

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: P270468

Luminaire Tested: **NAV-AF-03-D-UNV-T3-7027-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P270468
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (p24135)
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-T3-7027-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 70 CRI, 2700K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 17269.2 lumens
Efficiency: N/A
Efficacy: 90.4 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')
IES Classification: Type III - Short - Semi-Cutoff
BUG Rating: B3 - 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

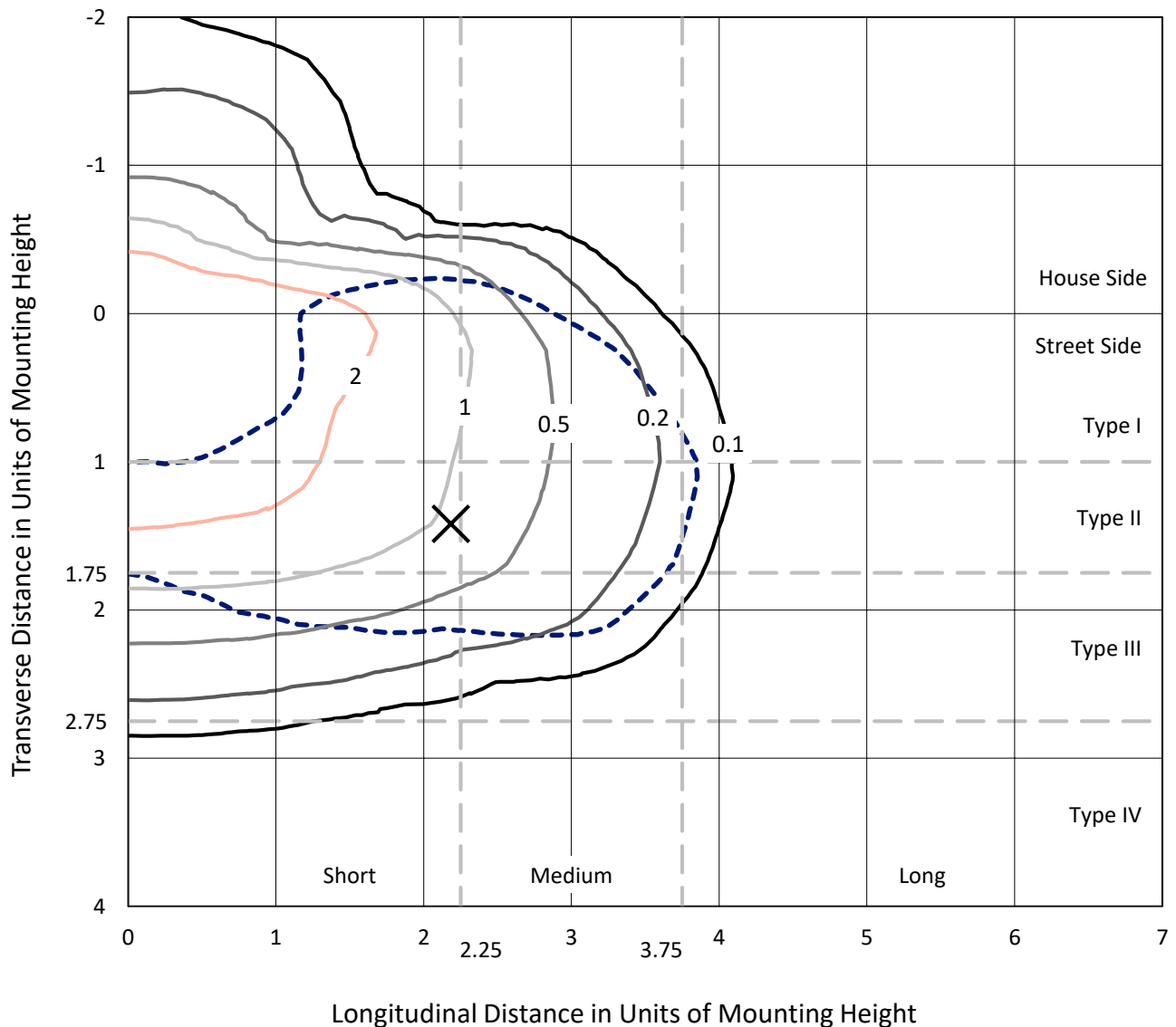


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

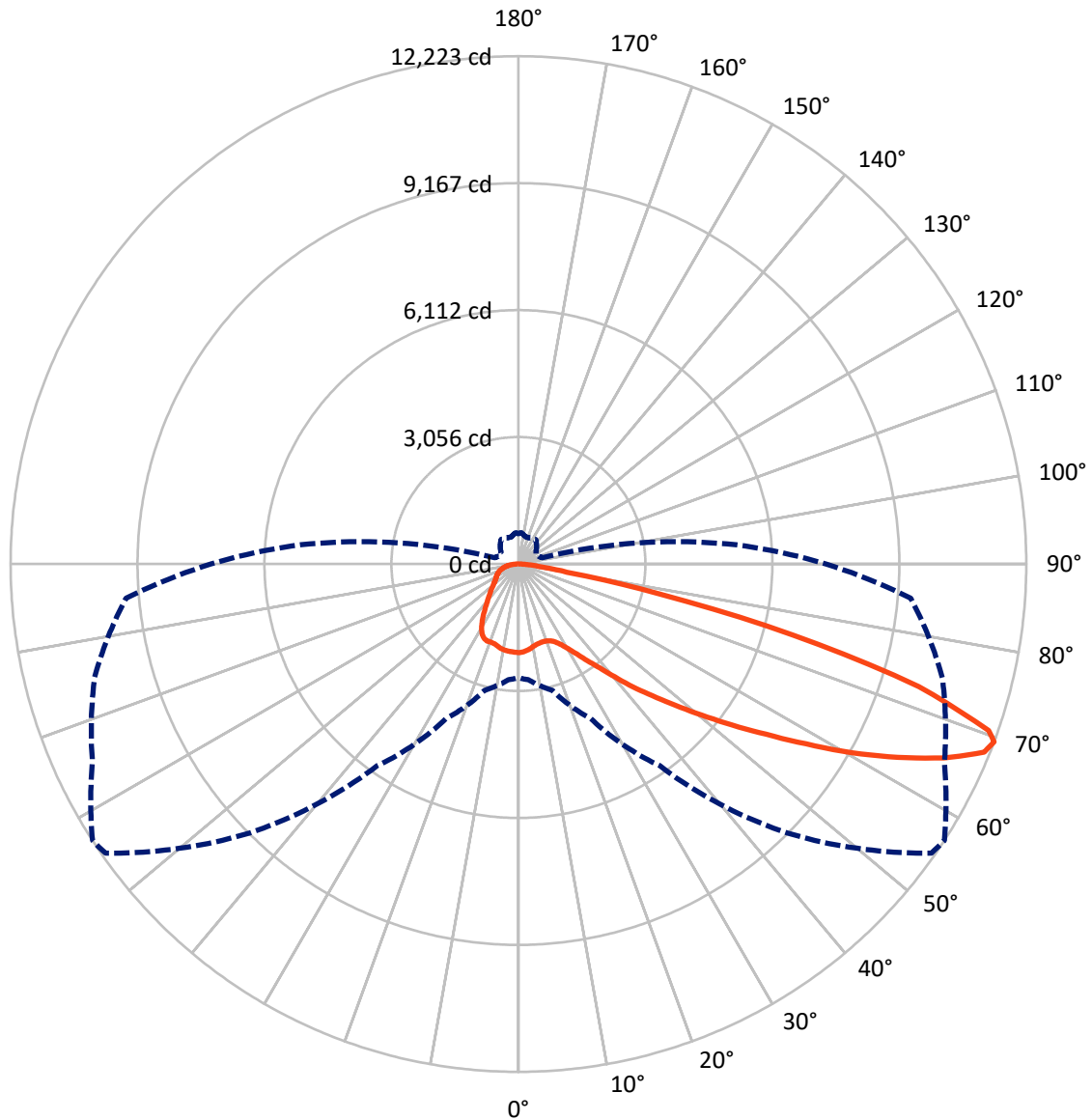


Based on 25 foot mounting height. Maximum calculated value = 3.5 fc
 Type III - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 57-Deg Lateral - - - Horizontal Cone Through 69-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	3810.7	0.0	3810.7
	% Fixture	22.1	0.0	22.1
Street Side	Lumens	13458.5	0.0	13458.5
	% Fixture	77.9	0.0	77.9
Total	Lumens	17269.2	0.0	17269.2
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	199.8	1.2
10°-20°	568.0	3.3
20°-30°	944.8	5.5
30°-40°	1542.9	8.9
40°-50°	2604.0	15.1
50°-60°	4050.7	23.5
60°-70°	4825.2	27.9
70°-80°	2247.9	13.0
80°-90°	285.9	1.7
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°	17269.2	100.0
0°-180°	17269.2	100.0



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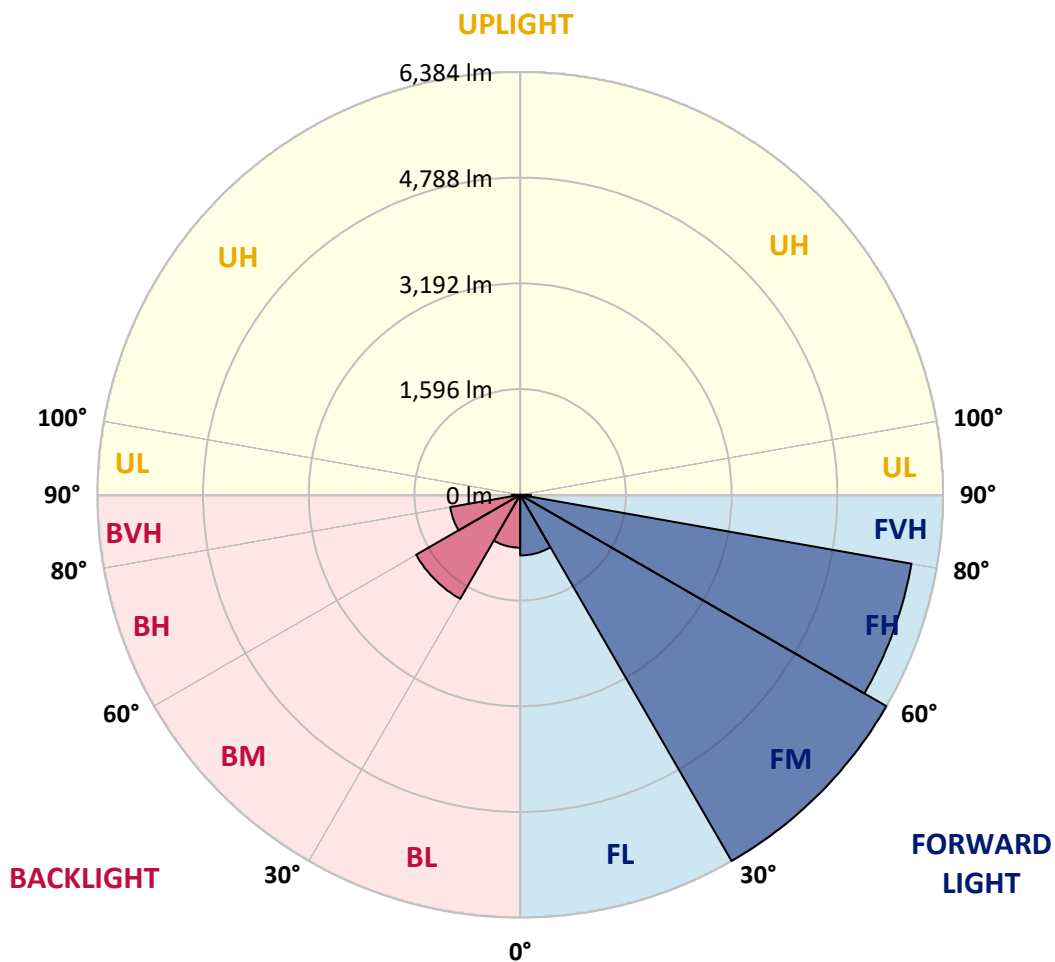
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	914.5	5.3			
FM	(30°-60°)	6383.9	37.0			
FH	(60°-80°)	5999.3	34.7			G3/7500
FVH	(80°-90°)	160.7	0.9			G2/225
BL	(0°-30°)	798.0	4.6	B2/1000		
BM	(30°-60°)	1813.7	10.5	B2/2500		
BH	(60°-80°)	1073.8	6.2	B3/2500		G3/2500
BVH	(80°-90°)	125.2	0.7			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 III Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	57°	65°	75°	85°
0°	2133.7	2133.7	2133.7	2133.7	2133.7	2133.7	2133.7	2133.7	2133.7	2133.7	2133.7
2.5°	2121.5	2121.5	2127.1	2127.1	2127.1	2124.9	2118.4	2120.4	2116.0	2112.8	2107.2
5°	2078.5	2080.7	2087.3	2089.5	2093.0	2093.9	2093.9	2093.0	2093.9	2093.9	2090.6
7.5°	2018.9	2020.9	2028.7	2033.1	2043.1	2052.0	2056.4	2056.4	2061.9	2066.3	2067.4
10°	1982.3	1982.3	1986.7	1986.7	1994.4	1998.9	2013.3	2012.2	2027.7	2041.9	2048.7
12.5°	1977.9	1977.9	1975.7	1967.9	1963.5	1962.3	1976.8	1979.0	2002.2	2027.7	2039.8
15°	1992.3	1992.3	1985.7	1970.2	1953.5	1945.8	1960.2	1964.7	1990.0	2019.8	2038.8
17.5°	2038.8	2037.5	2023.3	1992.3	1963.5	1951.4	1955.8	1960.2	1983.4	2017.8	2040.9
20°	2141.5	2141.5	2110.6	2054.2	2004.4	1975.7	1969.1	1972.4	1988.9	2020.9	2050.9
22.5°	2321.7	2325.1	2269.7	2177.0	2091.8	2031.0	2004.4	2007.7	2015.4	2046.3	2079.5
25°	2587.1	2578.2	2499.8	2368.1	2235.5	2131.6	2077.4	2080.7	2080.7	2109.5	2143.7
27.5°	2867.8	2870.1	2757.3	2615.9	2441.1	2286.4	2200.0	2199.1	2198.0	2225.6	2262.0
30°	3185.2	3186.3	3055.9	2892.3	2692.1	2494.2	2364.9	2363.7	2353.7	2388.1	2435.7
32.5°	3532.3	3531.2	3379.8	3195.1	2972.9	2748.5	2580.4	2579.4	2571.6	2618.0	2675.5
35°	3917.1	3917.1	3766.8	3539.0	3299.0	3049.1	2854.6	2853.5	2858.0	2921.0	2975.1
37.5°	4380.3	4390.2	4209.0	3932.6	3670.6	3404.0	3177.5	3170.7	3137.6	3243.8	3333.3
40°	4863.5	4891.1	4703.2	4380.3	4097.3	3822.0	3572.1	3567.7	3539.0	3651.7	3796.5
42.5°	5386.3	5449.4	5240.4	4911.0	4602.6	4305.1	4054.2	4042.1	3931.4	4107.2	4334.0
45°	6071.9	6112.7	5809.9	5511.3	5220.6	4881.1	4582.7	4517.3	4406.8	4632.4	4926.5
47.5°	6538.5	6518.6	6329.5	6129.3	5942.5	5617.6	5158.6	5075.8	4940.9	5239.4	5563.4
50°	6828.0	6842.5	6736.3	6726.4	6716.4	6489.7	5808.7	5709.2	5553.3	5907.2	6285.3
52.5°	7019.4	6954.0	6973.0	7198.5	7471.6	7363.1	6544.0	6433.4	6273.0	6626.8	7053.6
55°	6939.8	6853.4	7027.1	7471.6	8113.9	8138.1	7351.0	7237.1	7100.1	7392.0	7977.8
57.5°	6610.3	6653.3	6927.5	7545.7	8552.9	8832.5	8278.6	8162.4	7892.8	8189.0	8855.8
60°	6147.0	6234.3	6653.3	7428.4	8860.2	9373.2	9296.9	9219.5	8755.2	8965.2	9777.8
62.5°	5649.5	5735.8	6250.9	7228.3	8722.0	9851.8	10296.4	10248.8	9707.1	9712.6	10362.6
65°	4914.3	4949.8	5476.0	6682.1	8338.2	10284.2	11296.8	11254.9	10616.9	10350.5	10526.2
67.5°	3711.4	3755.6	4188.0	5274.8	7170.8	10049.8	12096.1	12089.5	11164.1	10587.1	10137.2
69°	2740.8	2794.8	3147.7	4095.1	5929.3	9156.5	12133.8	12223.2	11312.4	10562.7	9479.3
70°	2005.6	2067.4	2393.5	3250.3	4938.6	8170.3	11812.1	12004.4	11255.9	10409.1	8966.3
72.5°	852.4	873.4	1033.7	1467.1	2505.3	4926.5	9674.9	10079.6	10165.8	9326.7	7005.0
75°	534.0	540.6	603.7	752.9	1114.4	2037.5	6265.3	6817.0	7589.8	7236.0	4690.0
77.5°	402.4	408.0	444.4	518.5	692.1	760.7	2906.6	3466.0	4347.2	4256.4	2333.8
80°	308.5	311.8	336.1	377.0	487.6	476.6	943.1	1185.1	1814.2	1600.9	825.9
82.5°	242.2	243.3	264.2	271.9	340.5	320.6	473.1	527.3	732.9	609.2	403.6
85°	214.4	217.7	238.8	199.1	217.7	193.4	259.8	281.9	389.1	367.0	152.5
87.5°	109.5	115.1	200.1	170.3	109.5	91.7	113.8	122.7	158.1	171.3	74.1
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°	2133.7	2133.7	2133.7	2133.7	2133.7	2133.7	2133.7	2133.7	2133.7	2133.7	2133.7
2.5°	2108.3	2109.5	2112.8	2118.4	2127.1	2138.1	2151.5	2164.7	2172.6	2178.0	2175.8
5°	2090.6	2091.8	2098.4	2108.3	2119.5	2136.0	2158.1	2174.6	2186.8	2194.6	2193.5
7.5°	2068.5	2071.9	2085.1	2096.1	2111.6	2124.9	2142.5	2158.1	2170.2	2178.0	2177.0
10°	2052.0	2055.3	2071.9	2086.3	2099.5	2101.8	2098.4	2093.9	2093.0	2098.4	2096.1
12.5°	2044.3	2050.9	2066.3	2076.3	2070.8	2049.8	2025.4	2015.4	2012.2	2023.3	2024.3
15°	2046.3	2052.0	2065.3	2058.6	2028.7	1993.3	1980.1	1987.8	1994.4	2001.2	2002.2
17.5°	2052.0	2055.3	2058.6	2034.3	1992.3	1969.1	1964.7	1956.9	1936.9	1926.0	1924.8
20°	2061.9	2066.3	2060.8	2022.2	1984.5	1953.5	1900.5	1852.9	1807.6	1783.3	1773.3
22.5°	2096.1	2099.5	2082.9	2045.4	1987.8	1887.2	1780.0	1698.2	1628.4	1591.0	1576.5
25°	2163.6	2169.1	2146.0	2098.4	1948.1	1772.3	1620.8	1510.2	1422.8	1377.6	1365.5
27.5°	2282.0	2287.4	2262.0	2138.1	1855.2	1618.6	1435.0	1325.5	1250.4	1211.8	1206.2
30°	2458.8	2466.6	2443.3	2137.1	1713.6	1422.8	1253.8	1189.6	1146.4	1119.9	1118.8
32.5°	2704.3	2733.1	2638.0	2099.5	1538.9	1225.0	1116.7	1094.6	1073.6	1055.9	1055.9
35°	3016.0	3083.4	2830.3	2020.9	1346.6	1090.2	1040.3	1019.3	992.7	974.0	971.7
37.5°	3388.5	3493.7	2967.5	1881.7	1180.7	1024.8	994.0	959.7	917.6	881.1	872.3
40°	3900.5	3924.9	3034.8	1655.0	1056.9	989.6	950.8	907.6	854.6	813.8	809.4
42.5°	4414.6	4335.0	3021.5	1411.9	986.2	957.5	906.6	859.0	811.4	777.3	777.3
45°	4999.4	4693.1	2921.0	1167.4	922.1	920.9	865.6	820.3	783.9	758.3	752.9
47.5°	5558.9	5014.9	2747.3	987.2	855.7	884.6	839.1	802.6	769.5	745.1	740.7
50°	6237.7	5387.6	2562.8	861.2	791.5	852.4	828.1	809.4	777.3	735.3	730.9
52.5°	6912.1	5823.2	2420.2	766.2	735.3	827.0	834.7	837.0	807.0	725.2	719.7
55°	7636.2	6288.6	2269.7	692.1	688.8	814.9	850.2	848.0	833.5	727.4	718.6
57.5°	8325.0	6756.2	2045.4	640.1	652.3	802.6	853.5	818.1	792.8	738.5	724.2
60°	8895.6	7143.1	1715.9	603.7	621.4	778.3	831.4	778.3	735.3	736.3	723.0
62.5°	9173.0	7251.5	1312.3	561.6	595.9	738.5	799.3	748.5	708.7	740.7	732.9
65°	8961.9	6943.1	935.3	523.0	564.9	692.1	780.5	723.0	695.4	762.8	753.9
67.5°	8203.4	6102.8	678.8	488.7	535.1	644.5	745.1	699.8	682.2	779.4	759.5
69°	7397.5	5269.2	588.2	468.7	514.1	619.1	722.0	687.7	672.2	756.3	727.4
70°	6727.4	4626.9	542.8	456.6	496.5	604.7	704.2	679.9	662.2	728.5	694.3
72.5°	4823.7	2990.5	456.6	420.0	450.1	572.7	665.6	651.2	624.6	657.7	635.7
75°	2914.3	1561.1	388.1	382.5	401.4	528.5	620.2	602.6	576.1	579.3	568.3
77.5°	1338.8	720.8	325.0	338.3	350.5	473.1	564.9	545.0	520.7	511.9	513.0
80°	587.0	421.2	271.9	288.5	295.3	425.6	505.2	483.2	456.6	504.2	467.7
82.5°	317.3	244.2	212.3	223.3	242.2	370.5	438.9	410.2	384.7	447.7	361.5
85°	128.3	125.0	143.6	154.8	168.1	266.4	367.0	337.3	306.2	274.3	267.5
87.5°	55.2	59.6	70.7	75.2	89.6	165.8	246.6	215.7	216.8	185.7	182.4
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)