

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: P195875

Luminaire Tested: **NAV-AF-05-D-UNV-T4FT-7050-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195875
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-7050-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 5000K, 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: 24487 lumens
Efficiency: N/A
Efficacy: 116.6 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

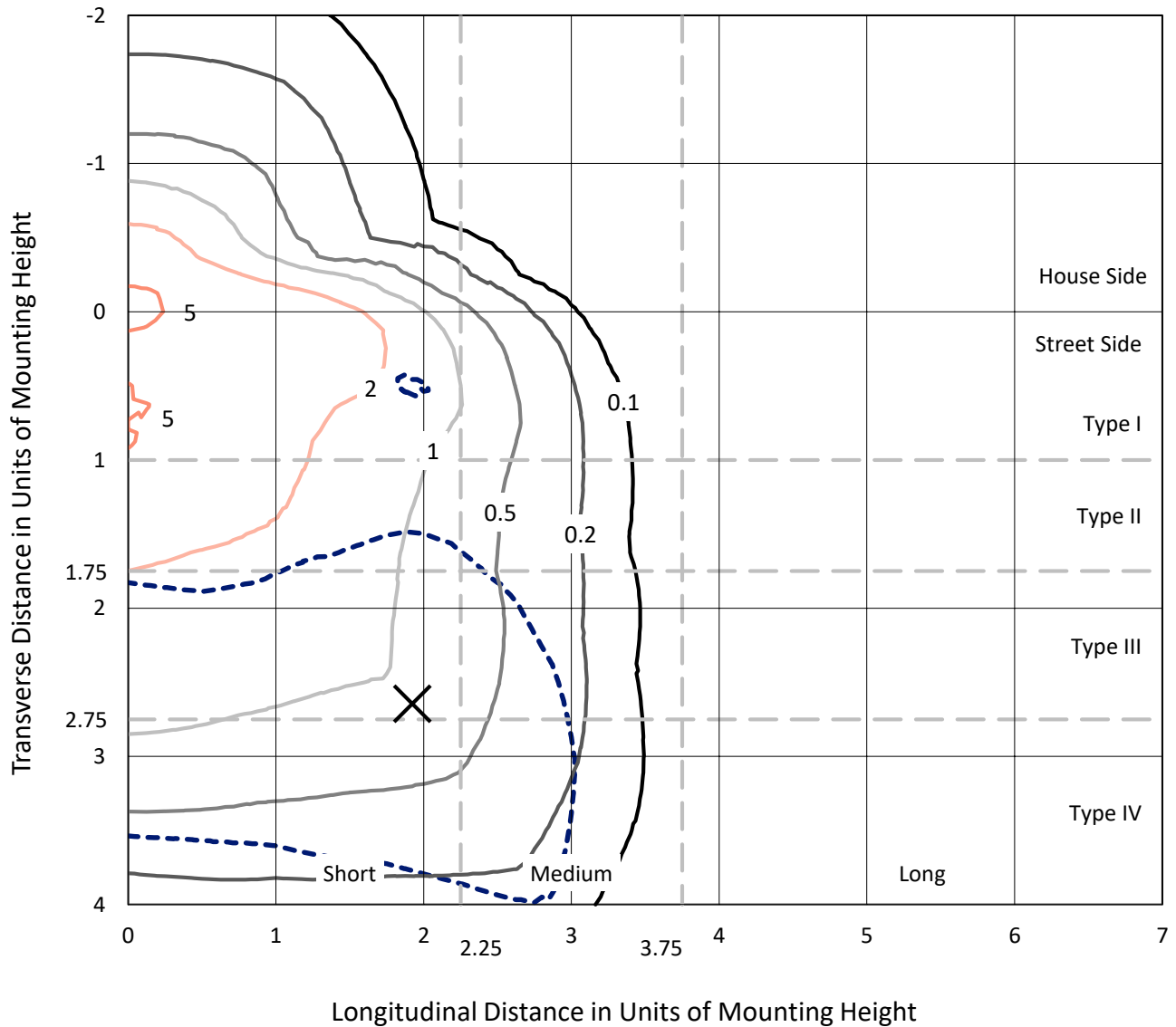
Input Watts (W): 210
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

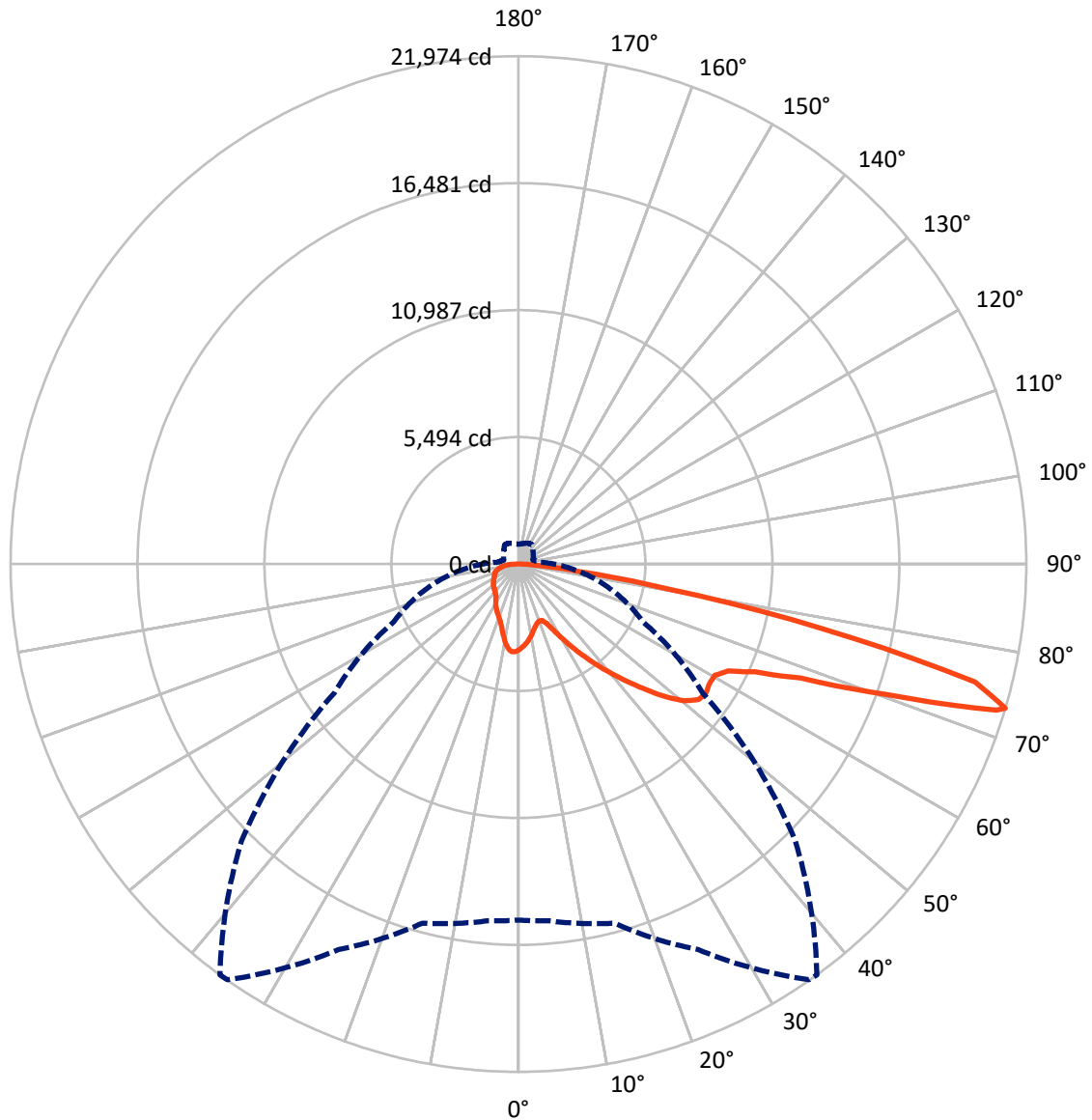
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 5.9 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	4721.8	0.0	4721.8
	% Fixture	19.3	0.0	19.3
Street Side	Lumens	19765.2	0.0	19765.2
	% Fixture	80.7	0.0	80.7
Total	Lumens	24487.0	0.0	24487.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	336.9	1.4
10°-20°	846.1	3.5
20°-30°	1356.5	5.5
30°-40°	2243.8	9.2
40°-50°	3472.1	14.2
50°-60°	4648.1	19.0
60°-70°	6071.8	24.8
70°-80°	4959.6	20.3
80°-90°	552.0	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°	24487.0	100.0
0°-180°	24487.0	100.0



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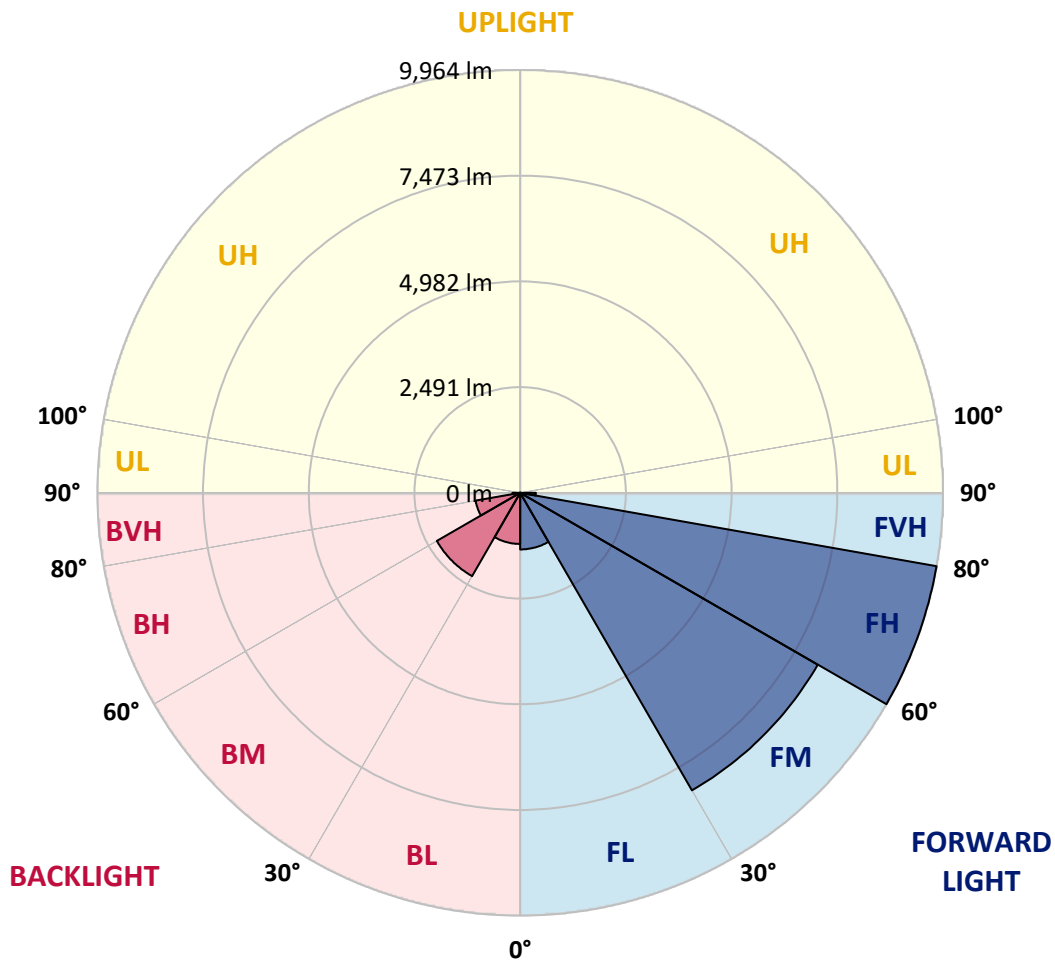
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1334.3	5.4			
FM	(30°-60°)	8096.3	33.1			
FH	(60°-80°)	9964.4	40.7			G4/12000
FVH	(80°-90°)	370.2	1.5			G3/500
BL	(0°-30°)	1205.3	4.9	B3/2500		
BM	(30°-60°)	2267.7	9.3	B2/2500		
BH	(60°-80°)	1067.0	4.4	B3/2500		G3/2500
BVH	(80°-90°)	181.8	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°	3709.1	3709.1	3709.1	3709.1	3709.1	3709.1	3709.1	3709.1	3709.1	3709.1	3709.1
2.5°	3567.5	3576.8	3578.4	3589.3	3589.3	3587.7	3592.4	3611.1	3620.4	3642.2	3660.8
5°	3391.7	3402.6	3407.2	3425.9	3449.2	3450.8	3467.9	3503.7	3537.9	3586.2	3626.6
7.5°	3194.1	3206.5	3219.0	3257.9	3292.1	3295.2	3327.9	3385.5	3430.6	3489.7	3562.8
10°	3002.7	3005.8	3018.3	3068.1	3113.2	3117.9	3164.5	3229.9	3290.6	3373.0	3455.5
12.5°	2845.6	2854.9	2851.8	2889.2	2928.0	2931.2	2993.4	3075.9	3164.5	3257.9	3355.9
15°	2791.1	2789.6	2756.9	2755.4	2772.5	2775.6	2836.3	2932.7	3032.3	3147.4	3273.4
17.5°	2828.5	2816.0	2730.5	2677.6	2666.7	2669.8	2714.9	2820.7	2926.5	3058.7	3209.7
20°	3033.8	2985.6	2784.9	2657.3	2621.6	2621.6	2648.0	2733.6	2850.3	3004.3	3194.1
22.5°	3520.8	3446.1	3018.3	2791.1	2665.1	2652.7	2632.4	2697.8	2826.9	3012.1	3257.9
25°	4133.8	4098.0	3446.1	3147.4	2887.6	2847.1	2713.3	2736.7	2875.2	3096.1	3432.1
27.5°	4701.7	4639.4	4007.8	3665.5	3298.3	3236.1	2952.9	2858.0	2990.3	3251.7	3684.2
30°	5033.1	4991.1	4585.0	4258.3	3821.1	3741.7	3335.7	3097.6	3195.6	3508.4	4042.0
32.5°	5394.0	5369.1	5163.8	4866.6	4387.4	4295.6	3830.4	3488.1	3509.9	3849.1	4473.0
35°	5744.1	5776.7	5660.1	5442.2	4997.3	4911.7	4494.8	3998.5	3897.3	4231.8	4933.5
37.5°	6164.1	6171.9	6098.8	5957.2	5638.3	5568.3	5224.4	4543.0	4318.9	4639.4	5378.5
40°	7002.7	6879.8	6593.6	6481.5	6291.7	6248.2	5856.1	5042.4	4711.0	5058.0	5798.5
42.5°	7909.8	7718.4	7270.3	7086.7	7010.5	6970.1	6382.0	5375.3	5078.2	5476.5	6210.8
45°	8641.0	8485.4	8046.7	7819.5	7828.9	7763.5	6840.9	5672.5	5476.5	5896.5	6671.3
47.5°	9361.4	9101.5	8609.9	8577.2	8686.1	8589.7	7279.7	5969.7	5891.9	6354.0	7131.9
50°	9408.0	9171.5	8972.4	9233.8	9420.5	9300.7	7678.0	6358.6	6322.8	6907.8	7726.2
52.5°	8840.2	8805.9	9109.3	9549.6	9859.2	9751.9	8003.1	6758.5	6763.1	7600.2	8449.6
55°	8633.2	8589.7	8953.7	9495.2	9913.7	9849.9	8245.8	7209.7	7251.7	8440.3	9226.0
57.5°	8981.7	8872.8	8944.4	9392.5	9786.1	9748.8	8497.9	7710.6	7786.9	9408.0	9943.2
60°	10063.0	9840.5	9460.9	9544.9	9790.8	9769.0	8858.8	8269.2	8396.7	10416.2	10397.5
62.5°	11682.6	11430.6	10657.3	10284.0	10229.5	10187.5	9454.7	8955.3	9019.1	11144.3	10133.0
65°	13459.4	13188.7	12269.2	11657.7	11337.2	11247.0	10416.2	9783.0	9383.1	11142.8	9103.1
67.5°	15453.9	15167.7	14251.3	13667.9	13320.9	13166.9	11976.7	10452.0	9264.9	10199.9	7284.3
70°	17496.7	17224.5	16804.4	17008.2	17160.7	16925.7	14434.9	10674.5	8415.4	7996.9	4891.5
72.5°	16412.3	16390.5	16709.5	18641.8	21580.7	21627.4	16890.0	10045.9	6501.8	4753.0	2607.5
73°	15405.7	15497.5	16088.7	18400.7	21958.8	21974.4	16938.2	9720.7	5969.7	4094.9	2290.2
75°	7981.3	8603.7	10797.4	14920.3	20333.0	20406.1	14931.2	7359.0	3558.2	2274.6	1543.4
77.5°	2137.7	2109.7	3478.8	7268.8	13555.8	13459.4	9434.5	3562.8	1705.2	1426.7	1082.8
80°	732.8	742.1	1184.0	2658.9	6327.5	6553.1	4094.9	1554.3	1121.7	994.2	767.0
82.5°	373.4	385.8	619.2	1131.1	2646.4	2590.4	1317.8	914.8	751.5	603.7	429.4
85°	199.1	205.4	340.7	586.5	970.8	981.7	463.6	488.5	477.6	342.3	211.6
87.5°	98.0	101.1	163.4	258.3	359.4	346.9	161.8	211.6	234.9	192.9	116.7
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°	3709.1	3709.1	3709.1	3709.1	3709.1	3709.1	3709.1	3709.1	3709.1	3709.1	3709.1
2.5°	3684.2	3684.2	3704.4	3738.6	3763.5	3786.9	3802.4	3827.3	3841.3	3839.8	3838.2
5°	3659.3	3674.8	3715.3	3757.3	3785.3	3804.0	3804.0	3814.9	3814.9	3810.2	3804.0
7.5°	3601.7	3628.2	3687.3	3724.6	3732.4	3712.2	3671.7	3640.6	3601.7	3581.5	3573.7
10°	3509.9	3544.2	3618.8	3635.9	3595.5	3523.9	3425.9	3341.9	3267.2	3233.0	3222.1
12.5°	3419.7	3464.8	3534.8	3508.4	3411.9	3271.9	3121.0	3005.8	2921.8	2889.2	2878.3
15°	3345.0	3399.5	3453.9	3371.5	3203.4	3009.0	2842.5	2735.1	2671.3	2646.4	2640.2
17.5°	3295.2	3359.0	3377.7	3223.7	2990.3	2772.5	2624.7	2554.7	2526.6	2515.8	2512.6
20°	3298.3	3369.9	3324.8	3080.5	2784.9	2565.5	2467.5	2447.3	2447.3	2447.3	2445.7
22.5°	3383.9	3446.1	3303.0	2946.7	2587.3	2391.3	2349.3	2366.4	2378.8	2378.8	2377.3
25°	3561.3	3595.5	3318.6	2817.6	2402.2	2240.4	2241.9	2274.6	2285.5	2285.5	2282.4
27.5°	3832.0	3804.0	3346.6	2674.4	2220.2	2103.5	2125.2	2154.8	2162.6	2157.9	2156.4
30°	4171.1	4059.1	3369.9	2506.4	2049.0	1975.9	1994.6	2011.7	2005.4	1994.6	1993.0
32.5°	4550.8	4318.9	3355.9	2318.2	1898.1	1843.6	1854.5	1863.9	1854.5	1828.1	1828.1
35°	4927.3	4553.9	3279.7	2112.8	1778.3	1716.1	1714.5	1744.1	1742.5	1711.4	1713.0
37.5°	5257.1	4739.0	3131.9	1924.5	1675.6	1622.7	1628.9	1647.6	1656.9	1614.9	1610.3
40°	5544.9	4866.6	2923.4	1764.3	1593.2	1596.3	1579.2	1549.6	1538.7	1520.0	1516.9
42.5°	5815.6	4955.3	2702.5	1630.5	1551.1	1586.9	1529.4	1459.4	1429.8	1446.9	1457.8
45°	6081.7	5054.9	2489.3	1520.0	1498.3	1558.9	1479.6	1401.8	1367.6	1375.3	1386.2
47.5°	6406.9	5193.3	2232.6	1401.8	1417.3	1507.6	1448.5	1364.5	1313.1	1282.0	1272.7
50°	6834.7	5394.0	1899.7	1274.2	1331.8	1451.6	1422.0	1310.0	1254.0	1191.8	1176.2
52.5°	7369.9	5583.8	1563.6	1171.5	1261.8	1403.3	1378.5	1263.3	1194.9	1120.2	1107.7
55°	7903.6	5610.3	1274.2	1082.8	1182.4	1338.0	1325.6	1226.0	1129.5	1068.8	1056.4
57.5°	8276.9	5359.8	1079.7	1008.2	1106.2	1257.1	1277.3	1180.9	1075.1	1028.4	1020.6
60°	8283.2	4760.8	961.5	958.4	1048.6	1187.1	1227.5	1128.0	1040.8	1009.7	1003.5
62.5°	7625.1	3836.6	885.3	921.0	1006.6	1129.5	1190.2	1098.4	1033.1	1020.6	1014.4
65°	6391.3	2834.7	824.6	886.8	967.7	1081.3	1159.1	1089.1	1030.0	1025.3	1020.6
67.5°	4718.8	1943.2	773.2	843.3	924.2	1031.5	1129.5	1075.1	1011.3	1030.0	1023.7
70°	2968.5	1297.6	725.0	793.5	866.6	973.9	1090.6	1050.2	987.9	977.1	956.8
72.5°	1675.6	938.2	667.4	729.7	791.9	897.7	1037.7	1008.2	935.0	891.5	871.3
73°	1513.8	888.4	653.4	714.1	774.8	882.1	1025.3	995.7	919.5	871.3	852.6
75°	1107.7	726.6	589.7	650.3	703.2	810.6	966.2	933.5	851.0	793.5	781.0
77.5°	802.8	560.1	507.2	561.7	608.3	711.0	877.5	840.1	759.2	728.1	715.7
80°	578.8	424.7	420.1	473.0	513.4	617.7	782.6	743.7	665.9	757.7	737.5
82.5°	345.4	272.3	308.1	367.2	409.2	518.1	679.9	634.8	560.1	566.3	482.3
85°	164.9	154.0	191.4	241.2	270.7	354.7	566.3	530.5	448.1	367.2	359.4
87.5°	73.1	70.0	91.8	107.4	144.7	213.1	387.4	343.8	325.2	194.5	152.5
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)