

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: P270414

Luminaire Tested: **NAV-AF-03-D-UNV-AFL-7027-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P270414
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-7027-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 70 CRI, 2700K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND AUTOMOTIVE FRONTLINE OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 10624.5 lumens
Efficiency: N/A
Efficacy: 110.7 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')
IES Classification: Type II - Short - Full Cutoff
BUG Rating: B2 - 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

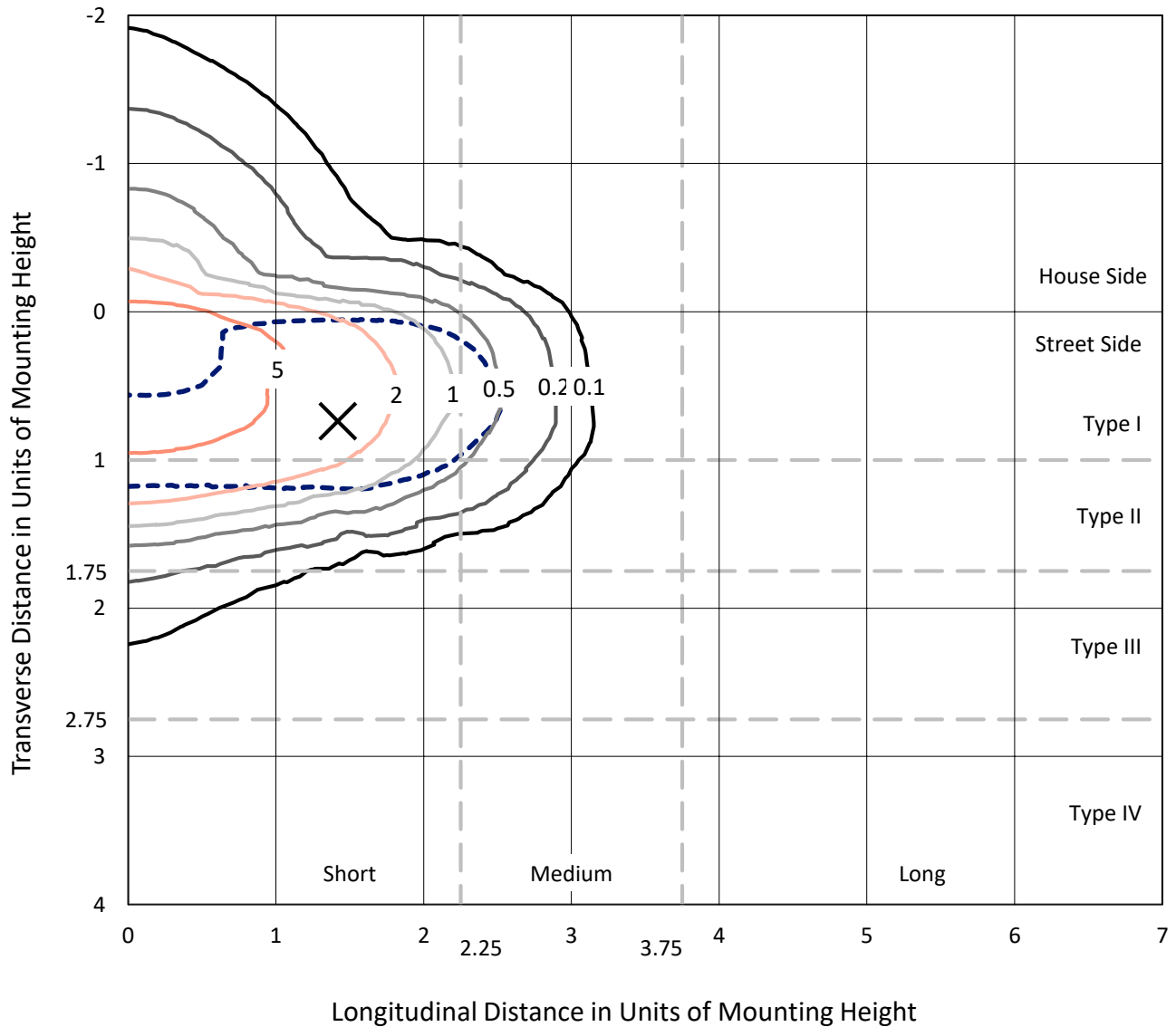


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Iso-Footcandle Lines of Horizontal Illumination

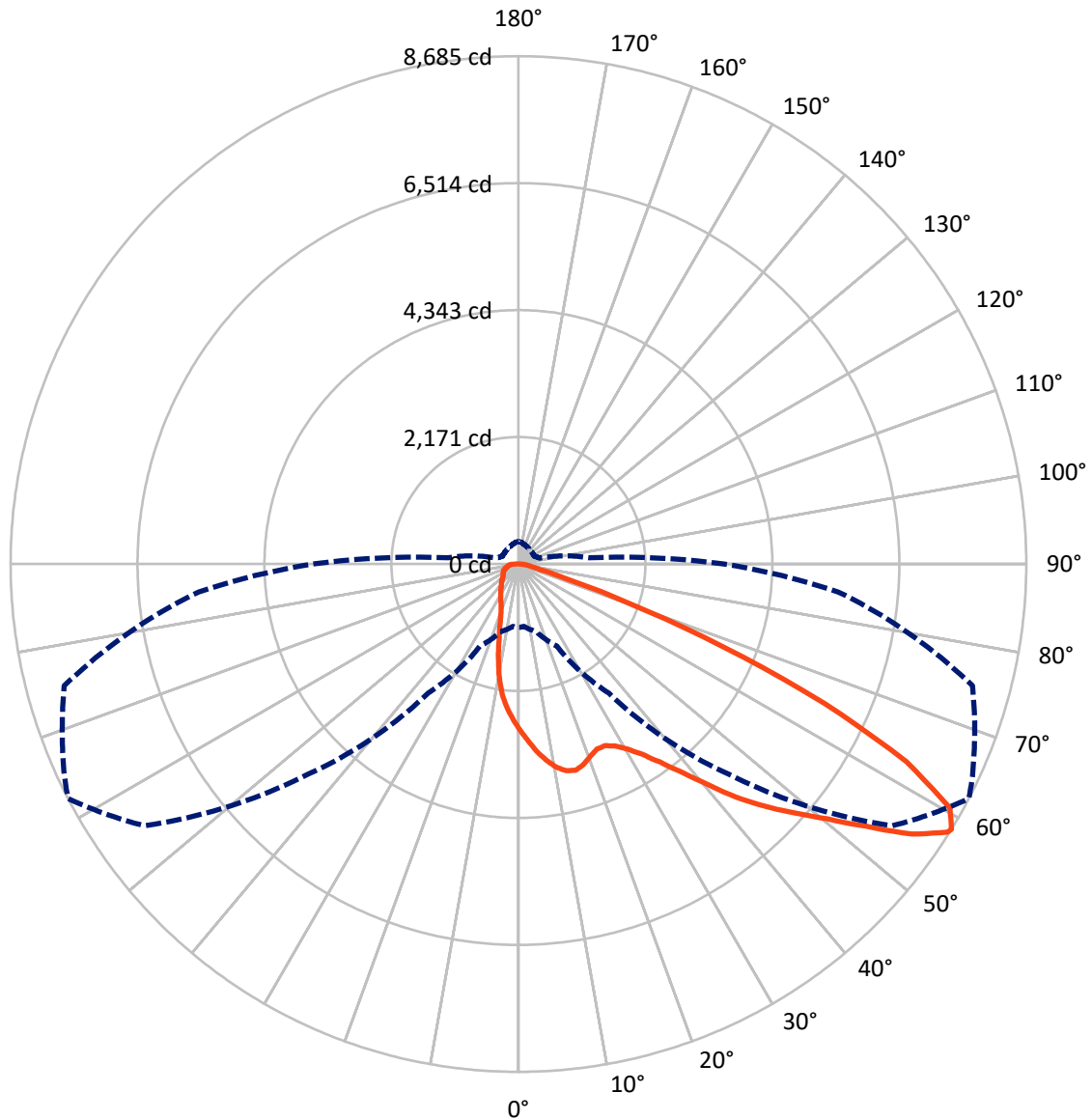
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 8.3 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	1631.3	0.0	1631.3
	% Fixture	15.4	0.0	15.4
Street Side	Lumens	8993.3	0.0	8993.3
	% Fixture	84.6	0.0	84.6
Total	Lumens	10624.5	0.0	10624.5
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	253.6	2.4
10°-20°	639.9	6.0
20°-30°	1037.0	9.8
30°-40°	1655.7	15.6
40°-50°	2408.3	22.7
50°-60°	2520.1	23.7
60°-70°	1536.3	14.5
70°-80°	429.6	4.0
80°-90°	144.0	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°	10624.5	100.0
0°-180°	10624.5	100.0

Coefficient of Utilization



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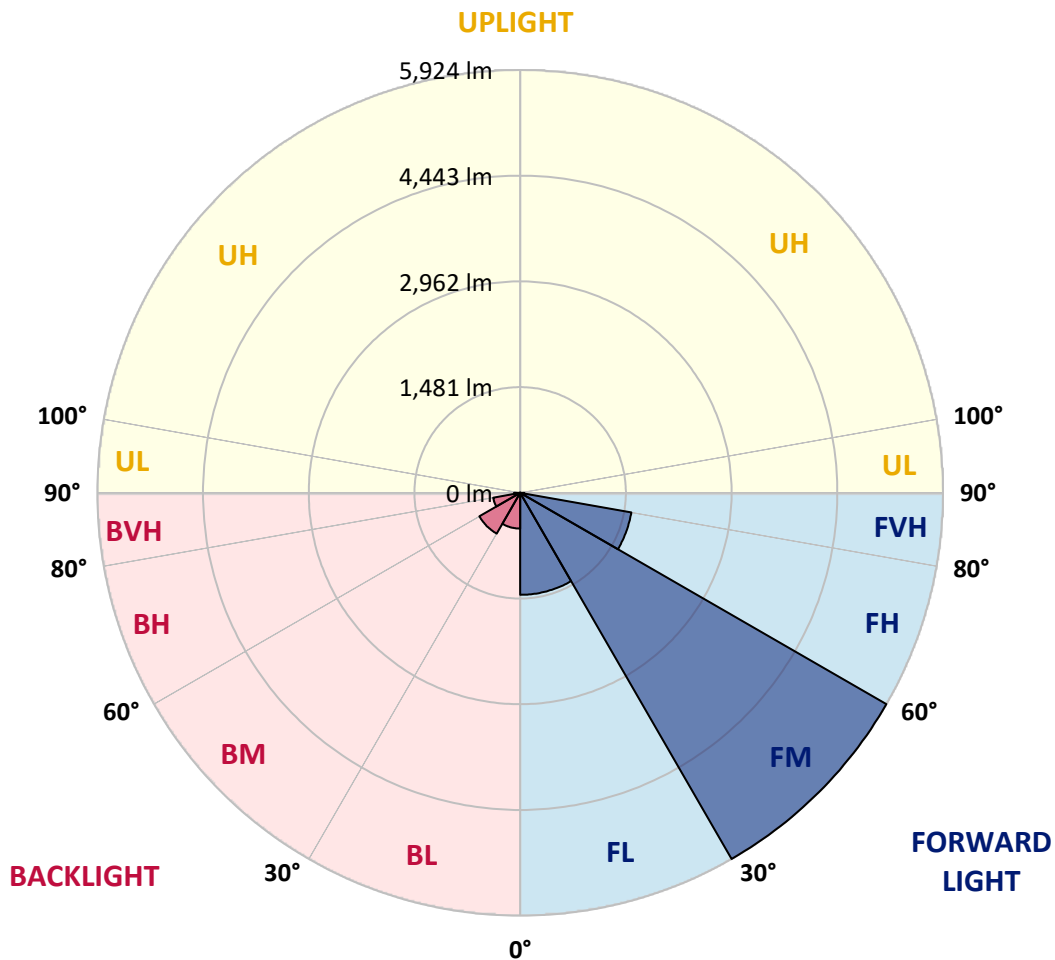
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1429.0	13.5			
FM	(30°-60°)	5924.4	55.8			
FH	(60°-80°)	1581.9	14.9			G1/1800
FVH	(80°-90°)	57.9	0.5			G1/100
BL	(0°-30°)	501.5	4.7	B2/1000		
BM	(30°-60°)	659.7	6.2	B1/1000		
BH	(60°-80°)	384.0	3.6	B1/500		G1/500
BVH	(80°-90°)	86.1	0.8			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-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°	2836.7	2836.7	2836.7	2836.7	2836.7	2836.7	2836.7	2836.7	2836.7	2836.7	2836.7
2.5°	3219.9	3217.8	3190.6	3172.6	3151.4	3102.2	3053.2	3016.6	2998.1	2926.9	2858.0
5°	3486.1	3478.1	3462.8	3443.7	3415.7	3353.9	3276.3	3209.1	3182.7	3056.5	2929.6
7.5°	3345.3	3358.0	3405.0	3458.2	3514.0	3517.9	3462.8	3383.1	3353.9	3185.3	2999.4
10°	2955.6	2950.3	3009.3	3112.8	3296.9	3478.7	3569.8	3530.6	3500.1	3307.5	3069.1
12.5°	2837.3	2835.9	2846.0	2872.5	2988.1	3237.8	3542.6	3627.5	3616.8	3436.9	3143.4
15°	2873.1	2874.5	2873.9	2877.2	2909.0	3027.8	3390.5	3660.1	3693.2	3565.2	3219.2
17.5°	2988.1	2983.5	2968.8	2952.9	2957.5	3000.0	3226.4	3604.3	3703.9	3679.3	3282.9
20°	3165.4	3165.4	3126.2	3081.6	3052.5	3061.9	3158.1	3508.7	3654.8	3776.3	3330.7
22.5°	3387.8	3391.1	3333.4	3252.4	3186.0	3160.7	3197.2	3437.6	3594.9	3865.9	3373.2
25°	3664.0	3663.4	3579.0	3462.8	3358.0	3297.5	3296.9	3441.0	3576.4	3970.8	3417.7
27.5°	4006.0	3974.8	3876.5	3711.2	3563.0	3470.8	3429.0	3524.6	3615.6	4099.7	3477.5
30°	4391.9	4360.0	4231.1	4018.7	3818.1	3683.3	3614.2	3669.3	3735.2	4263.6	3567.8
32.5°	4773.7	4780.9	4629.5	4389.7	4132.2	3942.3	3840.1	3873.9	3919.8	4464.1	3690.0
35°	5332.7	5332.1	5134.3	4834.7	4528.5	4265.6	4136.2	4154.1	4196.0	4747.1	3861.3
37.5°	5749.7	5743.0	5615.6	5350.7	5006.1	4690.6	4503.4	4506.0	4541.9	5102.4	4087.0
40°	5792.2	5791.0	5790.2	5752.3	5516.6	5219.2	4984.8	4936.2	4950.9	5479.5	4326.7
42.5°	5467.5	5516.0	5655.4	5869.3	5935.0	5778.9	5557.2	5448.8	5417.0	5912.5	4580.4
45°	5004.6	5029.3	5273.6	5754.4	6145.5	6304.8	6138.2	5909.8	5855.3	6333.4	4786.9
47.5°	4789.6	4779.0	4920.3	5444.3	6125.0	6723.2	6735.1	6360.5	6268.4	6696.7	4962.9
50°	4328.0	4314.1	4492.8	4988.1	5900.4	6931.1	7348.0	6852.0	6681.4	7042.0	5122.2
52.5°	3408.3	3395.1	3634.8	4273.0	5398.5	6853.3	7864.7	7454.9	7164.2	7374.5	5271.0
55°	2217.8	2219.2	2447.5	3105.6	4368.5	6400.5	8106.9	8151.5	7825.5	7707.3	5391.2
57.5°	1221.2	1209.8	1372.5	1776.8	3005.3	5372.0	7905.2	8653.5	8483.6	7992.8	5478.1
58°	1085.7	1072.3	1197.9	1546.5	2694.6	5081.7	7803.5	8685.4	8567.9	8039.9	5490.8
60°	773.6	751.1	731.8	871.9	1552.5	3664.0	7126.3	8478.8	8592.4	8134.2	5478.9
62.5°	652.1	626.2	557.0	551.7	731.1	1792.2	5635.4	7446.3	7764.4	7917.1	5286.3
65°	605.5	579.6	488.7	456.2	496.0	773.6	3484.7	5749.7	6174.7	7162.0	4801.5
67.5°	572.4	541.9	444.2	401.7	409.6	462.8	1478.8	3760.3	4253.0	5585.0	3851.9
70°	542.4	508.6	409.1	360.0	353.3	352.0	577.7	1963.4	2438.3	3654.8	2580.4
72.5°	508.6	475.5	377.8	325.4	310.8	285.5	347.3	811.3	1112.2	1791.5	1182.6
75°	459.6	432.3	343.3	296.8	271.6	231.8	256.2	389.1	479.4	685.9	549.1
77.5°	404.3	382.5	308.1	272.9	239.0	189.3	195.9	263.7	296.1	386.5	318.1
80°	286.2	294.1	269.0	240.3	210.6	152.7	150.7	193.2	212.4	259.6	213.7
82.5°	197.2	203.1	219.1	189.9	170.0	118.8	110.9	134.1	144.1	156.8	103.6
85°	140.8	136.8	152.1	136.2	124.9	75.6	71.1	85.0	91.0	95.6	49.8
87.5°	85.7	85.0	87.7	70.3	65.0	38.4	35.3	40.6	43.2	41.9	24.0
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°	2836.7	2836.7	2836.7	2836.7	2836.7	2836.7	2836.7	2836.7	2836.7	2836.7	2836.7
2.5°	2832.0	2799.5	2728.4	2671.3	2609.5	2562.4	2515.3	2488.8	2459.5	2442.9	2441.0
5°	2863.3	2796.9	2645.5	2504.7	2359.8	2229.8	2102.3	2008.0	1930.9	1887.1	1884.5
7.5°	2897.8	2793.5	2559.8	2316.1	2058.5	1802.1	1575.6	1415.6	1312.8	1265.0	1261.6
10°	2924.3	2779.5	2455.5	2076.4	1668.1	1329.3	1123.5	1029.2	997.9	990.0	988.8
12.5°	2956.2	2769.7	2324.1	1768.9	1275.0	1012.0	949.6	943.6	950.1	954.2	954.9
15°	2986.1	2750.4	2146.8	1428.3	997.9	904.5	905.8	918.3	931.6	937.7	938.3
17.5°	3000.0	2703.2	1913.7	1125.4	873.2	855.9	871.1	887.7	899.7	904.5	904.5
20°	3000.0	2627.5	1643.4	911.7	808.1	811.3	830.0	842.6	845.2	841.4	839.3
22.5°	2987.5	2533.8	1380.4	795.4	754.9	767.6	782.2	773.6	742.4	718.5	713.9
25°	2976.2	2423.0	1127.6	724.5	708.6	725.1	719.2	660.1	612.3	587.6	583.7
27.5°	2957.5	2288.9	916.4	666.1	663.4	676.7	617.6	560.5	536.5	523.3	520.6
30°	2952.9	2143.4	767.0	614.3	618.8	600.2	532.5	513.9	508.6	501.3	498.0
32.5°	2968.2	1998.0	673.3	571.7	576.4	515.3	489.3	492.0	491.4	482.1	478.7
35°	3010.0	1856.5	613.5	533.2	519.8	461.5	464.9	472.8	472.8	461.5	457.4
37.5°	3083.1	1725.1	575.8	500.6	454.8	433.6	442.2	452.8	452.8	444.9	441.5
40°	3160.7	1596.9	547.2	474.8	413.7	414.4	423.0	430.9	434.3	435.6	433.0
42.5°	3231.2	1464.1	516.6	446.8	395.1	399.7	403.7	409.6	423.6	433.0	431.6
45°	3272.3	1330.7	483.4	412.3	382.5	384.5	383.1	393.7	410.3	424.3	424.3
47.5°	3310.2	1221.2	456.2	377.8	369.8	369.8	365.9	376.5	391.8	408.4	409.6
50°	3345.9	1150.1	436.9	351.2	353.9	352.0	350.6	360.6	381.2	401.1	404.3
52.5°	3382.5	1126.1	419.7	332.1	337.4	334.7	336.0	349.9	373.2	393.7	397.1
55°	3433.6	1141.4	401.7	318.7	321.4	320.8	326.1	342.0	362.6	383.1	384.5
57.5°	3496.7	1197.3	386.5	308.7	306.1	310.1	318.7	334.0	353.9	378.5	380.5
58°	3509.3	1210.5	383.8	306.1	302.8	308.7	317.5	332.1	352.6	378.5	380.5
60°	3528.6	1257.6	377.2	300.8	291.5	302.1	312.8	327.3	349.9	381.8	385.8
62.5°	3435.6	1266.9	375.1	294.9	279.6	292.8	305.5	322.0	347.3	393.1	401.7
65°	3113.5	1171.3	361.2	284.9	269.6	285.5	298.7	318.1	355.3	427.0	430.9
67.5°	2499.4	972.8	327.3	269.6	258.4	276.9	293.4	318.1	358.6	432.3	434.9
70°	1718.5	731.1	284.9	253.1	245.0	266.3	291.5	325.4	347.3	409.1	401.1
72.5°	897.8	508.6	249.6	233.6	229.1	256.9	310.8	318.1	334.0	381.8	373.9
75°	452.1	345.9	219.7	211.8	211.1	253.6	348.0	306.1	320.1	359.2	376.5
77.5°	266.9	270.8	195.9	191.2	194.6	247.8	348.6	294.1	304.2	330.7	349.4
80°	182.6	223.8	177.2	176.0	178.7	227.8	321.4	279.6	285.5	312.8	332.6
82.5°	102.9	123.4	155.3	164.0	162.8	186.6	277.5	254.3	261.6	369.8	391.1
85°	49.8	74.4	130.2	153.4	138.8	124.1	225.7	225.7	227.8	264.9	268.2
87.5°	18.5	33.1	87.7	121.5	96.9	74.4	153.4	160.0	178.0	183.3	187.2
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)