

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: P195893

Luminaire Tested: **NAV-AF-05-D-UNV-T4W-7050-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195893
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-05-D-UNV-T4W-7050-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 5000K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV WIDE OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 19578 lumens
Efficiency: N/A
Efficacy: 120.9 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type IV - Short - Semi-Cutoff
BUG Rating: B3 - U0 - G4

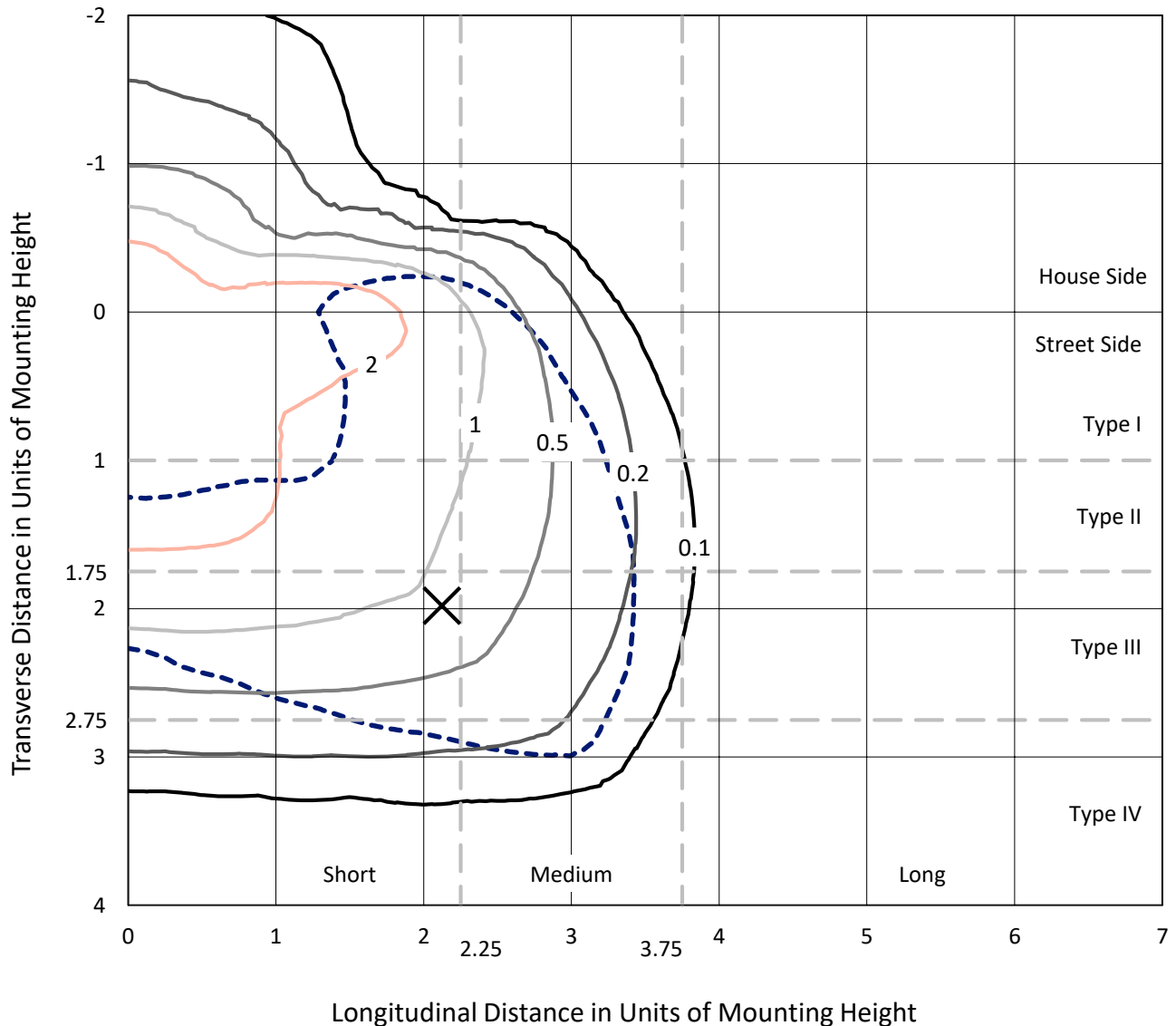
Input Watts (W): 162
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

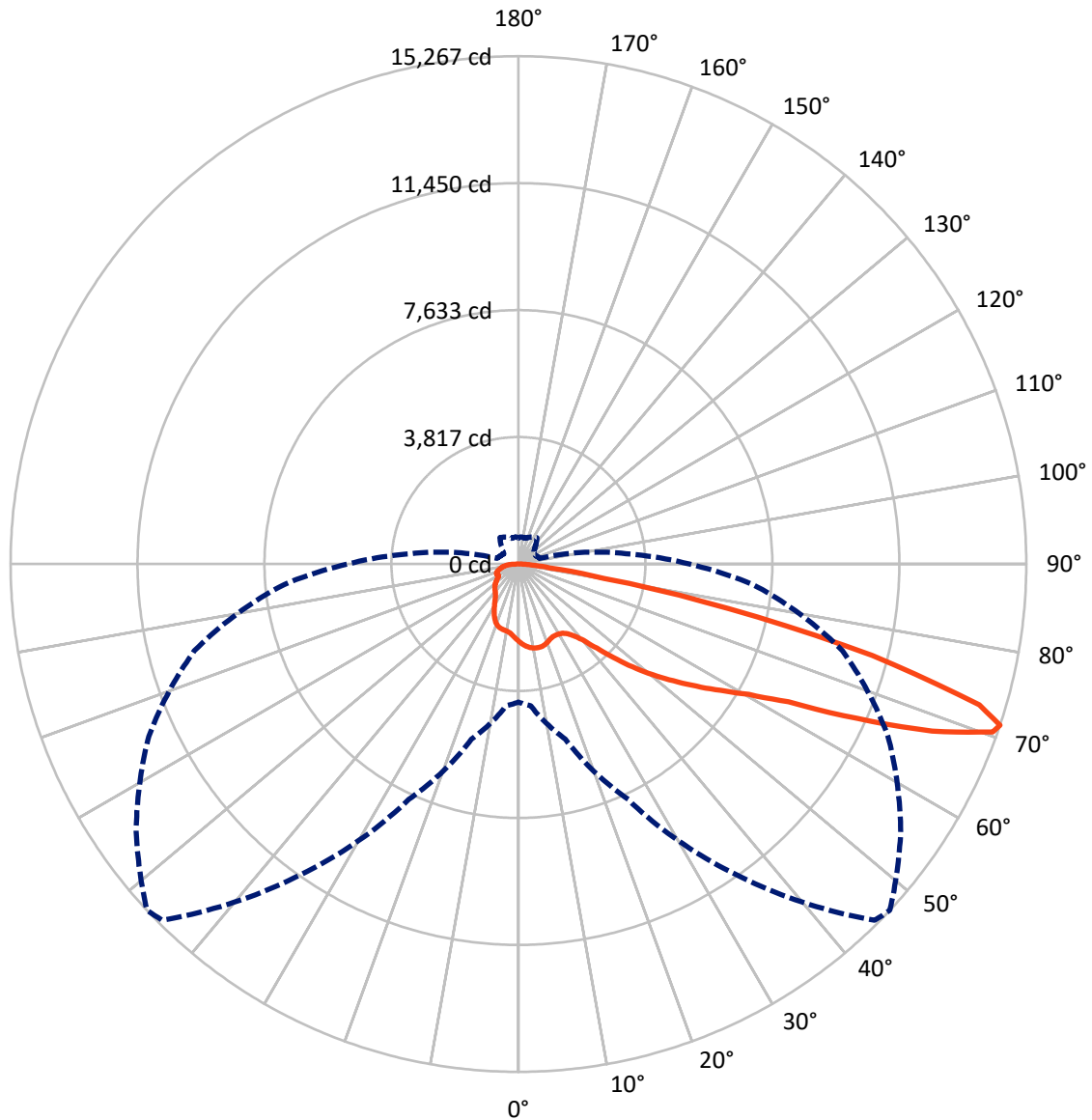
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.3 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	4195.8	0.0	4195.8
	% Fixture	21.4	0.0	21.4
Street Side	Lumens	15382.1	0.0	15382.1
	% Fixture	78.6	0.0	78.6
Total	Lumens	19578.0	0.0	19578.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	222.3	1.1
10°-20°	650.3	3.3
20°-30°	966.4	4.9
30°-40°	1387.6	7.1
40°-50°	2460.2	12.6
50°-60°	4209.7	21.5
60°-70°	5976.3	30.5
70°-80°	3273.2	16.7
80°-90°	432.1	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°	19578.0	100.0
0°-180°	19578.0	100.0

Coefficient of Utilization



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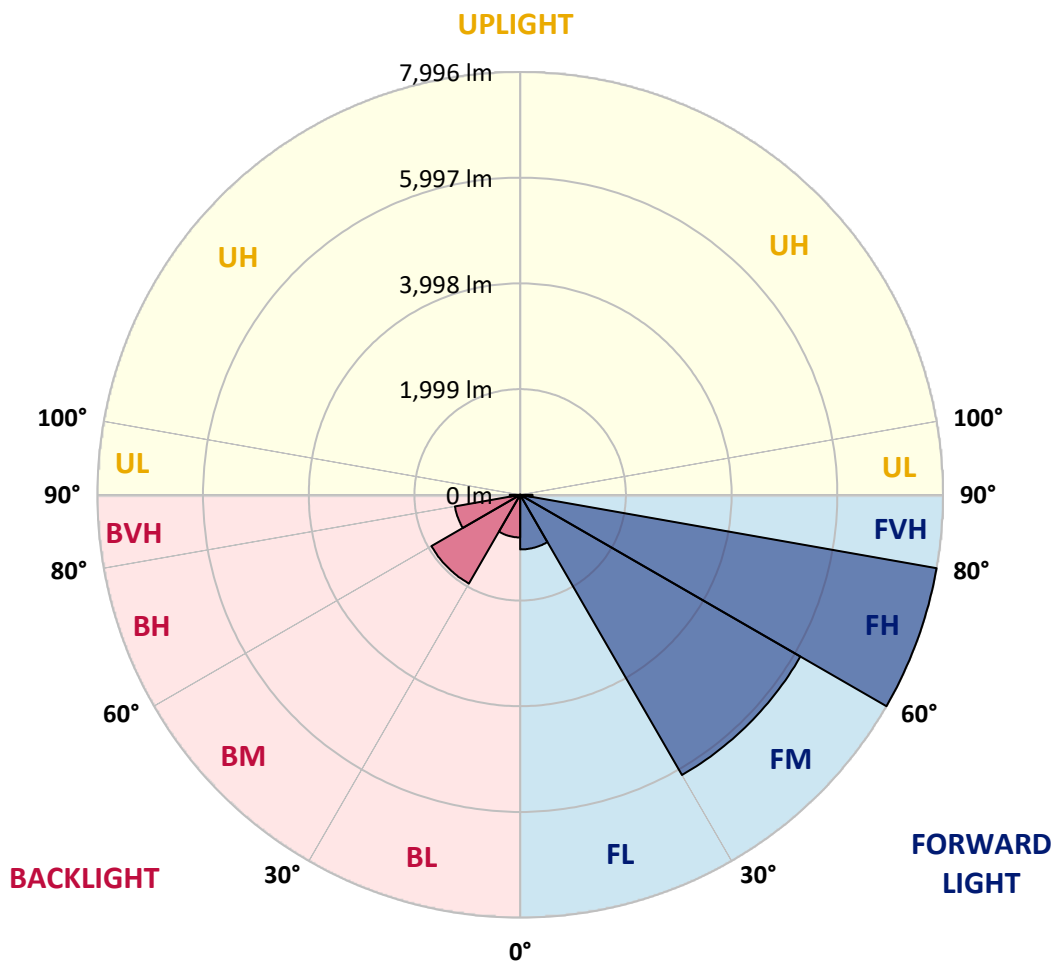
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1033.2	5.3			
FM	(30°-60°)	6118.7	31.3			
FH	(60°-80°)	7995.9	40.8			G4/12000
FVH	(80°-90°)	234.3	1.2			G3/500
BL	(0°-30°)	805.7	4.1	B2/1000		
BM	(30°-60°)	1938.7	9.9	B2/2500		
BH	(60°-80°)	1253.7	6.4	B3/2500		G3/2500
BVH	(80°-90°)	197.7	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-G4

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	47°	55°	65°	75°	85°
0°	2328.2	2328.2	2328.2	2328.2	2328.2	2328.2	2328.2	2328.2	2328.2	2328.2	2328.2
2.5°	2470.3	2465.2	2467.7	2458.8	2437.3	2414.4	2414.4	2390.3	2364.9	2339.6	2311.7
5°	2623.8	2616.2	2609.8	2581.9	2540.0	2493.1	2485.5	2437.3	2385.2	2333.2	2282.5
7.5°	2751.9	2744.3	2725.3	2674.5	2613.6	2543.8	2535.0	2471.5	2403.0	2330.7	2259.6
10°	2843.3	2838.2	2801.4	2736.7	2665.6	2583.2	2567.9	2503.2	2422.0	2332.0	2241.9
12.5°	2894.0	2886.4	2842.0	2765.9	2682.1	2598.4	2583.2	2521.0	2428.4	2329.4	2224.1
15°	2873.7	2869.9	2828.0	2750.6	2666.9	2594.6	2581.9	2518.5	2424.6	2320.5	2207.6
17.5°	2787.4	2796.3	2763.3	2687.2	2618.7	2567.9	2554.0	2494.4	2405.5	2299.0	2182.2
20°	2668.2	2678.3	2661.8	2584.4	2545.1	2512.1	2504.5	2456.3	2373.8	2267.3	2151.8
22.5°	2541.3	2550.2	2551.5	2479.1	2466.4	2453.8	2447.4	2413.2	2345.9	2248.2	2131.5
25°	2453.8	2463.9	2466.4	2403.0	2410.6	2414.4	2413.2	2389.1	2340.8	2248.2	2134.0
27.5°	2430.9	2436.0	2433.5	2375.1	2389.1	2410.6	2411.9	2406.8	2361.1	2273.6	2169.6
30°	2509.6	2512.1	2480.4	2392.9	2406.8	2434.7	2436.0	2433.5	2404.3	2339.6	2249.5
32.5°	2849.6	2847.1	2738.0	2512.1	2463.9	2474.1	2477.9	2500.7	2503.2	2448.7	2364.9
35°	3367.3	3366.0	3239.1	2853.4	2626.3	2573.0	2578.1	2613.6	2645.3	2608.5	2560.3
37.5°	3936.9	3940.7	3863.3	3340.6	2976.5	2754.5	2749.4	2776.0	2833.1	2845.8	2852.1
40°	4568.8	4587.8	4584.0	3900.1	3467.5	3064.0	3013.3	2982.8	3093.2	3163.0	3253.1
42.5°	5290.7	5285.6	5288.1	4514.2	4028.3	3551.2	3457.3	3315.2	3443.4	3563.9	3761.8
45°	5911.1	5931.4	5946.6	5167.6	4656.3	4108.2	4013.0	3754.2	3869.7	4049.8	4351.8
47.5°	6535.3	6499.8	6527.7	5894.6	5355.4	4743.8	4620.8	4271.9	4379.7	4633.5	5092.8
50°	7262.3	7245.8	7118.9	6843.6	6200.4	5388.4	5227.2	4812.4	4969.7	5308.4	6007.5
52.5°	7914.4	7825.6	7726.7	7589.6	7031.4	6040.5	5836.2	5374.4	5663.7	6083.6	7143.0
55°	8153.0	8093.3	8212.6	8390.2	7910.6	6705.3	6477.0	6030.4	6446.5	6970.5	8479.0
57.5°	8406.7	8427.0	8696.0	9055.1	8742.9	7414.6	7167.2	6806.8	7305.4	7962.7	9972.4
60°	8533.6	8614.8	9151.5	9825.2	9534.6	8192.3	7955.0	7698.8	8258.3	9058.9	11461.9
62.5°	8555.2	8664.3	9424.3	10095.4	10624.5	9383.7	9109.6	8831.8	9448.4	10270.5	12540.3
65°	8159.3	8326.8	9400.2	10427.8	11617.9	11374.3	11200.5	10715.8	11041.9	11337.5	12724.3
67.5°	6995.9	7178.6	8470.2	10290.8	12414.7	13439.8	13406.9	12691.3	12272.6	11749.9	11360.4
70°	5134.6	5281.8	6522.6	8797.5	12067.1	15061.3	15119.7	13971.5	12616.4	10874.4	8447.3
71°	4152.6	4279.5	5449.3	7810.4	11389.5	15145.0	15266.8	14028.5	12258.6	10084.0	7072.0
72.5°	2584.4	2655.5	3618.5	5894.6	9807.4	14282.3	14487.8	13297.7	11132.0	8523.4	4998.9
75°	975.7	1003.6	1342.3	2599.7	5854.0	10729.8	10978.5	10049.8	7820.6	4865.6	2092.2
77.5°	524.0	537.9	666.1	1081.0	2345.9	6150.9	6470.6	5732.2	3751.7	1702.7	855.1
80°	351.4	360.3	460.6	640.7	1078.4	2342.1	2608.5	2301.5	1404.5	971.9	609.0
82.5°	227.1	232.2	313.4	421.2	696.5	823.4	940.1	982.0	876.7	696.5	367.9
85°	149.7	153.5	206.8	269.0	431.4	406.0	416.1	544.3	597.6	459.3	187.8
87.5°	86.3	88.8	124.3	138.3	194.1	152.2	164.9	258.8	355.2	299.4	107.8
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°	2328.2	2328.2	2328.2	2328.2	2328.2	2328.2	2328.2	2328.2	2328.2	2328.2	2328.2
2.5°	2299.0	2288.8	2266.0	2252.0	2245.7	2243.1	2240.6	2245.7	2245.7	2243.1	2238.1
5°	2257.1	2238.1	2200.0	2173.4	2159.4	2155.6	2160.7	2167.0	2170.8	2170.8	2167.0
7.5°	2226.7	2198.7	2148.0	2111.2	2089.6	2083.3	2097.2	2120.1	2135.3	2142.9	2144.2
10°	2201.3	2163.2	2107.4	2069.3	2051.6	2049.0	2066.8	2096.0	2127.7	2141.6	2144.2
12.5°	2178.4	2135.3	2074.4	2038.9	2026.2	2032.5	2056.6	2083.3	2120.1	2140.4	2141.6
15°	2156.9	2112.5	2047.8	2011.0	2008.4	2018.6	2041.4	2063.0	2090.9	2116.3	2116.3
17.5°	2131.5	2083.3	2016.0	1981.8	1981.8	1990.7	2005.9	2017.3	2035.1	2059.2	2057.9
20°	2101.0	2051.6	1983.1	1947.5	1939.9	1934.8	1934.8	1937.4	1952.6	1974.2	1978.0
22.5°	2078.2	2027.5	1955.1	1912.0	1877.7	1844.8	1830.8	1825.7	1839.7	1860.0	1865.1
25°	2078.2	2027.5	1946.3	1873.9	1790.2	1726.8	1700.1	1692.5	1706.5	1725.5	1733.1
27.5°	2112.5	2061.7	1966.6	1839.7	1686.2	1584.7	1552.9	1546.6	1559.3	1574.5	1582.1
30°	2192.4	2142.9	2024.9	1800.4	1570.7	1437.5	1402.0	1395.6	1402.0	1408.3	1417.2
32.5°	2325.6	2283.7	2120.1	1764.8	1454.0	1304.3	1261.1	1251.0	1253.5	1254.8	1262.4
35°	2542.6	2523.5	2247.0	1723.0	1343.6	1195.2	1150.8	1130.5	1129.2	1135.5	1144.4
37.5°	2875.0	2886.4	2410.6	1662.1	1252.3	1117.8	1073.4	1053.1	1042.9	1055.6	1065.7
40°	3344.4	3371.1	2599.7	1579.6	1177.4	1072.1	1025.1	1006.1	992.2	988.4	993.4
42.5°	3954.7	3947.1	2792.5	1474.3	1096.2	1041.6	992.2	971.9	949.0	919.8	913.5
45°	4677.9	4568.8	2953.6	1344.9	1003.6	1012.5	961.7	933.8	898.3	855.1	850.1
47.5°	5531.7	5231.0	3052.6	1206.6	917.3	974.4	927.5	884.3	832.3	804.4	800.6
50°	6560.7	6006.3	3122.4	1065.7	839.9	926.2	879.2	822.1	771.4	763.8	762.5
52.5°	7778.7	6921.0	3208.7	938.9	779.0	864.0	831.0	772.7	732.1	735.9	735.9
55°	9074.1	7867.5	3211.2	838.6	725.7	791.7	795.5	748.6	716.8	729.5	733.3
57.5°	10255.3	8694.7	2958.7	767.6	675.0	734.6	784.1	757.4	733.3	777.7	781.5
60°	11285.5	9331.6	2415.7	709.2	633.1	713.0	809.5	812.0	806.9	927.5	936.3
62.5°	11662.3	9338.0	1715.3	659.7	610.3	725.7	862.7	866.6	866.6	978.2	994.7
65°	11134.5	8560.2	1141.9	630.6	595.0	753.6	905.9	889.4	850.1	927.5	909.7
67.5°	9274.5	6663.5	834.8	611.5	573.5	754.9	943.9	902.1	834.8	900.8	870.4
70°	6374.2	4240.2	699.1	593.8	548.1	721.9	964.2	898.3	812.0	839.9	799.3
71°	5130.8	3383.8	663.6	587.4	537.9	702.9	966.8	893.2	800.6	818.3	781.5
72.5°	3379.9	2084.6	620.4	573.5	522.7	669.9	960.4	881.8	785.4	786.6	762.5
75°	1333.5	864.0	558.2	541.8	479.6	616.6	932.5	857.7	756.2	730.8	720.6
77.5°	673.7	564.6	491.0	497.3	428.8	562.1	893.2	818.3	715.6	681.3	673.7
80°	492.3	428.8	420.0	431.4	371.7	508.8	843.7	765.1	663.6	699.1	683.9
82.5°	299.4	261.4	328.6	356.5	310.8	454.2	785.4	702.9	597.6	550.6	532.9
85°	142.1	153.5	237.3	262.6	229.6	362.9	718.1	634.4	521.5	450.4	458.0
87.5°	69.8	85.0	135.8	157.3	151.0	266.4	541.8	492.3	411.1	338.8	331.1
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)