
30°-40°	1268.6	7.1
40°-50°	2249.3	12.6
50°-60°	3848.9	21.5
60°-70°	5464.1	30.5
70°-80°	2992.6	16.7
80°-90°	395.0	2.2
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°	17900.0	100.0
0°-180°	17900.0	100.0



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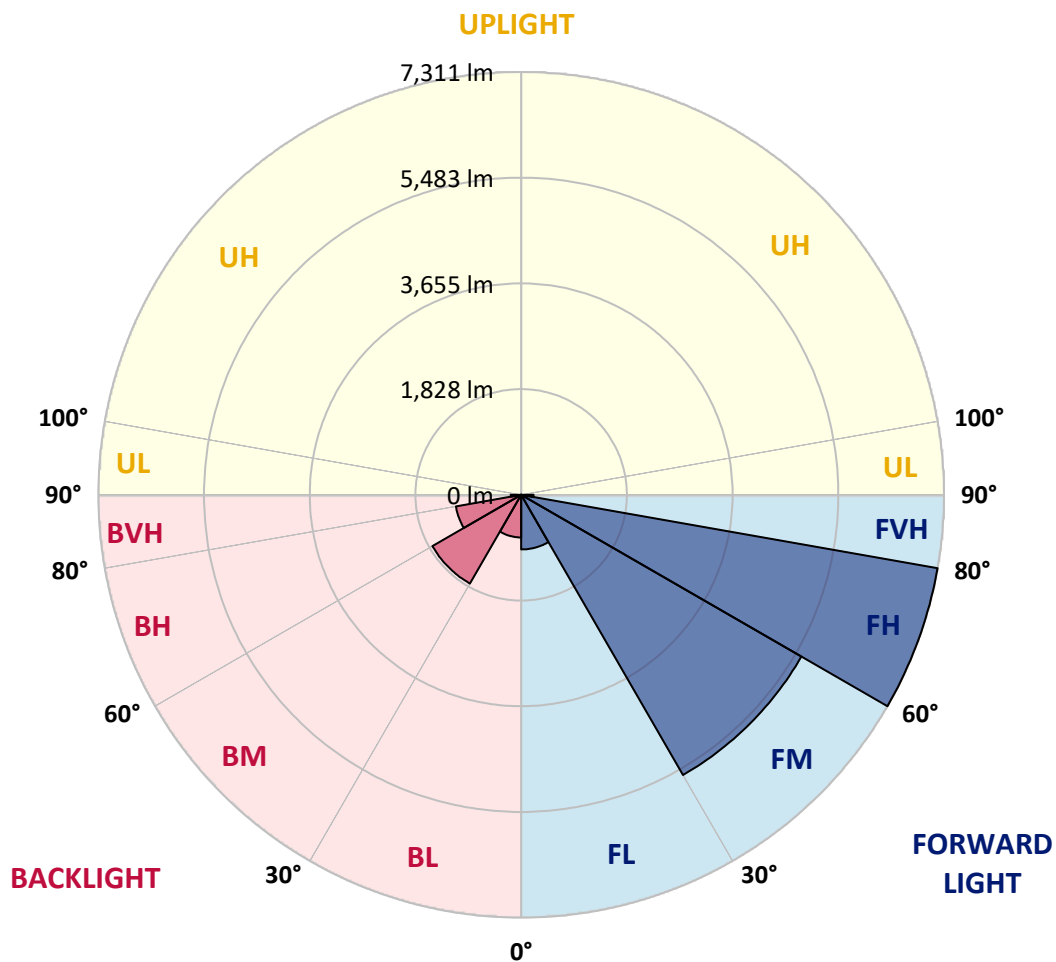
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	944.7	5.3			
FM	(30°-60°)	5594.3	31.3			
FH	(60°-80°)	7310.5	40.8			G3/7500
FVH	(80°-90°)	214.3	1.2			G2/225
BL	(0°-30°)	736.7	4.1	B2/1000		
BM	(30°-60°)	1772.6	9.9	B2/2500		
BH	(60°-80°)	1146.2	6.4	B3/2500		G3/2500
BVH	(80°-90°)	180.8	1.0			G2/225
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G3

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	47°	55°	65°	75°	85°
0°	2128.6	2128.6	2128.6	2128.6	2128.6	2128.6	2128.6	2128.6	2128.6	2128.6	2128.6
2.5°	2258.5	2253.9	2256.2	2248.1	2228.4	2207.5	2207.5	2185.5	2162.2	2139.0	2113.5
5°	2398.9	2391.9	2386.1	2360.6	2322.3	2279.4	2272.5	2228.4	2180.8	2133.2	2086.8
7.5°	2516.1	2509.1	2491.7	2445.3	2389.6	2325.8	2317.7	2259.7	2197.1	2130.9	2066.0
10°	2599.6	2594.9	2561.3	2502.1	2437.2	2361.8	2347.9	2288.7	2214.5	2132.1	2049.7
12.5°	2646.0	2639.0	2598.4	2528.8	2452.3	2375.7	2361.8	2304.9	2220.3	2129.8	2033.5
15°	2627.4	2623.9	2585.7	2514.9	2438.3	2372.2	2360.6	2302.6	2216.8	2121.6	2018.4
17.5°	2548.5	2556.7	2526.5	2456.9	2394.3	2347.9	2335.1	2280.6	2199.4	2101.9	1995.2
20°	2439.5	2448.8	2433.7	2362.9	2327.0	2296.8	2289.9	2245.8	2170.4	2072.9	1967.4
22.5°	2323.5	2331.6	2332.8	2266.7	2255.1	2243.5	2237.7	2206.3	2144.8	2055.5	1948.8
25°	2243.5	2252.7	2255.1	2197.1	2204.0	2207.5	2206.3	2184.3	2140.2	2055.5	1951.1
27.5°	2222.6	2227.2	2224.9	2171.5	2184.3	2204.0	2205.2	2200.5	2158.8	2078.7	1983.6
30°	2294.5	2296.8	2267.8	2187.8	2200.5	2226.1	2227.2	2224.9	2198.2	2139.0	2056.7
32.5°	2605.4	2603.1	2503.3	2296.8	2252.7	2262.0	2265.5	2286.4	2288.7	2238.8	2162.2
35°	3078.7	3077.5	2961.5	2608.9	2401.2	2352.5	2357.1	2389.6	2418.6	2385.0	2340.9
37.5°	3599.5	3603.0	3532.2	3054.3	2721.4	2518.4	2513.7	2538.1	2590.3	2601.9	2607.7
40°	4177.2	4194.6	4191.1	3565.9	3170.3	2801.4	2755.0	2727.2	2828.1	2891.9	2974.3
42.5°	4837.2	4832.6	4834.9	4127.3	3683.0	3246.9	3161.0	3031.1	3148.3	3258.5	3439.4
45°	5404.5	5423.0	5436.9	4724.7	4257.2	3756.1	3669.1	3432.5	3538.0	3702.7	3978.8
47.5°	5975.2	5942.7	5968.2	5389.4	4896.4	4337.3	4224.7	3905.7	4004.3	4236.3	4656.3
50°	6639.9	6624.8	6508.8	6257.1	5668.9	4926.5	4779.2	4399.9	4543.7	4853.5	5492.6
52.5°	7236.1	7154.9	7064.4	6939.2	6428.7	5522.8	5336.0	4913.8	5178.3	5562.2	6530.8
55°	7454.2	7399.7	7508.7	7671.1	7232.6	6130.6	5921.8	5513.5	5894.0	6373.1	7752.3
57.5°	7686.2	7704.8	7950.7	8279.0	7993.6	6779.1	6552.9	6223.4	6679.3	7280.2	9117.6
60°	7802.2	7876.4	8367.1	8983.1	8717.4	7490.2	7273.2	7038.9	7550.5	8282.4	10479.5
62.5°	7821.9	7921.7	8616.5	9230.2	9713.9	8579.4	8328.8	8074.8	8638.6	9390.2	11465.5
65°	7460.0	7613.1	8594.5	9534.1	10622.2	10399.4	10240.5	9797.4	10095.5	10365.8	11633.7
67.5°	6396.3	6563.3	7744.2	9408.8	11350.7	12287.9	12257.8	11603.5	11220.7	10742.8	10386.7
70°	4694.5	4829.1	5963.6	8043.5	11032.8	13770.4	13823.8	12774.0	11535.1	9942.4	7723.3
71°	3796.7	3912.7	4982.2	7141.0	10413.4	13847.0	13958.3	12826.2	11208.0	9219.7	6465.9
72.5°	2362.9	2427.9	3308.3	5389.4	8966.8	13058.2	13246.1	12158.0	10177.9	7792.9	4570.4
75°	892.0	917.6	1227.3	2376.9	5352.3	9810.2	10037.5	9188.4	7150.3	4448.6	1912.8
77.5°	479.1	491.8	609.0	988.3	2144.8	5623.7	5916.0	5240.9	3430.1	1556.7	781.8
80°	321.3	329.4	421.1	585.8	986.0	2141.4	2385.0	2104.2	1284.1	888.6	556.8
82.5°	207.6	212.3	286.5	385.1	636.8	752.8	859.6	897.8	801.6	636.8	336.4
85°	136.9	140.4	189.1	245.9	394.4	371.2	380.5	497.6	546.4	419.9	171.7
87.5°	78.9	81.2	113.7	126.4	177.5	139.2	150.8	236.6	324.8	273.8	98.6
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):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	2128.6	2128.6	2128.6	2128.6	2128.6	2128.6	2128.6	2128.6	2128.6	2128.6	2128.6
2.5°	2101.9	2092.6	2071.8	2059.0	2053.2	2050.9	2048.6	2053.2	2053.2	2050.9	2046.2
5°	2063.6	2046.2	2011.4	1987.1	1974.3	1970.8	1975.5	1981.3	1984.8	1984.8	1981.3
7.5°	2035.8	2010.3	1963.9	1930.2	1910.5	1904.7	1917.5	1938.4	1952.3	1959.2	1960.4
10°	2012.6	1977.8	1926.8	1892.0	1875.7	1873.4	1889.6	1916.3	1945.3	1958.1	1960.4
12.5°	1991.7	1952.3	1896.6	1864.1	1852.5	1858.3	1880.4	1904.7	1938.4	1956.9	1958.1
15°	1972.0	1931.4	1872.2	1838.6	1836.3	1845.6	1866.4	1886.2	1911.7	1934.9	1934.9
17.5°	1948.8	1904.7	1843.2	1811.9	1811.9	1820.0	1834.0	1844.4	1860.6	1882.7	1881.5
20°	1921.0	1875.7	1813.1	1780.6	1773.6	1769.0	1769.0	1771.3	1785.2	1805.0	1808.4
22.5°	1900.1	1853.7	1787.6	1748.1	1716.8	1686.6	1673.9	1669.2	1682.0	1700.6	1705.2
25°	1900.1	1853.7	1779.4	1713.3	1636.8	1578.8	1554.4	1547.4	1560.2	1577.6	1584.6
27.5°	1931.4	1885.0	1798.0	1682.0	1541.6	1448.8	1419.8	1414.0	1425.6	1439.6	1446.5
30°	2004.5	1959.2	1851.4	1646.0	1436.1	1314.3	1281.8	1276.0	1281.8	1287.6	1295.7
32.5°	2126.3	2088.0	1938.4	1613.6	1329.4	1192.5	1153.0	1143.8	1146.1	1147.2	1154.2
35°	2324.7	2307.3	2054.4	1575.3	1228.4	1092.7	1052.1	1033.6	1032.4	1038.2	1046.3
37.5°	2628.6	2639.0	2204.0	1519.6	1144.9	1022.0	981.4	962.8	953.5	965.1	974.4
40°	3057.8	3082.1	2376.9	1444.2	1076.5	980.2	937.3	919.9	907.1	903.6	908.3
42.5°	3615.7	3608.8	2553.2	1347.9	1002.2	952.4	907.1	888.6	867.7	841.0	835.2
45°	4276.9	4177.2	2700.5	1229.6	917.6	925.7	879.3	853.8	821.3	781.8	777.2
47.5°	5057.6	4782.7	2791.0	1103.2	838.7	890.9	848.0	808.5	761.0	735.4	732.0
50°	5998.4	5491.5	2854.8	974.4	767.9	846.8	803.9	751.7	705.3	698.3	697.2
52.5°	7112.0	6327.8	2933.7	858.4	712.2	790.0	759.8	706.4	669.3	672.8	672.8
55°	8296.4	7193.2	2936.0	766.8	663.5	723.8	727.3	684.4	655.4	667.0	670.5
57.5°	9376.3	7949.5	2705.1	701.8	617.1	671.6	716.9	692.5	670.5	711.1	714.6
60°	10318.2	8531.8	2208.7	648.4	578.8	651.9	740.1	742.4	737.8	848.0	856.1
62.5°	10662.8	8537.6	1568.3	603.2	558.0	663.5	788.8	792.3	792.3	894.4	909.4
65°	10180.2	7826.6	1044.0	576.5	544.0	689.0	828.2	813.2	777.2	848.0	831.7
67.5°	8479.6	6092.3	763.3	559.1	524.3	690.2	863.0	824.8	763.3	823.6	795.8
70°	5827.9	3876.7	639.2	542.9	501.1	660.0	881.6	821.3	742.4	767.9	730.8
71°	4691.1	3093.7	606.7	537.1	491.8	642.6	883.9	816.6	732.0	748.2	714.6
72.5°	3090.3	1905.9	567.2	524.3	477.9	612.5	878.1	806.2	718.0	719.2	697.2
75°	1219.2	790.0	510.4	495.3	438.5	563.8	852.6	784.2	691.4	668.2	658.9
77.5°	616.0	516.2	448.9	454.7	392.1	513.9	816.6	748.2	654.2	622.9	616.0
80°	450.1	392.1	384.0	394.4	339.9	465.2	771.4	699.5	606.7	639.2	625.2
82.5°	273.8	239.0	300.4	326.0	284.2	415.3	718.0	642.6	546.4	503.4	487.2
85°	129.9	140.4	216.9	240.1	210.0	331.8	656.6	580.0	476.8	411.8	418.8
87.5°	63.8	77.7	124.1	143.8	138.0	243.6	495.3	450.1	375.8	309.7	302.8
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)