

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: P197320

Luminaire Tested: **NAV-AF-04-D-UNV-T4FT-8030**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P197320
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-04-D-UNV-T4FT-8030
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 80 CRI, 3000K, 1050mA 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: 20065 lumens
Efficiency: N/A
Efficacy: 89.2 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B2 - U0 - G4

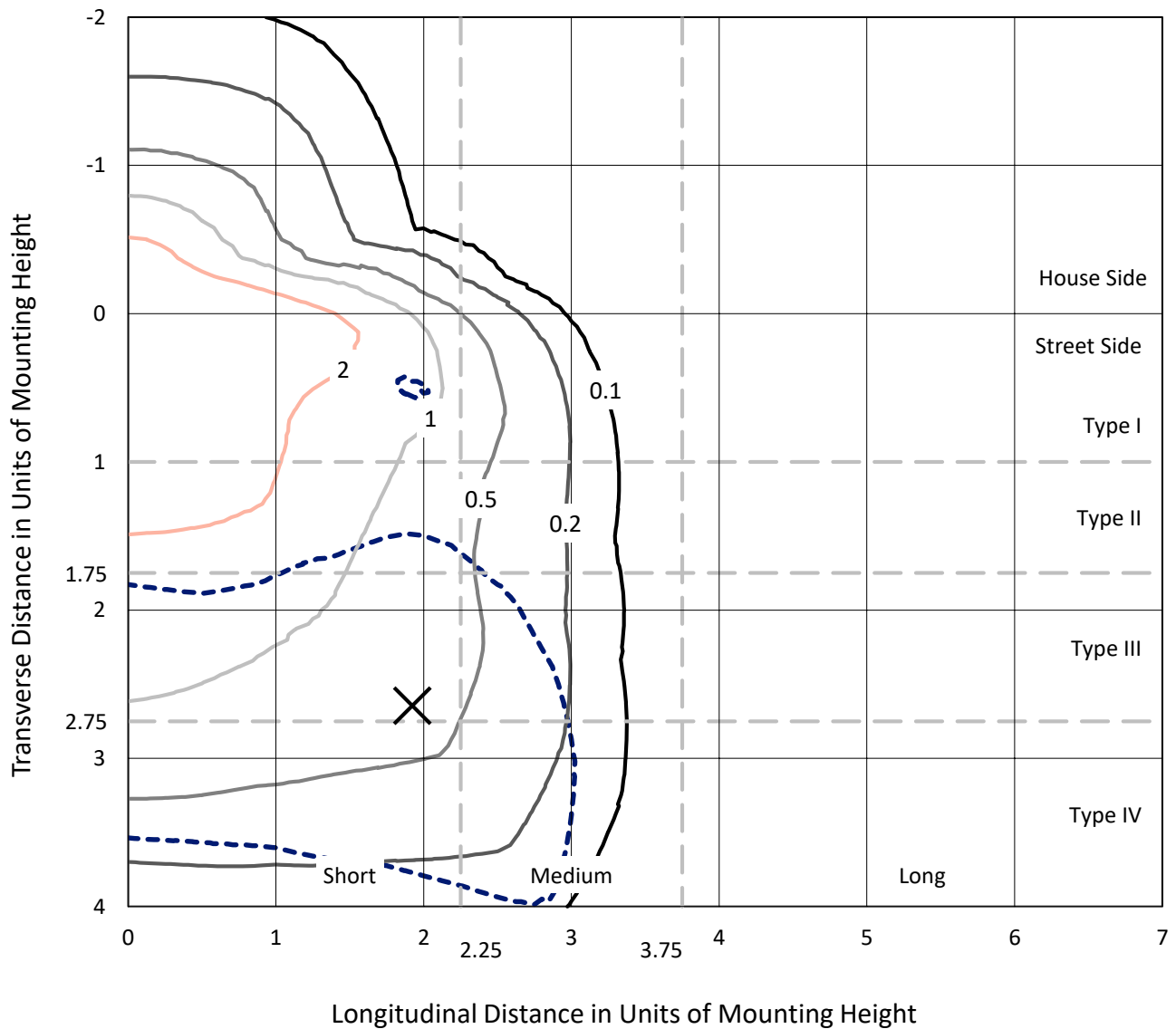
Input Watts (W): 225
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

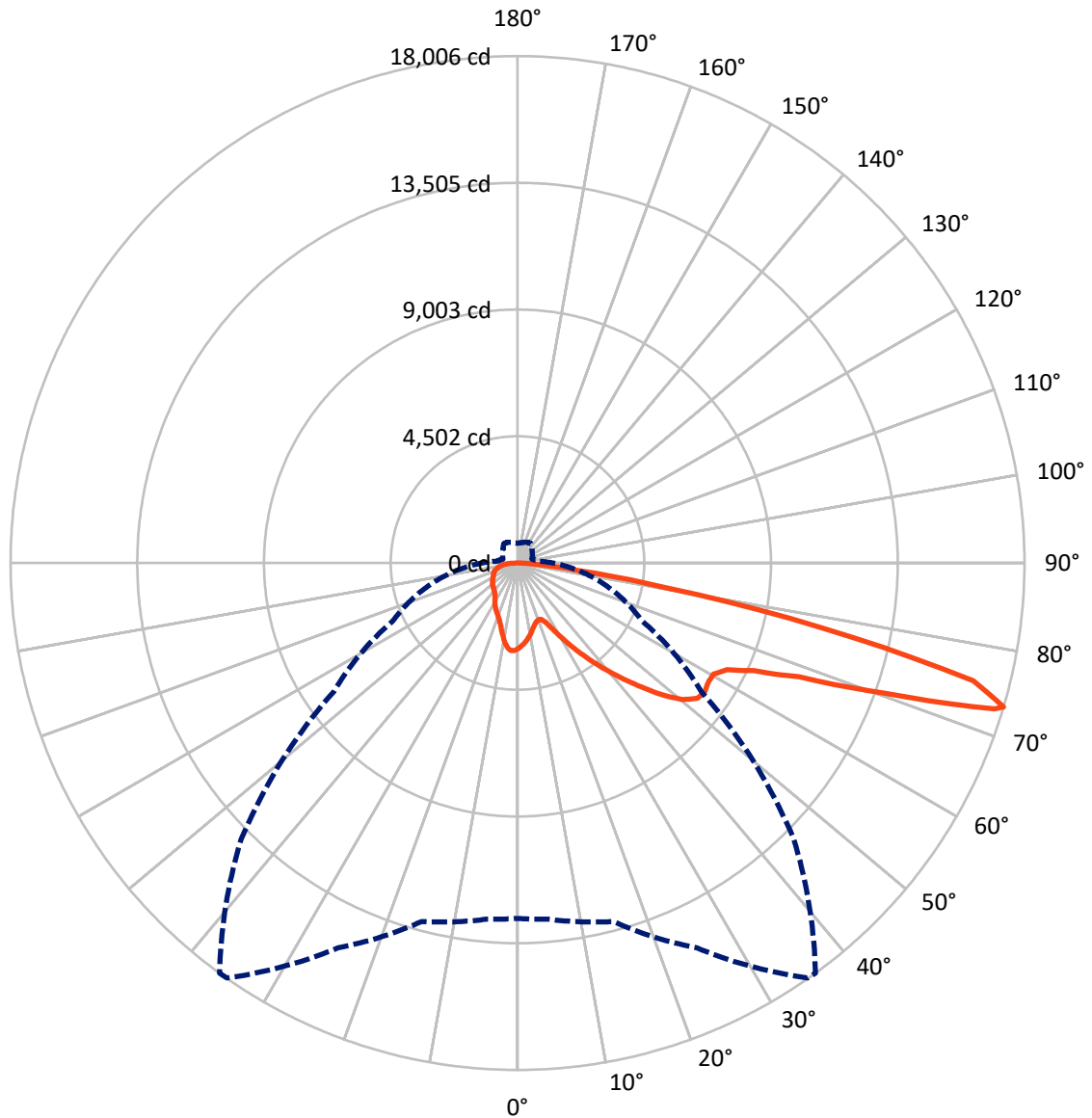
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.9 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	3869.1	0.0	3869.1
	% Fixture	19.3	0.0	19.3
Street Side	Lumens	16195.9	0.0	16195.9
	% Fixture	80.7	0.0	80.7
Total	Lumens	20065.0	0.0	20065.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	276.1	1.4
10°-20°	693.3	3.5
20°-30°	1111.6	5.5
30°-40°	1838.6	9.2
40°-50°	2845.1	14.2
50°-60°	3808.7	19.0
60°-70°	4975.3	24.8
70°-80°	4064.0	20.3
80°-90°	452.4	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°	20065.0	100.0
0°-180°	20065.0	100.0



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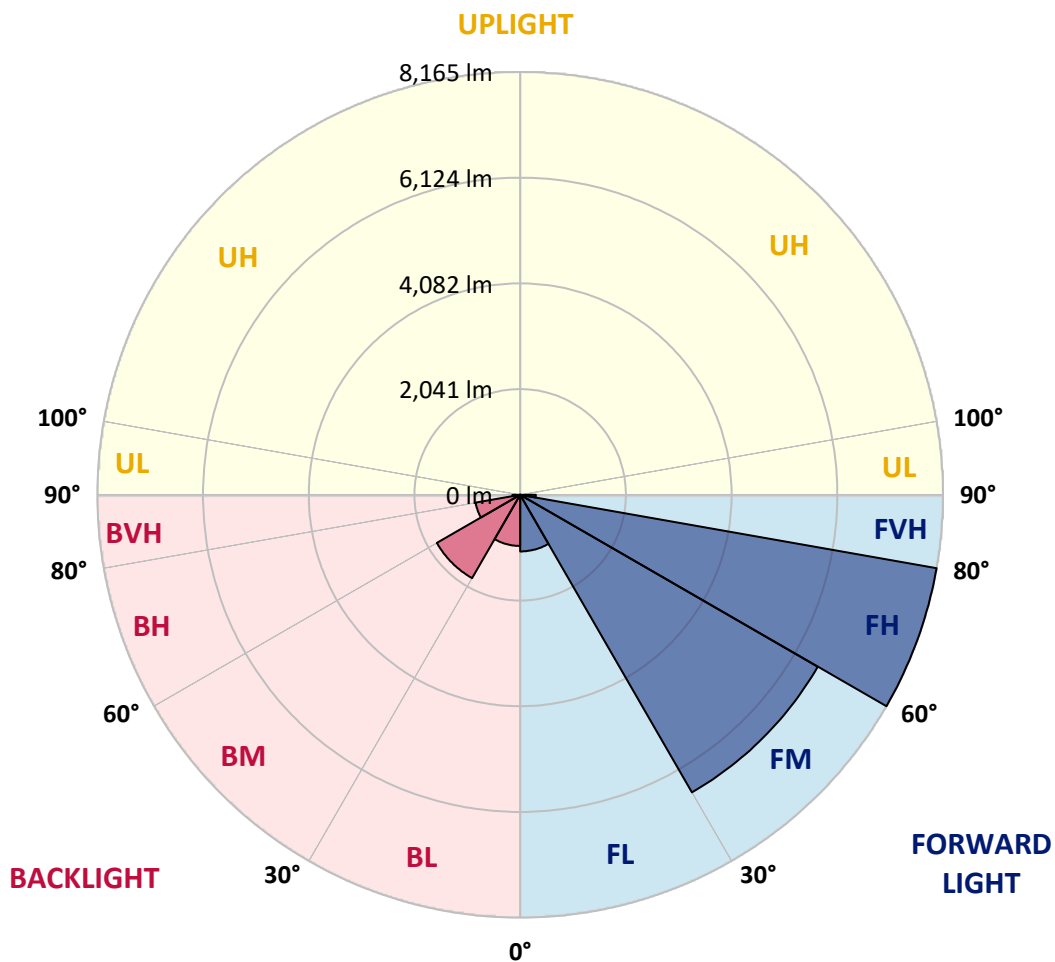
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1093.3	5.4			
FM	(30°-60°)	6634.2	33.1			
FH	(60°-80°)	8165.0	40.7			G4/12000
FVH	(80°-90°)	303.4	1.5			G3/500
BL	(0°-30°)	987.6	4.9	B2/1000		
BM	(30°-60°)	1858.2	9.3	B2/2500		
BH	(60°-80°)	874.3	4.4	B2/1000		G2/1000
BVH	(80°-90°)	149.0	0.7			G2/225
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G4

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	36°	45°	55°	65°	75°	85°
0°	3039.3	3039.3	3039.3	3039.3	3039.3	3039.3	3039.3	3039.3	3039.3	3039.3	3039.3
2.5°	2923.3	2930.9	2932.2	2941.1	2941.1	2939.8	2943.6	2958.9	2966.6	2984.4	2999.7
5°	2779.2	2788.1	2791.9	2807.2	2826.4	2827.6	2841.7	2871.0	2899.0	2938.6	2971.7
7.5°	2617.3	2627.5	2637.7	2669.6	2697.6	2700.2	2726.9	2774.1	2811.1	2859.5	2919.4
10°	2460.5	2463.0	2473.2	2514.0	2551.0	2554.8	2593.1	2646.6	2696.3	2763.9	2831.5
12.5°	2331.7	2339.4	2336.8	2367.4	2399.3	2401.8	2452.8	2520.4	2593.1	2669.6	2749.9
15°	2287.1	2285.8	2259.1	2257.8	2271.8	2274.3	2324.1	2403.1	2484.7	2579.0	2682.3
17.5°	2317.7	2307.5	2237.4	2194.0	2185.1	2187.7	2224.6	2311.3	2398.0	2506.4	2630.0
20°	2486.0	2446.5	2282.0	2177.5	2148.1	2148.1	2169.8	2239.9	2335.5	2461.8	2617.3
22.5°	2885.0	2823.8	2473.2	2287.1	2183.8	2173.6	2157.1	2210.6	2316.4	2468.1	2669.6
25°	3387.3	3358.0	2823.8	2579.0	2366.1	2333.0	2223.4	2242.5	2355.9	2537.0	2812.3
27.5°	3852.6	3801.6	3284.0	3003.6	2702.7	2651.7	2419.7	2341.9	2450.3	2664.5	3018.9
30°	4124.2	4089.7	3757.0	3489.3	3131.1	3066.0	2733.3	2538.2	2618.6	2874.8	3312.1
32.5°	4419.9	4399.5	4231.3	3987.8	3595.1	3519.9	3138.7	2858.2	2876.1	3154.0	3665.2
35°	4706.8	4733.6	4637.9	4459.5	4094.8	4024.7	3683.1	3276.4	3193.5	3467.6	4042.6
37.5°	5051.0	5057.4	4997.4	4881.4	4620.1	4562.7	4281.0	3722.6	3539.0	3801.6	4407.2
40°	5738.1	5637.4	5402.9	5311.1	5155.5	5119.8	4798.6	4131.8	3860.3	4144.6	4751.4
42.5°	6481.4	6324.6	5957.4	5807.0	5744.5	5711.4	5229.5	4404.6	4161.1	4487.5	5089.2
45°	7080.6	6953.1	6593.6	6407.4	6415.1	6361.5	5605.6	4648.1	4487.5	4831.7	5466.6
47.5°	7670.8	7457.9	7055.1	7028.3	7117.5	7038.5	5965.1	4891.6	4827.9	5206.5	5844.0
50°	7709.1	7515.3	7352.1	7566.3	7719.3	7621.1	6291.4	5210.3	5181.0	5660.4	6331.0
52.5°	7243.7	7215.7	7464.3	7825.1	8078.8	7990.8	6557.9	5538.0	5541.8	6227.7	6923.8
55°	7074.2	7038.5	7336.8	7780.5	8123.4	8071.1	6756.8	5907.7	5942.1	6916.1	7559.9
57.5°	7359.8	7270.5	7329.2	7696.3	8018.9	7988.3	6963.3	6318.2	6380.7	7709.1	8147.6
60°	8245.8	8063.5	7752.4	7821.3	8022.7	8004.8	7259.0	6775.9	6880.4	8535.2	8519.9
62.5°	9572.9	9366.4	8732.8	8426.8	8382.2	8347.8	7747.3	7338.1	7390.4	9131.8	8303.2
65°	11028.8	10807.0	10053.5	9552.5	9289.9	9216.0	8535.2	8016.3	7688.7	9130.5	7459.2
67.5°	12663.2	12428.6	11677.7	11199.6	10915.3	10789.1	9813.9	8564.5	7591.8	8358.0	5968.9
70°	14337.1	14114.0	13769.8	13936.8	14061.7	13869.2	11828.1	8746.8	6895.7	6552.8	4008.2
72.5°	13448.5	13430.6	13692.0	15275.4	17683.6	17721.8	13839.9	8231.8	5327.6	3894.7	2136.7
73°	12623.7	12698.9	13183.3	15077.8	17993.4	18006.1	13879.4	7965.3	4891.6	3355.4	1876.6
75°	6540.0	7050.0	8847.5	12225.9	16661.1	16721.1	12234.8	6030.1	2915.6	1863.8	1264.7
77.5°	1751.7	1728.7	2850.6	5956.1	11107.8	11028.8	7730.7	2919.4	1397.2	1169.0	887.3
80°	600.5	608.1	970.2	2178.7	5184.9	5369.7	3355.4	1273.6	919.2	814.6	628.5
82.5°	306.0	316.2	507.4	926.8	2168.5	2122.6	1079.8	749.6	615.8	494.6	351.9
85°	163.2	168.3	279.2	480.6	795.5	804.4	379.9	400.3	391.4	280.5	173.4
87.5°	80.3	82.9	133.9	211.6	294.5	284.3	132.6	173.4	192.5	158.1	95.6
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°	3039.3	3039.3	3039.3	3039.3	3039.3	3039.3	3039.3	3039.3	3039.3	3039.3	3039.3
2.5°	3018.9	3018.9	3035.4	3063.5	3083.9	3103.0	3115.8	3136.2	3147.6	3146.4	3145.1
5°	2998.5	3011.2	3044.4	3078.8	3101.7	3117.0	3117.0	3126.0	3126.0	3122.1	3117.0
7.5°	2951.3	2973.0	3021.4	3052.0	3058.4	3041.8	3008.7	2983.2	2951.3	2934.7	2928.4
10°	2876.1	2904.1	2965.3	2979.3	2946.2	2887.6	2807.2	2738.4	2677.2	2649.2	2640.2
12.5°	2802.1	2839.1	2896.5	2874.8	2795.8	2681.0	2557.4	2463.0	2394.2	2367.4	2358.5
15°	2740.9	2785.6	2830.2	2762.6	2624.9	2465.6	2329.2	2241.2	2188.9	2168.5	2163.4
17.5°	2700.2	2752.4	2767.7	2641.5	2450.3	2271.8	2150.7	2093.3	2070.4	2061.4	2058.9
20°	2702.7	2761.3	2724.4	2524.2	2282.0	2102.2	2021.9	2005.4	2005.4	2005.4	2004.1
22.5°	2772.8	2823.8	2706.5	2414.6	2120.1	1959.5	1925.0	1939.1	1949.3	1949.3	1948.0
25°	2918.2	2946.2	2719.3	2308.8	1968.4	1835.8	1837.1	1863.8	1872.8	1872.8	1870.2
27.5°	3140.0	3117.0	2742.2	2191.5	1819.2	1723.6	1741.5	1765.7	1772.1	1768.2	1767.0
30°	3417.9	3326.1	2761.3	2053.8	1679.0	1619.1	1634.4	1648.4	1643.3	1634.4	1633.1
32.5°	3729.0	3539.0	2749.9	1899.5	1555.3	1510.7	1519.6	1527.3	1519.6	1498.0	1498.0
35°	4037.5	3731.5	2687.4	1731.3	1457.2	1406.2	1404.9	1429.1	1427.8	1402.3	1403.6
37.5°	4307.7	3883.2	2566.3	1577.0	1373.0	1329.7	1334.8	1350.1	1357.7	1323.3	1319.5
40°	4543.6	3987.8	2395.5	1445.7	1305.5	1308.0	1294.0	1269.8	1260.8	1245.5	1243.0
42.5°	4765.4	4060.4	2214.4	1336.1	1271.0	1300.4	1253.2	1195.8	1171.6	1185.6	1194.5
45°	4983.4	4142.0	2039.8	1245.5	1227.7	1277.4	1212.4	1148.6	1120.6	1127.0	1135.9
47.5°	5249.9	4255.5	1829.4	1148.6	1161.4	1235.3	1186.9	1118.1	1076.0	1050.5	1042.8
50°	5600.5	4419.9	1556.6	1044.1	1091.3	1189.4	1165.2	1073.4	1027.5	976.5	963.8
52.5°	6039.0	4575.5	1281.2	960.0	1033.9	1149.9	1129.5	1035.2	979.1	917.9	907.7
55°	6476.3	4597.1	1044.1	887.3	968.9	1096.4	1086.2	1004.6	925.5	875.8	865.6
57.5°	6782.3	4391.9	884.8	826.1	906.4	1030.1	1046.7	967.6	880.9	842.7	836.3
60°	6787.3	3901.1	787.9	785.3	859.3	972.7	1005.9	924.3	852.9	827.4	822.3
62.5°	6248.1	3143.8	725.4	754.7	824.8	925.5	975.3	900.1	846.5	836.3	831.2
65°	5237.1	2322.8	675.7	726.7	793.0	886.0	949.8	892.4	844.0	840.1	836.3
67.5°	3866.6	1592.3	633.6	691.0	757.3	845.2	925.5	880.9	828.7	844.0	838.9
70°	2432.4	1063.2	594.1	650.2	710.1	798.1	893.7	860.5	809.5	800.6	784.0
72.5°	1373.0	768.7	546.9	597.9	648.9	735.6	850.3	826.1	766.2	730.5	713.9
73°	1240.4	727.9	535.4	585.2	634.9	722.8	840.1	815.9	753.4	713.9	698.6
75°	907.7	595.4	483.2	532.9	576.2	664.2	791.7	764.9	697.3	650.2	640.0
77.5°	657.8	458.9	415.6	460.2	498.5	582.6	719.0	688.4	622.1	596.6	586.4
80°	474.2	348.0	344.2	387.6	420.7	506.1	641.3	609.4	545.6	620.9	604.3
82.5°	283.0	223.1	252.4	300.9	335.3	424.5	557.1	520.1	458.9	464.0	395.2
85°	135.1	126.2	156.8	197.6	221.8	290.7	464.0	434.7	367.2	300.9	294.5
87.5°	59.9	57.4	75.2	88.0	118.6	174.7	317.4	281.7	266.4	159.4	124.9
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)