

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: P270635

Luminaire Tested: **NAV-AF-05-D-UNV-T4FT-7027-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P270635
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24256)
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-T4FT-7027-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 2700K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV FORWARD THROW OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 21274.6 lumens
Efficiency: N/A
Efficacy: 101.3 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B3 - U0 - G4

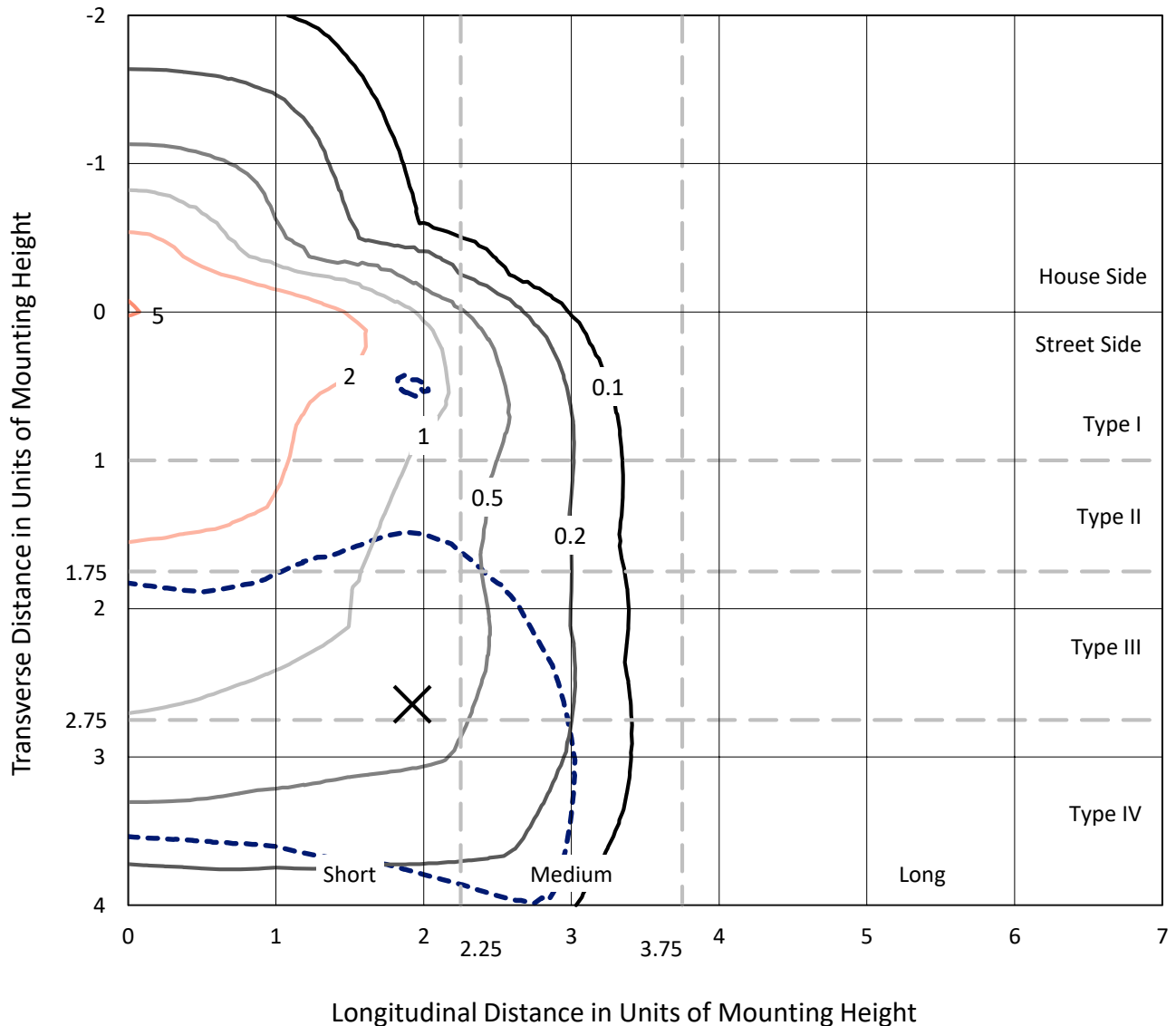
Input Watts (W): 210
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

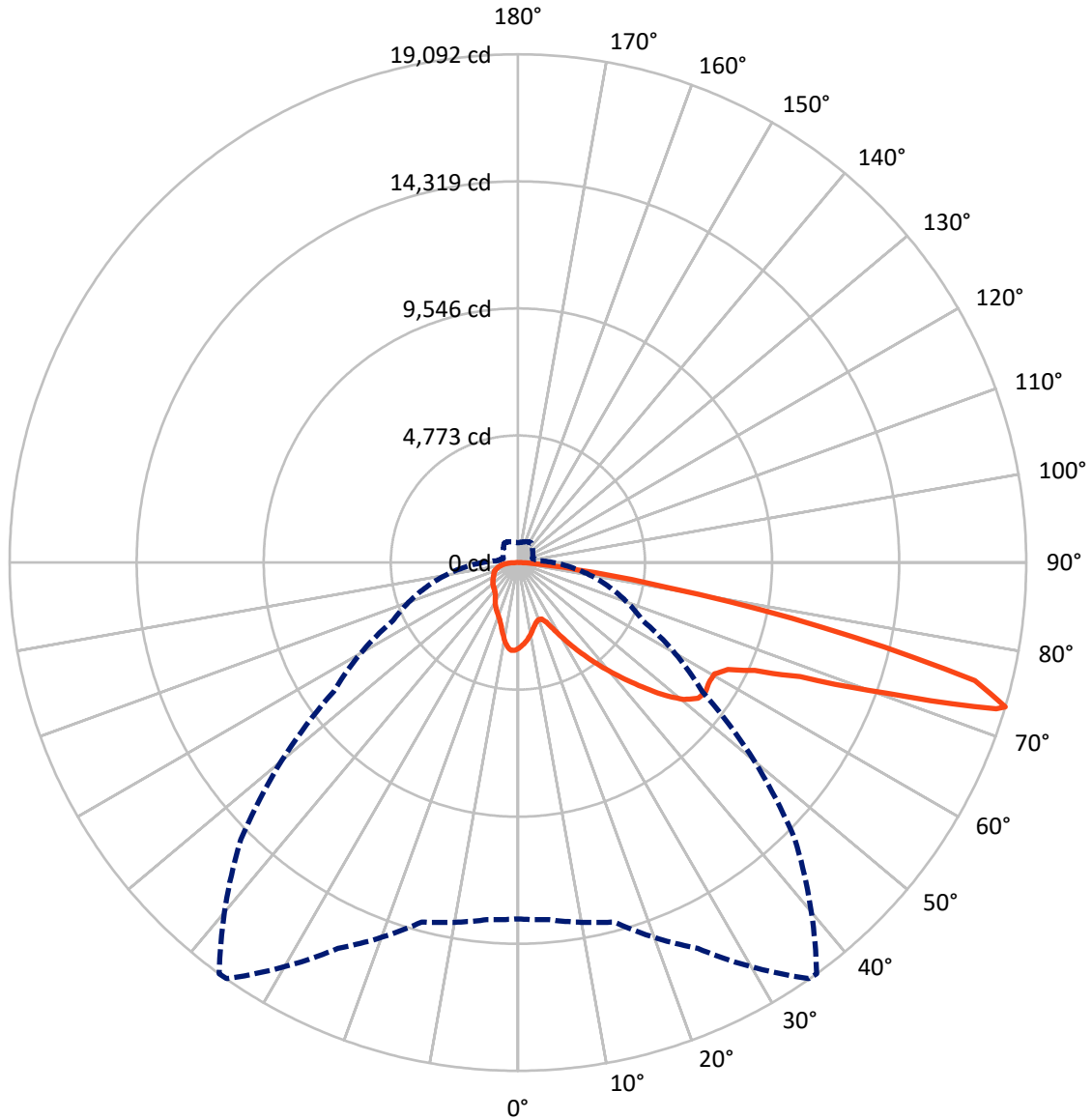
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 5.2 fc
 Type IV - Short - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 36-Deg Lateral - - - Horizontal Cone Through 73-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	4102.4	0.0	4102.4
	% Fixture	19.3	0.0	19.3
Street Side	Lumens	17172.2	0.0	17172.2
	% Fixture	80.7	0.0	80.7
Total	Lumens	21274.6	0.0	21274.6
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	292.7	1.4
10°-20°	735.1	3.5
20°-30°	1178.6	5.5
30°-40°	1949.5	9.2
40°-50°	3016.6	14.2
50°-60°	4038.3	19.0
60°-70°	5275.3	24.8
70°-80°	4309.0	20.3
80°-90°	479.6	2.3
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°	21274.6	100.0
0°-180°	21274.6	100.0



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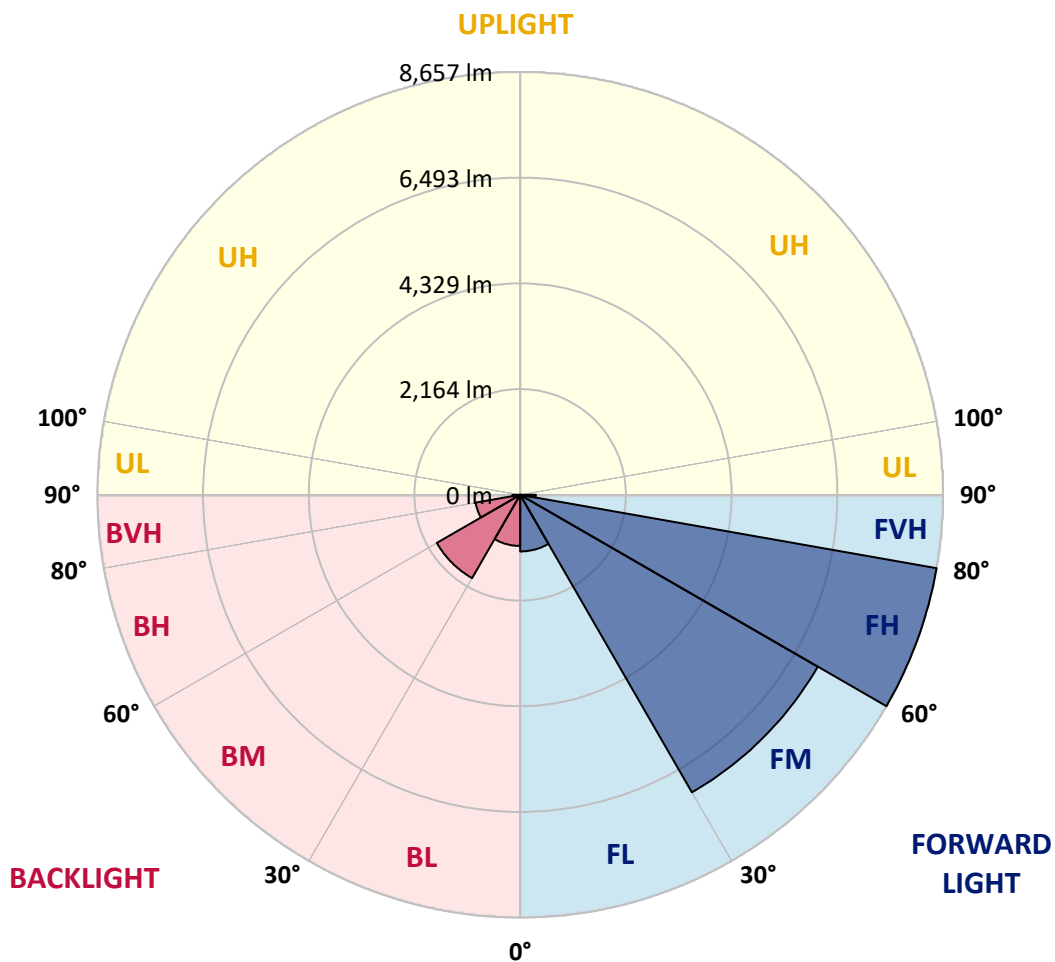
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1159.2	5.4			
FM	(30°-60°)	7034.1	33.1			
FH	(60°-80°)	8657.2	40.7			G4/12000
FVH	(80°-90°)	321.7	1.5			G3/500
BL	(0°-30°)	1047.2	4.9	B3/2500		
BM	(30°-60°)	1970.2	9.3	B2/2500		
BH	(60°-80°)	927.1	4.4	B2/1000		G2/1000
BVH	(80°-90°)	158.0	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-G4

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	36°	45°	55°	65°	75°	85°
0°	3222.5	3222.5	3222.5	3222.5	3222.5	3222.5	3222.5	3222.5	3222.5	3222.5	3222.5
2.5°	3099.5	3107.5	3108.9	3118.3	3118.3	3117.1	3121.2	3137.3	3145.4	3164.4	3180.5
5°	2946.7	2956.2	2960.3	2976.4	2996.7	2998.2	3012.9	3044.0	3073.8	3115.7	3150.9
7.5°	2775.0	2785.9	2796.8	2830.5	2860.3	2862.9	2891.4	2941.3	2980.5	3031.9	3095.4
10°	2608.8	2611.6	2622.3	2665.6	2704.7	2708.7	2749.4	2806.1	2858.9	2930.5	3002.1
12.5°	2472.2	2480.4	2477.6	2510.1	2543.9	2546.7	2600.8	2672.4	2749.4	2830.5	2915.7
15°	2425.0	2423.5	2395.2	2394.0	2408.7	2411.5	2464.2	2548.0	2634.5	2734.5	2844.0
17.5°	2457.5	2446.7	2372.2	2326.3	2316.8	2319.6	2358.7	2450.7	2542.6	2657.5	2788.6
20°	2635.8	2593.9	2419.6	2308.7	2277.7	2277.7	2300.6	2374.9	2476.4	2610.1	2775.0
22.5°	3058.9	2994.1	2622.3	2425.0	2315.6	2304.7	2287.1	2343.9	2456.1	2616.9	2830.5
25°	3591.6	3560.4	2994.1	2734.5	2508.7	2473.7	2357.4	2377.6	2497.9	2690.0	2981.8
27.5°	4084.9	4030.9	3482.0	3184.6	2865.7	2811.5	2565.6	2483.1	2598.0	2825.1	3200.8
30°	4372.8	4336.3	3983.5	3699.6	3319.7	3250.8	2898.1	2691.2	2776.4	3048.0	3511.7
32.5°	4686.4	4664.8	4486.3	4228.1	3811.8	3732.1	3328.0	3030.5	3049.4	3344.1	3886.2
35°	4990.5	5018.9	4917.5	4728.3	4341.7	4267.4	3905.1	3473.8	3386.0	3676.7	4286.4
37.5°	5355.4	5362.3	5298.7	5175.8	4898.5	4837.8	4539.0	3947.1	3752.4	4030.9	4672.9
40°	6084.1	5977.3	5728.5	5631.2	5466.4	5428.5	5087.8	4380.9	4092.9	4394.4	5037.9
42.5°	6872.2	6705.8	6316.5	6157.1	6090.8	6055.7	5544.7	4670.2	4411.9	4758.1	5395.9
45°	7507.5	7372.2	6991.1	6793.7	6801.8	6745.1	5943.5	4928.3	4758.1	5122.9	5796.1
47.5°	8133.3	7907.5	7480.4	7452.0	7546.7	7462.8	6324.6	5186.5	5118.9	5520.4	6196.2
50°	8173.8	7968.3	7795.3	8022.5	8184.5	8080.6	6670.8	5524.4	5493.3	6001.5	6712.7
52.5°	7680.4	7650.7	7914.2	8296.8	8565.8	8472.5	6953.2	5871.9	5876.0	6603.1	7341.2
55°	7500.7	7462.8	7779.1	8249.6	8613.0	8557.8	7164.1	6263.8	6300.4	7333.0	8015.7
57.5°	7803.4	7708.9	7771.0	8160.4	8502.3	8469.8	7383.1	6699.1	6765.3	8173.8	8638.8
60°	8742.8	8549.6	8219.9	8292.8	8506.3	8487.4	7696.7	7184.4	7295.1	9049.7	9033.4
62.5°	10149.9	9931.0	9259.2	8934.8	8887.6	8851.0	8214.3	7780.5	7835.8	9682.3	8803.7
65°	11693.6	11458.5	10659.6	10128.4	9849.9	9771.6	9049.7	8499.6	8152.2	9680.9	7908.9
67.5°	13426.5	13177.9	12381.7	11874.8	11573.4	11439.6	10405.4	9080.7	8049.4	8861.8	6328.6
70°	15201.4	14964.9	14599.9	14776.8	14909.3	14705.3	12541.1	9274.1	7311.5	6947.9	4249.8
72.5°	14259.2	14240.3	14517.4	16196.3	18749.7	18790.1	14674.3	8728.0	5648.8	4129.5	2265.4
73°	13384.7	13464.4	13978.0	15986.6	19078.1	19091.6	14716.2	8445.4	5186.5	3557.6	1989.7
75°	6934.2	7474.9	9380.9	12962.9	17665.4	17729.0	12972.3	6393.5	3091.3	1976.2	1340.9
77.5°	1857.2	1832.9	3022.4	6315.3	11777.5	11693.6	8196.8	3095.4	1481.5	1239.5	940.7
80°	636.7	644.8	1028.6	2310.1	5497.4	5693.4	3557.6	1350.3	974.7	863.7	666.5
82.5°	324.4	335.2	537.9	982.7	2299.2	2250.7	1144.9	794.8	652.9	524.5	373.1
85°	173.1	178.5	296.0	509.6	843.5	852.9	402.8	424.4	414.9	297.3	183.9
87.5°	85.2	87.9	141.9	224.3	312.3	301.4	140.6	183.9	204.2	167.7	101.4
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):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	3222.5	3222.5	3222.5	3222.5	3222.5	3222.5	3222.5	3222.5	3222.5	3222.5	3222.5
2.5°	3200.8	3200.8	3218.4	3248.2	3269.8	3290.0	3303.5	3325.3	3337.4	3336.0	3334.7
5°	3179.2	3192.8	3227.9	3264.4	3288.8	3305.0	3305.0	3314.3	3314.3	3310.3	3305.0
7.5°	3129.2	3152.2	3203.5	3236.1	3242.7	3225.2	3190.1	3163.0	3129.2	3111.6	3104.9
10°	3049.4	3079.2	3144.1	3159.0	3123.8	3061.7	2976.4	2903.5	2838.6	2808.9	2799.4
12.5°	2971.1	3010.3	3071.0	3048.0	2964.2	2842.6	2711.5	2611.6	2538.5	2510.1	2500.7
15°	2906.1	2953.4	3000.8	2929.2	2783.2	2614.2	2469.6	2376.2	2321.0	2299.2	2293.8
17.5°	2862.9	2918.4	2934.6	2800.7	2598.0	2408.7	2280.3	2219.5	2195.2	2185.8	2183.1
20°	2865.7	2927.8	2888.6	2676.4	2419.6	2229.0	2143.8	2126.3	2126.3	2126.3	2124.9
22.5°	2940.0	2994.1	2869.6	2560.1	2247.9	2077.6	2041.0	2056.0	2066.8	2066.8	2065.5
25°	3094.0	3123.8	2883.2	2447.9	2087.0	1946.4	1947.9	1976.2	1985.7	1985.7	1983.0
27.5°	3329.3	3305.0	2907.5	2323.6	1928.9	1827.5	1846.5	1872.1	1878.8	1874.9	1873.4
30°	3623.9	3526.7	2927.8	2177.6	1780.3	1716.8	1732.9	1747.7	1742.4	1732.9	1731.6
32.5°	3953.8	3752.4	2915.7	2014.1	1649.1	1601.8	1611.2	1619.4	1611.2	1588.3	1588.3
35°	4280.9	3956.4	2849.5	1835.6	1545.1	1490.9	1489.6	1515.4	1514.0	1486.9	1488.2
37.5°	4567.4	4117.3	2721.0	1672.0	1455.9	1409.8	1415.2	1431.4	1439.5	1403.2	1399.0
40°	4817.5	4228.1	2539.9	1532.9	1384.2	1386.9	1372.0	1346.3	1336.9	1320.6	1318.0
42.5°	5052.6	4305.1	2347.9	1416.5	1347.6	1378.8	1328.8	1267.9	1242.3	1257.1	1266.6
45°	5283.8	4391.8	2162.7	1320.6	1301.7	1354.5	1285.5	1217.9	1188.2	1194.9	1204.4
47.5°	5566.3	4511.9	1939.7	1217.9	1231.3	1309.8	1258.4	1185.5	1140.8	1113.8	1105.8
50°	5938.1	4686.4	1650.5	1107.0	1157.0	1261.1	1235.4	1138.2	1089.5	1035.3	1021.9
52.5°	6403.1	4851.2	1358.4	1017.8	1096.2	1219.2	1197.6	1097.5	1038.1	973.3	962.4
55°	6866.7	4874.3	1107.0	940.7	1027.3	1162.4	1151.6	1065.1	981.4	928.6	917.8
57.5°	7191.1	4656.6	938.1	875.8	961.0	1092.2	1109.8	1026.0	934.1	893.5	886.7
60°	7196.5	4136.2	835.3	832.6	911.1	1031.3	1066.5	980.1	904.4	877.3	871.9
62.5°	6624.7	3333.3	769.0	800.2	874.6	981.4	1034.0	954.3	897.5	886.7	881.2
65°	5552.9	2462.9	716.4	770.4	840.8	939.4	1007.0	946.3	894.8	890.8	886.7
67.5°	4099.8	1688.3	671.8	732.7	802.9	896.1	981.4	934.1	878.6	894.8	889.4
70°	2579.0	1127.4	629.9	689.4	752.9	846.2	947.5	912.4	858.3	848.9	831.3
72.5°	1455.9	815.1	579.9	633.9	688.0	780.0	901.5	875.8	812.3	774.5	756.9
73°	1315.2	771.9	567.6	620.4	673.2	766.4	890.8	865.1	798.9	756.9	740.7
75°	962.4	631.2	512.4	565.0	610.9	704.2	839.5	811.0	739.3	689.4	678.6
77.5°	697.4	486.6	440.7	488.0	528.6	617.8	762.3	730.0	659.6	632.5	621.7
80°	502.8	369.1	364.9	411.0	446.1	536.6	679.8	646.2	578.5	658.3	640.8
82.5°	300.0	236.6	267.6	319.0	355.5	450.1	590.6	551.5	486.6	492.0	419.0
85°	143.3	133.8	166.2	209.6	235.1	308.2	492.0	460.9	389.2	319.0	312.3
87.5°	63.5	60.8	79.8	93.2	125.8	185.2	336.5	298.7	282.4	169.1	132.5
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)