

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: P196971

Luminaire Tested: **NAV-AF-03-D-UNV-AFL-8030-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196971
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24160)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-AF-03-D-UNV-AFL-8030-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 80 CRI, 3000K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND AUTOMOTIVE FRONTLINE OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9979 lumens
Efficiency: N/A
Efficacy: 103.9 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')
IES Classification: Type II - Short - Full Cutoff
BUG Rating: B1 - U0 - G1

Input Watts (W): 96
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

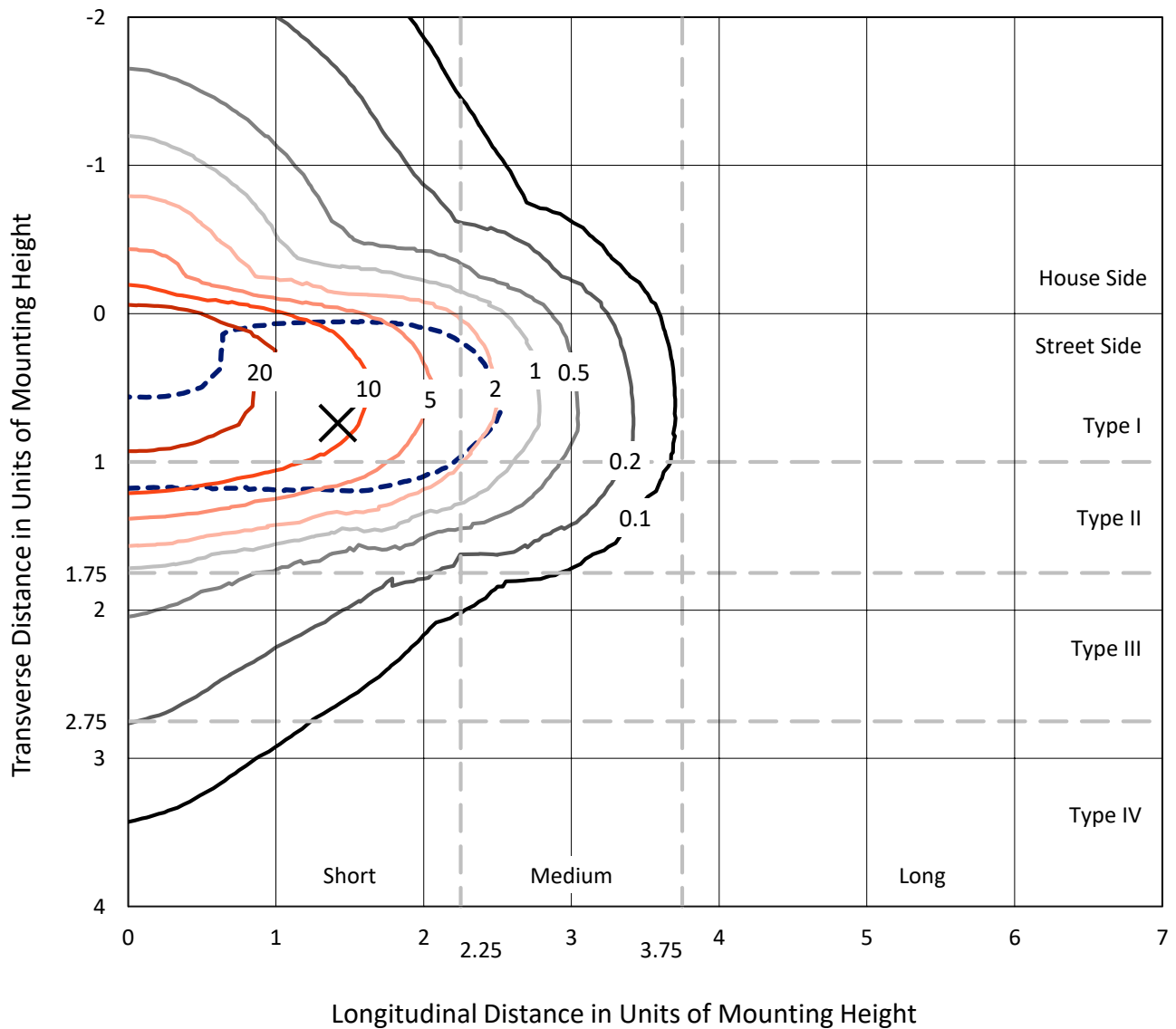


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Iso-Footcandle Lines of Horizontal Illumination

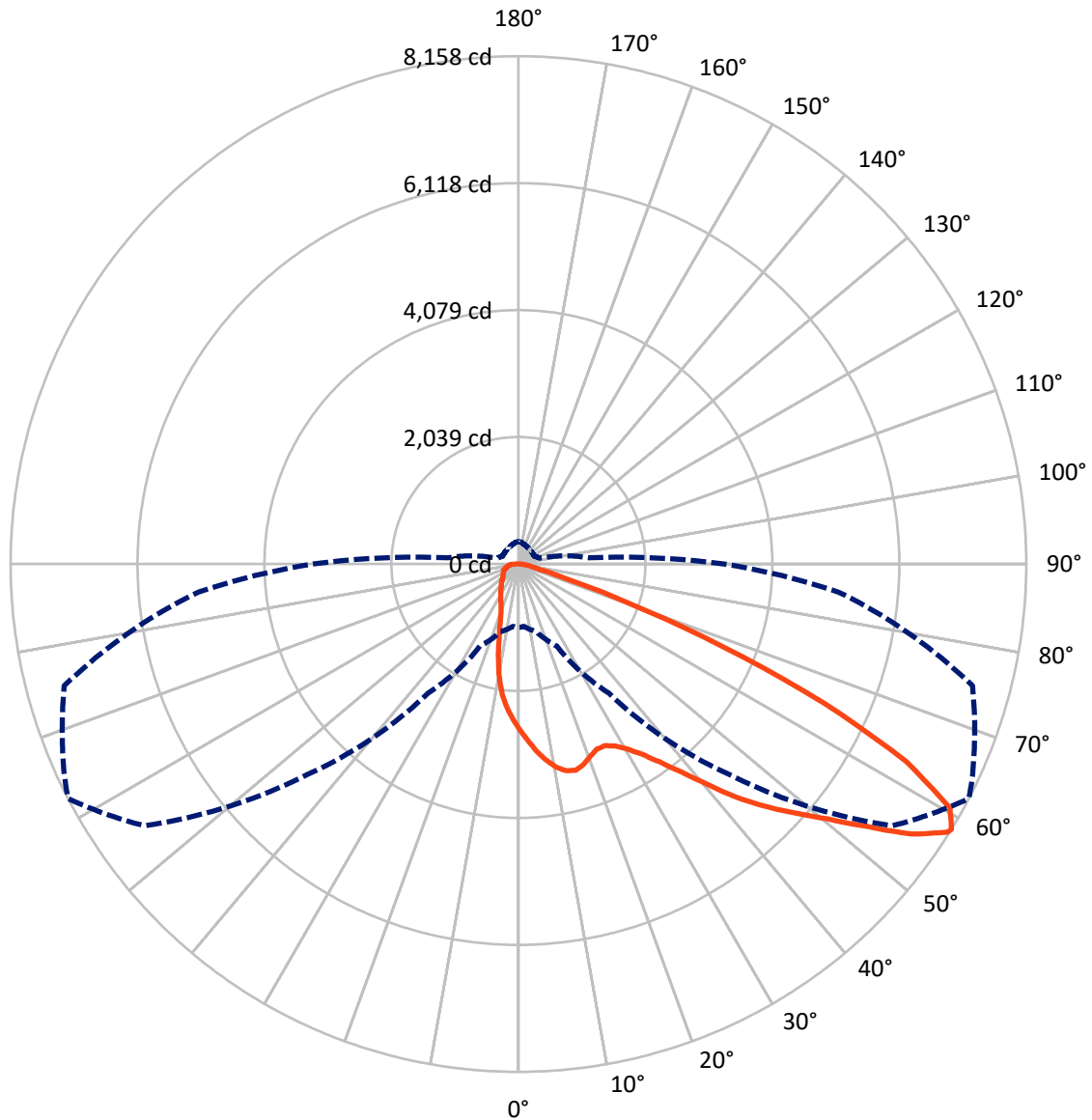
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 31.2 fc
 Type II - Short - Full Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 62.5-Deg Lateral - - - Horizontal Cone Through 58-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1532.2	0.0	1532.2
	% Fixture	15.4	0.0	15.4
Street Side	Lumens	8446.8	0.0	8446.8
	% Fixture	84.6	0.0	84.6
Total	Lumens	9979.0	0.0	9979.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	238.1	2.4
10°-20°	601.0	6.0
20°-30°	974.0	9.8
30°-40°	1555.1	15.6
40°-50°	2262.0	22.7
50°-60°	2366.9	23.7
60°-70°	1443.0	14.5
70°-80°	403.5	4.0
80°-90°	135.3	1.4
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°	9979.0	100.0
0°-180°	9979.0	100.0



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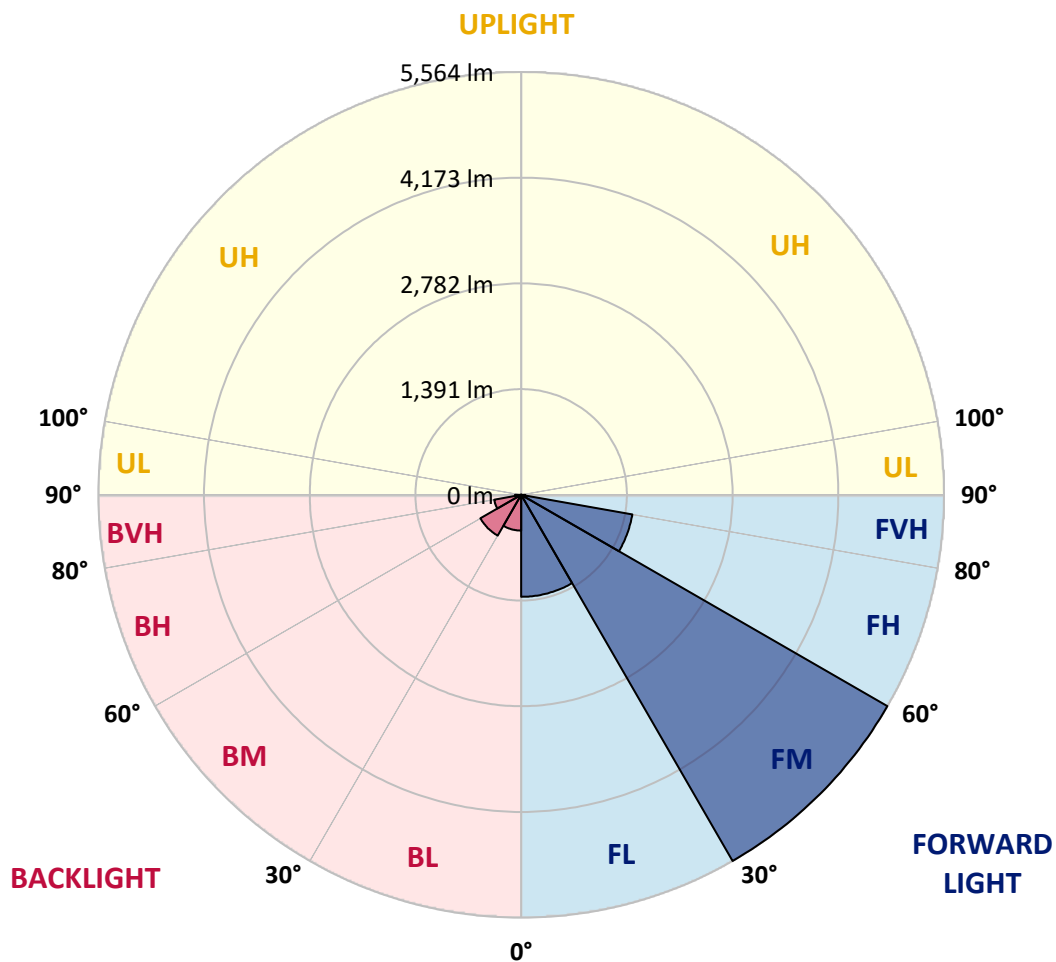
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1342.2	13.5			
FM	(30°-60°)	5564.4	55.8			
FH	(60°-80°)	1485.8	14.9			G1/1800
FVH	(80°-90°)	54.4	0.5			G1/100
BL	(0°-30°)	471.0	4.7	B1/500		
BM	(30°-60°)	619.6	6.2	B1/1000		
BH	(60°-80°)	360.7	3.6	B1/500		G1/500
BVH	(80°-90°)	80.9	0.8			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G1

Type II Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	62.5°	65°	75°	85°
0°	2664.3	2664.3	2664.3	2664.3	2664.3	2664.3	2664.3	2664.3	2664.3	2664.3	2664.3
2.5°	3024.2	3022.3	2996.7	2979.9	2959.9	2913.8	2867.6	2833.3	2815.9	2749.1	2684.3
5°	3274.3	3266.8	3252.5	3234.4	3208.2	3150.2	3077.2	3014.2	2989.3	2870.8	2751.6
7.5°	3142.1	3153.9	3198.2	3248.1	3300.5	3304.2	3252.5	3177.6	3150.2	2991.8	2817.1
10°	2776.0	2771.0	2826.5	2923.8	3096.5	3267.4	3352.9	3316.1	3287.4	3106.5	2882.6
12.5°	2665.0	2663.7	2673.1	2698.0	2806.5	3041.0	3327.3	3407.1	3397.1	3228.1	2952.5
15°	2698.6	2699.9	2699.3	2702.4	2732.3	2843.9	3184.5	3437.7	3468.9	3348.5	3023.6
17.5°	2806.5	2802.2	2788.4	2773.5	2777.8	2817.8	3030.4	3385.3	3478.8	3455.8	3083.4
20°	2973.0	2973.0	2936.2	2894.5	2867.0	2875.8	2966.2	3295.5	3432.7	3546.8	3128.3
22.5°	3182.0	3185.1	3130.8	3054.7	2992.4	2968.7	3003.0	3228.8	3376.6	3631.0	3168.3
25°	3441.4	3440.8	3361.6	3252.5	3153.9	3097.2	3096.5	3231.9	3359.1	3729.6	3210.0
27.5°	3762.6	3733.3	3641.0	3485.7	3346.6	3259.9	3220.6	3310.5	3395.9	3850.6	3266.2
30°	4125.0	4095.0	3974.0	3774.5	3586.1	3459.5	3394.6	3446.4	3508.2	4004.6	3351.0
32.5°	4483.6	4490.4	4348.2	4123.1	3881.1	3702.7	3606.7	3638.5	3681.5	4192.9	3465.7
35°	5008.7	5008.1	4822.2	4541.0	4253.4	4006.5	3884.9	3901.7	3941.0	4458.6	3626.7
37.5°	5400.4	5394.1	5274.4	5025.6	4701.9	4405.6	4229.7	4232.2	4265.9	4792.3	3838.7
40°	5440.3	5439.0	5438.4	5402.9	5181.5	4902.1	4681.9	4636.4	4650.1	5146.5	4063.8
42.5°	5135.3	5180.8	5311.8	5512.6	5574.4	5427.8	5219.5	5117.9	5087.9	5553.2	4302.1
45°	4700.6	4723.7	4953.2	5404.7	5772.1	5921.8	5765.2	5550.7	5499.5	5948.6	4496.1
47.5°	4498.5	4488.6	4621.4	5113.5	5752.8	6314.7	6325.9	5974.2	5887.5	6289.7	4661.3
50°	4065.1	4052.0	4219.8	4685.0	5542.0	6509.9	6901.6	6435.7	6275.4	6614.0	4811.0
52.5°	3201.3	3188.8	3414.0	4013.3	5070.5	6436.9	7386.8	7002.0	6728.8	6926.5	4950.7
55°	2083.1	2084.3	2298.9	2916.9	4103.1	6011.6	7614.4	7656.2	7350.0	7239.0	5063.6
57.5°	1146.9	1136.3	1289.1	1668.9	2822.7	5045.5	7424.8	8127.7	7968.0	7507.1	5145.3
58°	1019.7	1007.2	1125.1	1452.5	2530.9	4773.0	7329.4	8157.6	8047.2	7551.4	5157.1
60°	726.6	705.4	687.3	818.9	1458.1	3441.4	6693.2	7963.7	8070.3	7640.0	5145.9
62.5°	612.4	588.1	523.3	518.3	686.7	1683.3	5293.1	6993.9	7292.6	7436.0	4965.1
65°	568.8	544.5	459.0	428.5	465.9	726.6	3273.0	5400.4	5799.5	6726.9	4509.8
67.5°	537.6	508.9	417.2	377.3	384.8	434.7	1388.9	3531.9	3994.6	5245.7	3617.9
70°	509.5	477.7	384.2	338.0	331.8	330.5	542.6	1844.2	2290.1	3432.7	2423.6
72.5°	477.7	446.5	354.9	305.6	291.9	268.2	326.2	762.1	1044.7	1682.7	1110.8
75°	431.6	406.0	322.4	278.8	255.1	217.7	240.7	365.5	450.3	644.3	515.8
77.5°	379.8	359.2	289.4	256.3	224.5	177.7	184.0	247.6	278.2	363.0	298.7
80°	268.8	276.3	252.6	225.8	197.7	143.4	141.6	181.5	199.6	243.9	200.8
82.5°	185.2	190.8	205.8	178.4	159.7	111.6	104.2	126.0	135.3	147.2	97.3
85°	132.2	128.5	142.8	127.9	117.3	71.1	66.7	79.8	85.4	89.8	46.8
87.5°	80.5	79.8	82.3	66.1	61.1	36.2	33.1	38.0	40.5	39.3	22.5
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°	2664.3	2664.3	2664.3	2664.3	2664.3	2664.3	2664.3	2664.3	2664.3	2664.3	2664.3
2.5°	2660.0	2629.4	2562.7	2509.0	2451.0	2406.8	2362.5	2337.5	2310.1	2294.5	2292.6
5°	2689.3	2626.9	2484.7	2352.5	2216.5	2094.3	1974.5	1886.0	1813.6	1772.5	1770.0
7.5°	2721.7	2623.8	2404.3	2175.4	1933.4	1692.6	1480.0	1329.7	1233.0	1188.1	1185.0
10°	2746.7	2610.7	2306.3	1950.2	1566.7	1248.6	1055.3	966.7	937.4	929.9	928.6
12.5°	2776.6	2601.3	2182.9	1661.5	1197.5	950.5	891.9	886.2	892.5	896.2	896.8
15°	2804.7	2583.3	2016.3	1341.5	937.4	849.4	850.7	862.5	875.0	880.6	881.2
17.5°	2817.8	2539.0	1797.4	1057.1	820.1	803.9	818.3	833.8	845.1	849.4	849.4
20°	2817.8	2467.9	1543.6	856.3	759.0	762.1	779.6	791.4	793.9	790.2	788.3
22.5°	2805.9	2379.9	1296.6	747.2	709.1	721.0	734.7	726.6	697.3	674.8	670.4
25°	2795.3	2275.8	1059.0	680.4	665.5	681.1	675.4	619.9	575.0	551.9	548.2
27.5°	2777.8	2149.8	860.7	625.5	623.0	635.5	580.0	526.4	503.9	491.5	489.0
30°	2773.5	2013.2	720.3	576.9	581.3	563.8	500.2	482.7	477.7	470.9	467.8
32.5°	2787.8	1876.6	632.4	537.0	541.3	484.0	459.6	462.1	461.5	452.8	449.7
35°	2827.1	1743.8	576.3	500.8	488.3	433.5	436.6	444.1	444.1	433.5	429.7
37.5°	2895.7	1620.3	540.7	470.2	427.2	407.3	415.4	425.3	425.3	417.9	414.7
40°	2968.7	1499.9	513.9	445.9	388.5	389.2	397.3	404.8	407.9	409.1	406.6
42.5°	3034.8	1375.2	485.2	419.7	371.1	375.5	379.2	384.8	397.9	406.6	405.4
45°	3073.5	1249.8	454.0	387.3	359.2	361.1	359.9	369.8	385.4	398.5	398.5
47.5°	3109.0	1146.9	428.5	354.9	347.4	347.4	343.6	353.6	368.0	383.6	384.8
50°	3142.7	1080.2	410.4	329.9	332.4	330.5	329.3	338.7	358.0	376.7	379.8
52.5°	3177.0	1057.7	394.2	311.8	316.8	314.3	315.6	328.7	350.5	369.8	373.0
55°	3225.0	1072.1	377.3	299.4	301.9	301.2	306.2	321.2	340.5	359.9	361.1
57.5°	3284.3	1124.5	363.0	290.0	287.5	291.3	299.4	313.7	332.4	355.5	357.4
58°	3296.1	1137.0	360.5	287.5	284.4	290.0	298.1	311.8	331.2	355.5	357.4
60°	3314.2	1181.2	354.2	282.5	273.8	283.8	293.7	307.5	328.7	358.6	362.4
62.5°	3226.9	1190.0	352.4	276.9	262.6	275.0	286.9	302.5	326.2	369.2	377.3
65°	2924.4	1100.2	339.3	267.6	253.2	268.2	280.7	298.7	333.7	401.0	404.8
67.5°	2347.5	913.7	307.5	253.2	242.6	260.1	275.7	298.7	336.8	406.0	408.5
70°	1614.1	686.7	267.6	237.6	230.1	250.1	273.8	305.6	326.2	384.2	376.7
72.5°	843.2	477.7	234.5	219.5	215.2	241.4	291.9	298.7	313.7	358.6	351.1
75°	424.7	324.9	206.4	199.0	198.3	238.2	326.8	287.5	300.6	337.4	353.6
77.5°	250.7	254.5	184.0	179.6	182.7	232.6	327.4	276.3	285.6	310.6	328.1
80°	171.5	210.2	166.5	165.3	167.8	213.9	301.9	262.6	268.2	293.7	312.5
82.5°	96.7	116.0	145.9	154.0	152.8	175.3	260.7	238.9	245.7	347.4	367.3
85°	46.8	69.9	122.2	144.1	130.3	116.6	212.0	212.0	213.9	248.8	252.0
87.5°	17.5	31.2	82.3	114.1	91.1	69.9	144.1	150.3	167.1	172.1	175.9
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)