

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: P270538

Luminaire Tested: **NAV-AF-04-D-UNV-T2-7027-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P270538
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24136)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-AF-04-D-UNV-T2-7027-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 2700K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 13670.1 lumens
Efficiency: N/A
Efficacy: 106.0 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type II - Medium - Full Cutoff
BUG Rating: B2 - U0 - G2

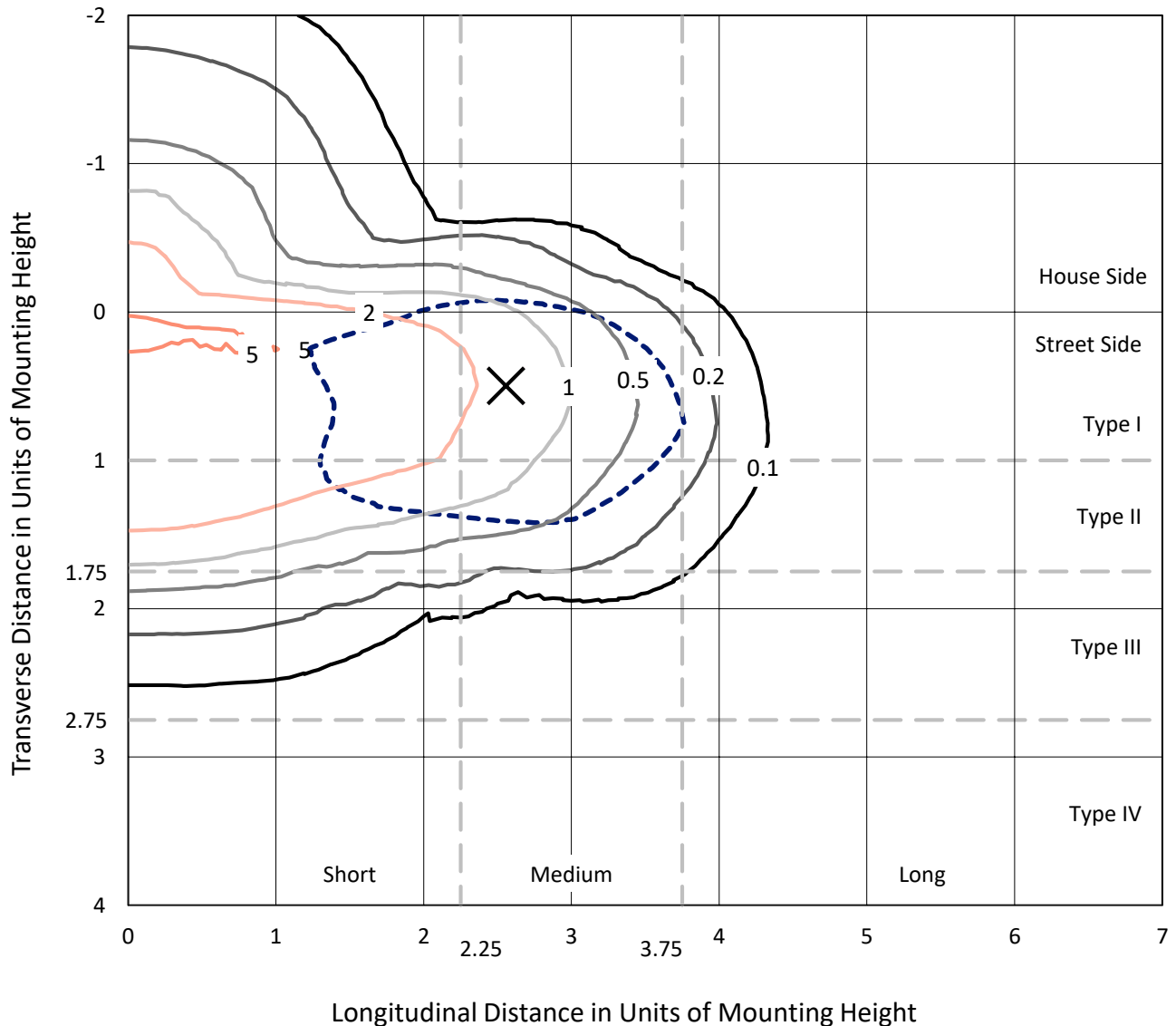
Input Watts (W): 129
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

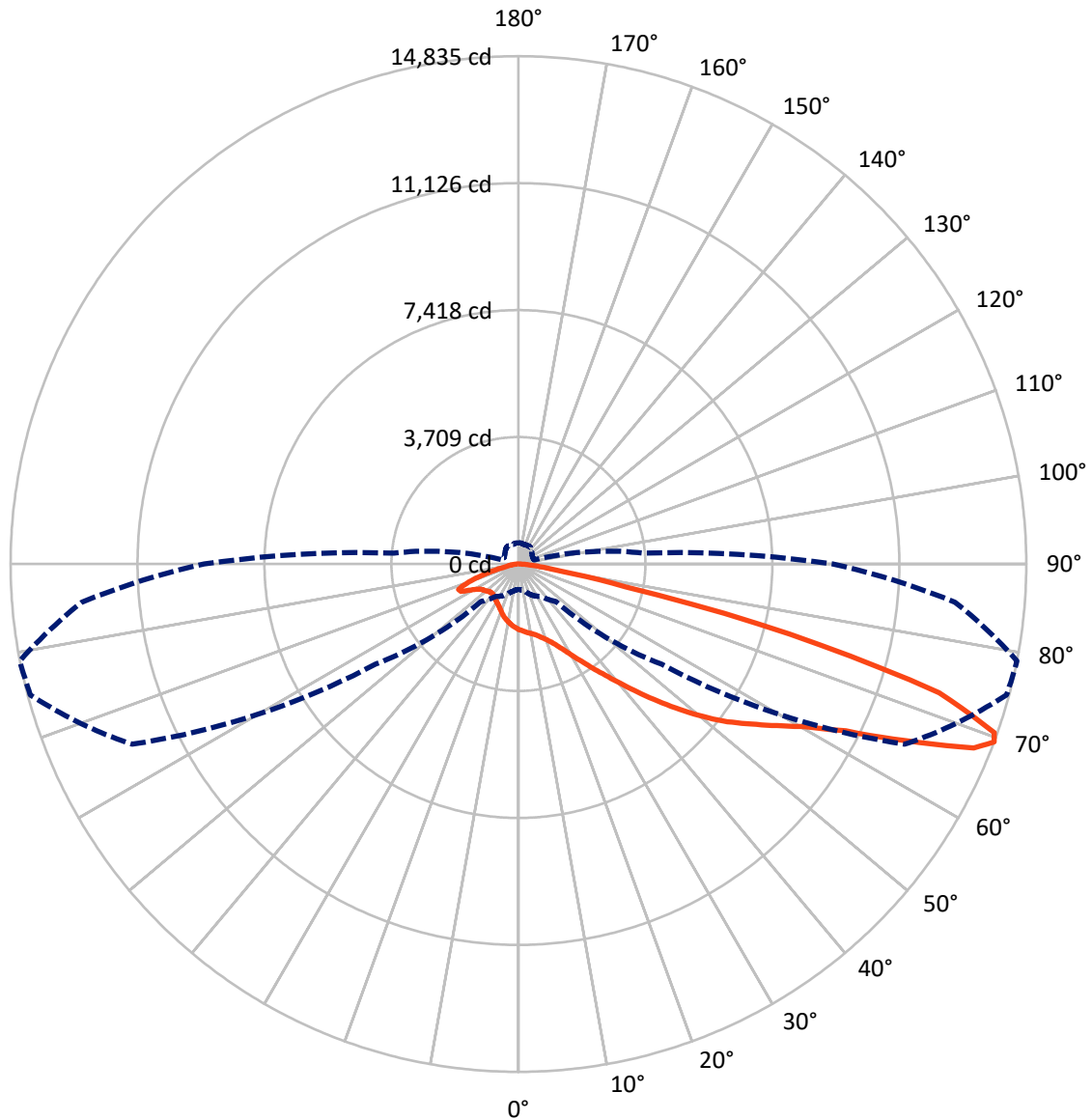
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 5.8 fc
 Type II - Medium - Full Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 79-Deg Lateral - - - Horizontal Cone Through 69-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2571.6	0.0	2571.6
	% Fixture	18.8	0.0	18.8
Street Side	Lumens	11098.5	0.0	11098.5
	% Fixture	81.2	0.0	81.2
Total	Lumens	13670.1	0.0	13670.1
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	177.8	1.3
10°-20°	509.9	3.7
20°-30°	842.5	6.2
30°-40°	1364.2	10.0
40°-50°	2179.4	15.9
50°-60°	3121.1	22.8
60°-70°	3477.3	25.4
70°-80°	1739.7	12.7
80°-90°	258.2	1.9
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°	13670.1	100.0
0°-180°	13670.1	100.0

Coefficient of Utilization



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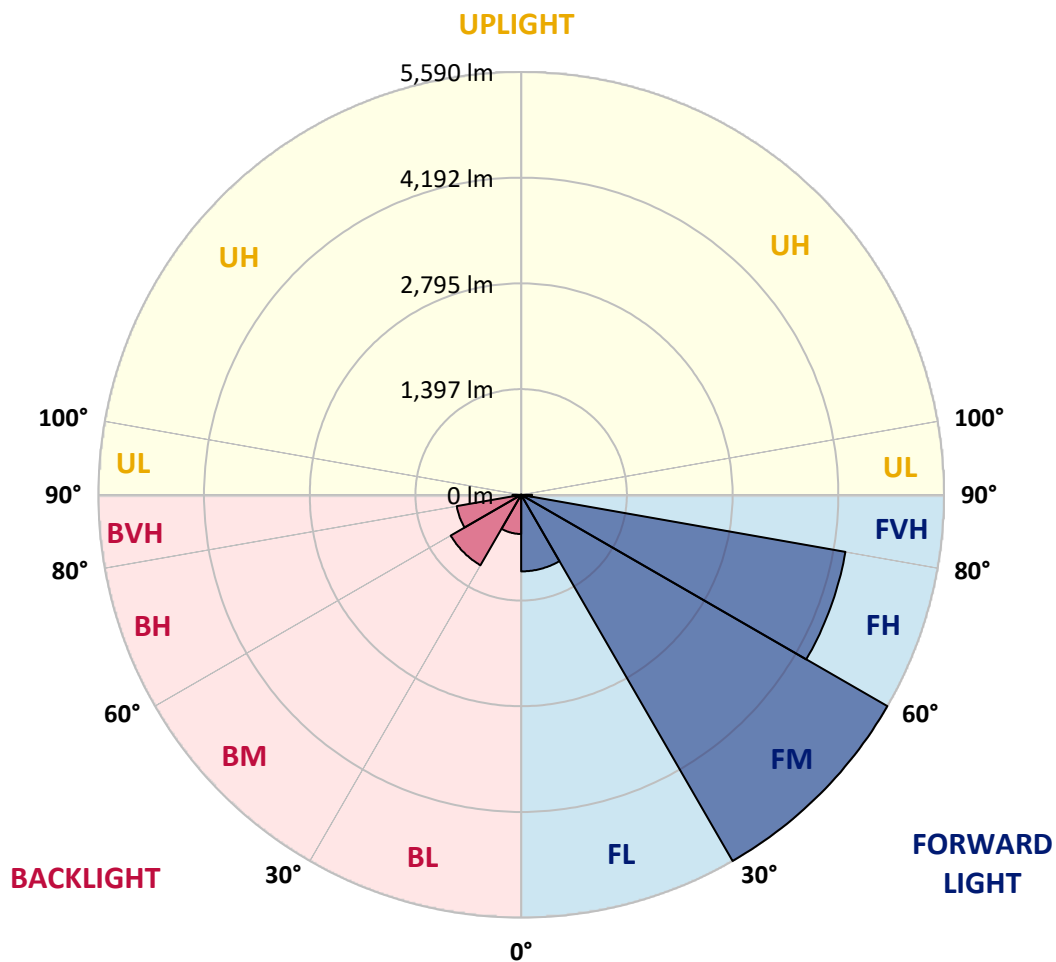
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1012.2	7.4			
FM (30°-60°)	5589.7	40.9			
FH (60°-80°)	4352.4	31.8			G2/5000
FVH (80°-90°)	144.3	1.1			G2/225
BL (0°-30°)	518.1	3.8	B2/1000		
BM (30°-60°)	1075.0	7.9	B2/2500		
BH (60°-80°)	864.7	6.3	B2/1000		G2/1000
BVH (80°-90°)	113.9	0.8			G2/225
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G2

Type II Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	79°	85°
0°	1918.3	1918.3	1918.3	1918.3	1918.3	1918.3	1918.3	1918.3	1918.3	1918.3	1918.3
2.5°	2106.2	2101.7	2100.7	2087.4	2080.3	2065.1	2029.2	1992.6	1958.6	1940.7	1922.0
5°	2282.4	2273.4	2268.8	2246.7	2226.9	2192.9	2136.6	2078.4	2017.7	1986.3	1948.8
7.5°	2388.8	2389.6	2389.6	2371.7	2352.1	2311.0	2239.5	2159.9	2069.4	2028.4	1969.4
10°	2397.7	2398.7	2411.9	2416.5	2420.9	2399.6	2333.3	2233.1	2116.9	2063.2	1986.3
12.5°	2309.2	2315.4	2337.7	2370.0	2415.6	2438.9	2410.2	2311.9	2177.8	2112.5	2018.5
15°	2190.2	2196.4	2225.1	2274.2	2347.6	2425.5	2465.7	2402.2	2257.4	2180.4	2065.9
17.5°	2132.0	2139.3	2158.9	2198.2	2269.7	2374.5	2495.2	2498.7	2351.3	2262.7	2122.2
20°	2104.4	2109.7	2134.8	2167.0	2221.5	2321.7	2497.8	2600.8	2463.1	2360.1	2191.1
22.5°	2167.9	2169.6	2182.2	2200.0	2236.7	2313.7	2496.1	2706.2	2602.5	2482.6	2279.7
25°	2353.9	2342.3	2333.3	2311.0	2320.0	2374.5	2524.6	2818.9	2781.4	2643.6	2397.7
27.5°	2574.0	2572.0	2548.9	2497.0	2464.0	2498.7	2606.2	2945.1	3000.5	2848.4	2552.4
30°	2818.9	2819.8	2795.6	2732.1	2665.1	2668.7	2735.8	3090.8	3262.6	3095.3	2743.0
32.5°	3075.5	3091.6	3047.1	2983.5	2902.2	2876.2	2921.7	3267.0	3565.7	3386.8	2963.8
35°	3382.4	3385.1	3335.9	3242.8	3161.4	3120.4	3162.4	3487.0	3915.4	3729.4	3233.0
37.5°	3700.7	3702.5	3651.6	3532.7	3429.8	3402.9	3449.4	3754.3	4285.6	4119.3	3549.7
40°	3960.9	3979.9	3939.5	3827.8	3724.1	3707.9	3774.9	4074.6	4758.7	4580.7	3926.1
42.5°	4256.1	4277.5	4229.3	4113.0	4030.8	4025.3	4130.0	4439.5	5229.2	5114.7	4352.6
45°	4588.8	4619.3	4552.2	4421.5	4351.7	4469.8	4476.2	4843.8	5771.2	5712.1	4833.1
47.5°	4951.9	4977.0	4922.4	4781.9	4706.0	4876.8	4815.1	5281.0	6356.9	6352.5	5352.6
50°	5231.9	5259.5	5265.0	5203.3	5123.7	5145.1	5187.2	5740.7	6940.9	7010.7	5890.0
52.5°	5180.9	5207.7	5328.4	5490.4	5618.2	5562.8	5613.7	6229.0	7505.2	7652.8	6400.8
55°	4769.6	4783.7	5010.0	5394.6	5939.2	6204.0	6207.6	6760.3	8041.8	8248.4	6885.5
57.5°	4028.1	4029.8	4324.1	4891.1	5752.3	6619.9	7144.8	7427.5	8601.7	8906.6	7486.5
60°	2850.2	2857.4	3199.9	3941.4	5082.5	6569.8	8152.7	8621.4	9250.0	9646.3	8261.0
62.5°	1692.0	1708.1	1966.6	2561.3	3774.9	5925.8	8748.4	10745.3	10205.3	10731.2	9500.5
65°	1101.0	1114.3	1269.0	1567.7	2230.4	4311.5	8552.6	12802.4	12012.7	12437.6	11282.1
67.5°	847.8	858.6	980.2	1160.8	1368.3	2330.7	6838.1	13233.4	14212.8	14345.2	12785.3
69°	745.0	753.9	843.4	1016.8	1151.8	1542.7	5095.9	12450.9	14762.7	14835.1	12804.1
70°	690.4	697.5	781.6	931.9	1058.1	1231.4	3900.3	11542.2	14561.5	14746.7	12434.8
72.5°	568.7	575.0	635.0	750.4	864.8	877.4	1727.9	8428.2	12261.2	12853.4	10522.7
75°	474.9	478.4	517.9	601.9	700.3	698.5	882.8	4774.0	7482.1	8187.6	6497.4
77.5°	396.2	398.8	424.8	476.7	552.6	550.0	621.5	2060.5	3303.6	3187.4	2236.7
80°	349.7	351.4	364.9	378.2	426.5	423.9	460.7	946.3	1344.1	1242.3	846.1
82.5°	265.5	269.2	337.1	343.4	330.8	319.3	321.1	550.9	688.6	626.9	454.4
85°	150.2	151.2	216.4	253.1	287.9	216.4	208.3	284.5	339.9	297.8	198.5
87.5°	67.1	69.8	103.8	119.8	155.5	127.0	118.9	120.7	146.7	121.6	78.7
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°	1918.3	1918.3	1918.3	1918.3	1918.3	1918.3	1918.3	1918.3	1918.3	1918.3	1918.3
2.5°	1904.0	1888.9	1853.1	1816.5	1779.7	1756.5	1732.3	1710.0	1701.0	1700.1	1683.2
5°	1912.1	1876.3	1795.0	1705.5	1620.5	1554.3	1498.9	1463.1	1428.2	1421.9	1406.7
7.5°	1914.7	1856.6	1724.2	1581.1	1451.5	1360.3	1304.9	1280.7	1263.6	1259.2	1253.9
10°	1913.8	1831.6	1645.5	1449.8	1302.2	1233.4	1212.7	1218.1	1225.3	1228.8	1228.8
12.5°	1928.2	1820.0	1566.9	1326.3	1205.5	1172.5	1188.5	1216.2	1237.8	1246.7	1248.5
15°	1954.2	1812.8	1480.0	1219.0	1137.7	1145.7	1185.0	1225.3	1255.7	1269.0	1272.5
17.5°	1986.3	1803.0	1379.9	1130.4	1098.3	1125.9	1176.9	1228.0	1264.5	1281.6	1284.2
20°	2022.1	1788.6	1276.2	1064.2	1063.4	1098.3	1149.2	1206.5	1245.8	1264.5	1263.6
22.5°	2070.4	1775.2	1179.7	1016.0	1024.8	1057.0	1099.2	1151.0	1187.6	1204.6	1201.2
25°	2134.8	1762.7	1092.9	973.0	981.0	1002.6	1032.1	1071.4	1097.4	1106.4	1100.1
27.5°	2221.5	1753.0	1024.8	933.7	932.8	942.6	960.5	981.9	994.6	991.8	981.9
30°	2328.0	1743.0	974.8	898.8	886.3	885.4	893.5	906.0	914.0	897.9	890.0
32.5°	2447.0	1726.1	930.1	868.4	846.1	837.9	841.5	858.6	891.7	875.6	869.3
35°	2587.3	1706.4	885.4	835.3	818.4	803.2	805.8	842.5	942.6	931.1	924.7
37.5°	2756.3	1688.5	844.2	799.5	798.7	779.9	778.0	821.9	956.1	931.1	925.7
40°	2959.3	1685.0	807.5	760.1	774.5	767.3	761.0	788.0	881.7	830.8	821.1
42.5°	3204.4	1701.0	780.7	722.6	746.9	763.7	752.2	758.3	796.8	751.3	743.2
45°	3490.5	1744.9	761.0	689.4	717.2	761.0	747.7	742.3	748.6	723.6	718.1
47.5°	3824.2	1822.7	747.7	661.8	689.4	753.9	745.9	735.2	732.5	718.1	714.6
50°	4181.0	1927.4	738.8	636.8	664.4	741.5	745.0	729.8	725.3	719.1	717.2
52.5°	4535.2	2040.9	727.9	615.2	643.9	726.2	745.9	724.5	718.1	714.6	712.7
55°	4887.5	2158.9	708.4	596.6	628.8	708.4	745.0	717.2	710.1	710.1	710.1
57.5°	5344.6	2338.6	682.4	581.4	609.1	685.0	733.3	709.2	699.4	700.3	701.1
60°	6004.5	2640.1	653.7	564.3	583.1	658.2	715.5	694.8	683.3	686.8	687.7
62.5°	7107.3	3166.9	614.4	540.2	556.3	629.6	692.2	675.3	664.4	670.8	671.7
65°	8577.6	3804.5	562.5	509.8	528.6	597.5	662.7	652.0	640.3	655.6	654.7
67.5°	9474.6	3991.3	508.0	477.5	501.8	563.4	625.9	621.5	613.5	640.3	638.5
69°	9180.3	3653.3	476.7	457.0	483.0	540.2	602.9	601.0	594.8	620.6	618.9
70°	8723.4	3337.7	457.0	443.7	473.0	525.9	587.6	587.6	581.4	603.8	599.2
72.5°	7007.0	2475.5	411.5	409.5	439.1	486.5	546.3	550.9	547.3	555.4	550.9
75°	4114.0	1491.7	366.7	372.1	397.9	444.5	500.9	504.4	500.9	499.9	500.9
77.5°	1426.5	669.0	323.7	331.8	354.1	401.5	450.7	457.9	452.6	446.3	448.1
80°	558.0	389.1	277.2	288.9	307.7	353.3	400.6	405.1	397.1	396.2	389.1
82.5°	335.3	237.1	215.6	234.3	257.5	306.7	346.0	344.3	338.0	374.8	328.2
85°	145.7	131.4	157.5	176.2	187.8	229.8	292.5	284.5	269.2	237.1	231.7
87.5°	59.0	68.0	86.7	104.7	112.6	148.5	200.3	193.1	195.9	160.9	160.1
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)