

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: P195536

Luminaire Tested: **NAV-AF-02-D-UNV-AFL-7050-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195536
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-02-D-UNV-AFL-7050-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 70 CRI, 5000K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND AUTOMOTIVE FRONTLINE OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 10083 lumens
Efficiency: N/A
Efficacy: 118.6 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type II - Short - Full Cutoff
BUG Rating: B1 - U0 - G1

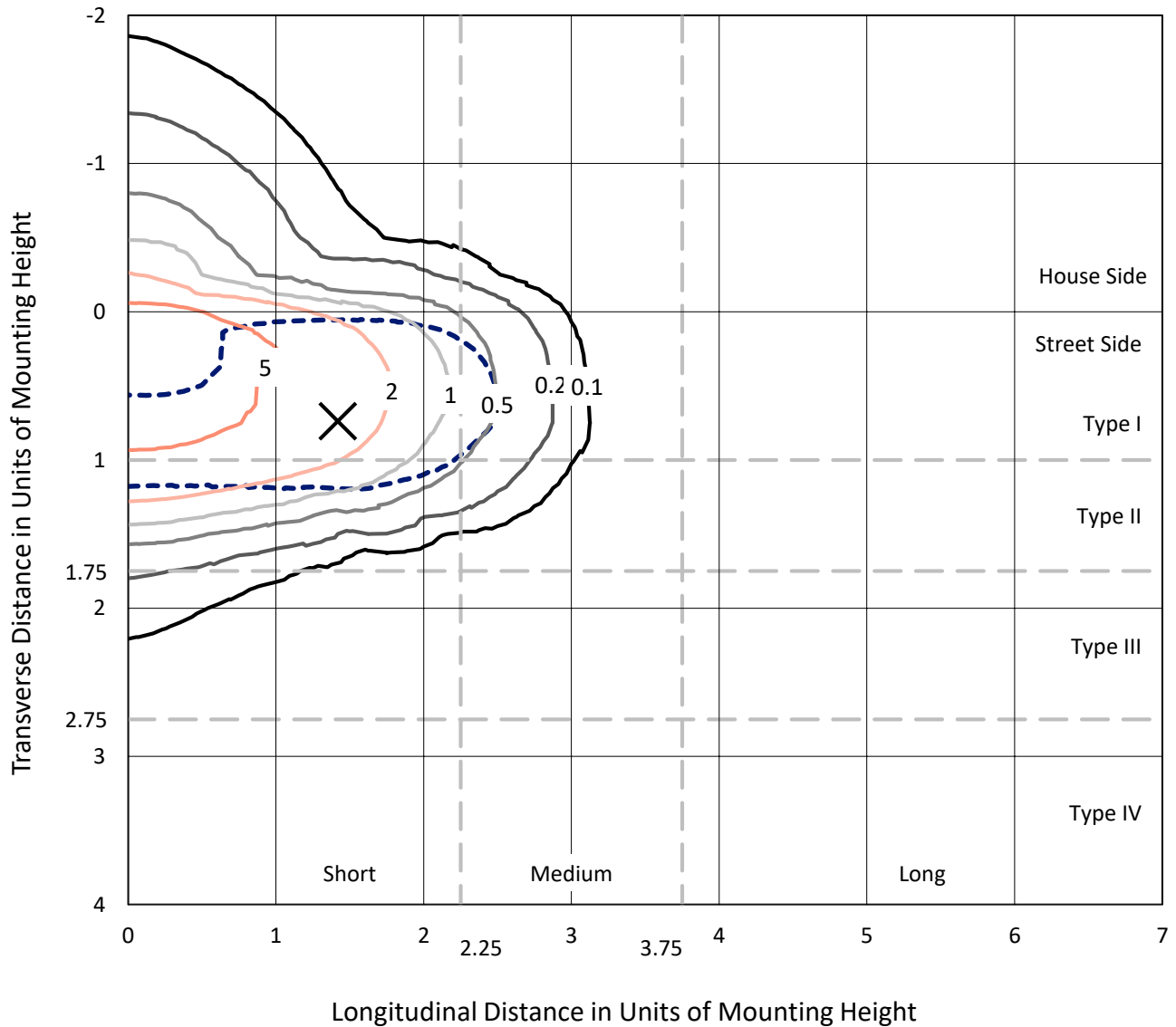
Input Watts (W): 85
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

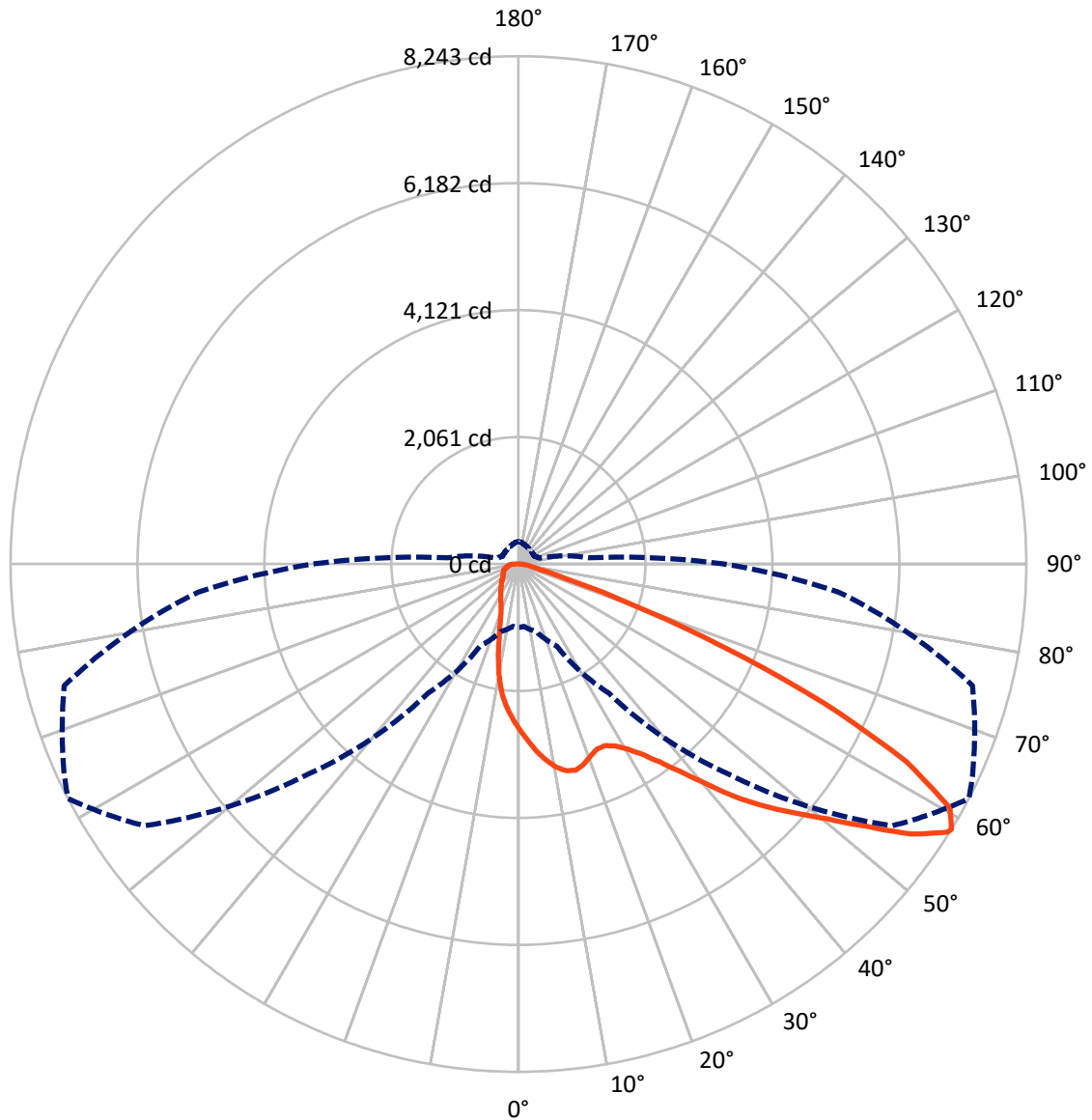
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 7.9 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	1548.1	0.0	1548.1
	% Fixture	15.4	0.0	15.4
Street Side	Lumens	8534.9	0.0	8534.9
	% Fixture	84.6	0.0	84.6
Total	Lumens	10083.0	0.0	10083.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	240.6	2.4
10°-20°	607.3	6.0
20°-30°	984.2	9.8
30°-40°	1571.3	15.6
40°-50°	2285.5	22.7
50°-60°	2391.6	23.7
60°-70°	1458.0	14.5
70°-80°	407.7	4.0
80°-90°	136.7	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°	10083.0	100.0
0°-180°	10083.0	100.0



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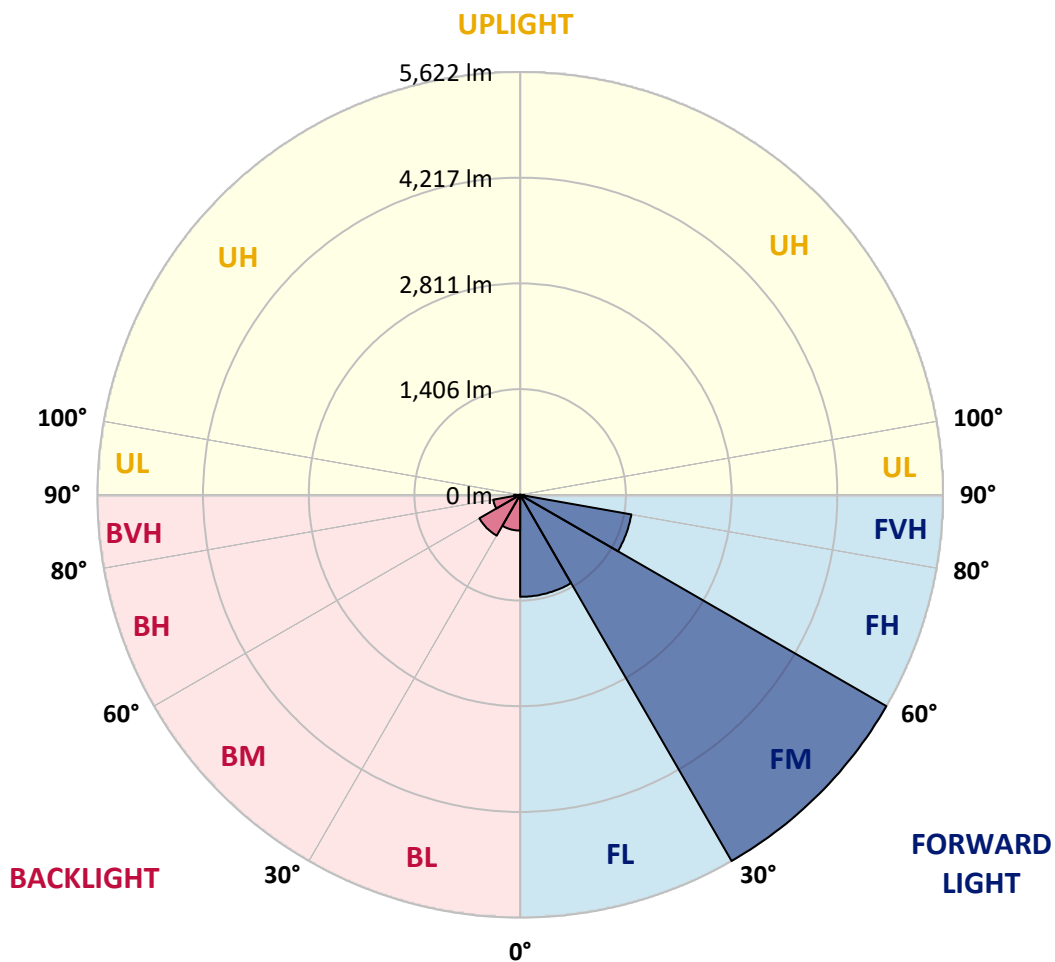
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1356.2	13.5			
FM	(30°-60°)	5622.4	55.8			
FH	(60°-80°)	1501.3	14.9			G1/1800
FVH	(80°-90°)	55.0	0.5			G1/100
BL	(0°-30°)	475.9	4.7	B1/500		
BM	(30°-60°)	626.1	6.2	B1/1000		
BH	(60°-80°)	364.4	3.6	B1/500		G1/500
BVH	(80°-90°)	81.7	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°	2692.1	2692.1	2692.1	2692.1	2692.1	2692.1	2692.1	2692.1	2692.1	2692.1	2692.1
2.5°	3055.7	3053.8	3028.0	3011.0	2990.8	2944.2	2897.5	2862.9	2845.2	2777.8	2712.3
5°	3308.4	3300.8	3286.3	3268.1	3241.6	3183.0	3109.3	3045.6	3020.4	2900.7	2780.3
7.5°	3174.8	3186.8	3231.5	3281.9	3334.9	3338.7	3286.3	3210.7	3183.0	3022.9	2846.5
10°	2804.9	2799.9	2855.9	2954.2	3128.8	3301.5	3387.8	3350.6	3321.6	3138.9	2912.7
12.5°	2692.7	2691.5	2700.9	2726.1	2835.8	3072.7	3362.0	3442.6	3432.5	3261.8	2983.2
15°	2726.8	2728.0	2727.4	2730.5	2760.8	2873.6	3217.7	3473.5	3505.0	3383.4	3055.1
17.5°	2835.8	2831.4	2817.5	2802.4	2806.8	2847.1	3062.0	3420.6	3515.1	3491.8	3115.6
20°	3004.0	3004.0	2966.8	2924.6	2896.9	2905.7	2997.1	3329.8	3468.5	3583.8	3160.9
22.5°	3215.1	3218.3	3163.5	3086.6	3023.6	2999.6	3034.3	3262.4	3411.8	3668.9	3201.3
25°	3477.3	3476.7	3396.6	3286.3	3186.8	3129.4	3128.8	3265.6	3394.1	3768.4	3243.5
27.5°	3801.8	3772.2	3678.9	3522.0	3381.5	3293.9	3254.2	3345.0	3431.3	3890.7	3300.2
30°	4168.0	4137.7	4015.5	3813.8	3623.5	3495.6	3430.0	3482.3	3544.7	4046.3	3385.9
32.5°	4530.3	4537.2	4393.6	4166.1	3921.6	3741.3	3644.3	3676.4	3719.9	4236.6	3501.9
35°	5060.9	5060.3	4872.5	4588.3	4297.8	4048.2	3925.3	3942.4	3982.1	4505.1	3664.5
37.5°	5456.7	5450.4	5329.4	5077.9	4750.9	4451.5	4273.8	4276.3	4310.4	4842.2	3878.7
40°	5497.0	5495.7	5495.1	5459.2	5235.5	4953.2	4730.7	4684.7	4698.6	5200.2	4106.2
42.5°	5188.8	5234.8	5367.2	5570.1	5632.5	5484.4	5273.9	5171.2	5140.9	5611.1	4346.9
45°	4749.6	4772.9	5004.8	5461.1	5832.2	5983.5	5825.3	5608.5	5556.9	6010.6	4542.9
47.5°	4545.4	4535.3	4669.6	5166.8	5812.7	6380.5	6391.8	6036.4	5948.8	6355.3	4709.9
50°	4107.5	4094.2	4263.7	4733.9	5599.7	6577.7	6973.5	6502.7	6340.8	6683.0	4861.1
52.5°	3234.7	3222.1	3449.6	4055.2	5123.3	6504.0	7463.8	7074.9	6798.9	6998.7	5002.3
55°	2104.8	2106.0	2322.8	2947.3	4145.9	6074.2	7693.8	7736.0	7426.6	7314.4	5116.4
57.5°	1158.9	1148.2	1302.6	1686.3	2852.2	5098.1	7502.2	8212.4	8051.1	7585.4	5198.9
58°	1030.3	1017.7	1136.8	1467.7	2557.2	4822.7	7405.8	8242.6	8131.1	7630.1	5210.9
60°	734.2	712.7	694.4	827.4	1473.3	3477.3	6763.0	8046.7	8154.4	7719.6	5199.5
62.5°	618.8	594.3	528.7	523.7	693.8	1700.8	5348.3	7066.7	7368.6	7513.5	5016.8
65°	574.7	550.1	463.8	432.9	470.7	734.2	3307.1	5456.7	5860.0	6797.0	4556.8
67.5°	543.2	514.2	421.6	381.3	388.8	439.2	1403.4	3568.7	4036.3	5300.4	3655.6
70°	514.9	482.7	388.2	341.6	335.3	334.0	548.2	1863.4	2314.0	3468.5	2448.8
72.5°	482.7	451.2	358.6	308.8	294.9	271.0	329.6	770.1	1055.5	1700.2	1122.3
75°	436.1	410.2	325.8	281.7	257.7	219.9	243.2	369.3	455.0	651.0	521.2
77.5°	383.8	363.0	292.4	259.0	226.9	179.6	185.9	250.2	281.1	366.8	301.9
80°	271.6	279.2	255.2	228.1	199.8	144.9	143.0	183.4	201.7	246.4	202.9
82.5°	187.2	192.8	208.0	180.2	161.3	112.8	105.2	127.3	136.7	148.7	98.3
85°	133.6	129.8	144.3	129.2	118.5	71.8	67.4	80.7	86.3	90.7	47.3
87.5°	81.3	80.7	83.2	66.8	61.8	36.5	33.4	38.4	41.0	39.7	22.7
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°	2692.1	2692.1	2692.1	2692.1	2692.1	2692.1	2692.1	2692.1	2692.1	2692.1	2692.1
2.5°	2687.7	2656.8	2589.4	2535.2	2476.6	2431.8	2387.1	2361.9	2334.2	2318.4	2316.5
5°	2717.3	2654.3	2510.6	2377.0	2239.6	2116.1	1995.1	1905.6	1832.5	1790.9	1788.4
7.5°	2750.1	2651.1	2429.3	2198.0	1953.5	1710.3	1495.4	1343.5	1245.9	1200.5	1197.3
10°	2775.3	2637.9	2330.4	1970.5	1583.0	1261.6	1066.3	976.8	947.1	939.6	938.3
12.5°	2805.5	2628.4	2205.6	1678.8	1209.9	960.4	901.1	895.5	901.8	905.6	906.2
15°	2833.9	2610.2	2037.3	1355.5	947.1	858.3	859.6	871.5	884.1	889.8	890.4
17.5°	2847.1	2565.4	1816.2	1068.1	828.7	812.3	826.8	842.5	853.9	858.3	858.3
20°	2847.1	2493.6	1559.7	865.2	766.9	770.1	787.7	799.7	802.2	798.4	796.5
22.5°	2835.1	2404.7	1310.1	754.9	716.5	728.5	742.3	734.2	704.5	681.8	677.4
25°	2824.4	2299.5	1070.0	687.5	672.4	688.1	682.5	626.4	581.0	557.7	553.9
27.5°	2806.8	2172.2	869.6	632.1	629.5	642.1	586.1	531.9	509.2	496.6	494.1
30°	2802.4	2034.2	727.8	582.9	587.3	569.7	505.4	487.8	482.7	475.8	472.6
32.5°	2816.9	1896.2	639.0	542.6	547.0	489.0	464.4	467.0	466.3	457.5	454.4
35°	2856.6	1762.0	582.3	506.0	493.4	438.0	441.1	448.7	448.7	438.0	434.2
37.5°	2925.9	1637.2	546.4	475.1	431.7	411.5	419.7	429.8	429.8	422.2	419.1
40°	2999.6	1515.6	519.3	450.6	392.6	393.2	401.4	409.0	412.1	413.4	410.9
42.5°	3066.4	1389.5	490.3	424.1	375.0	379.4	383.1	388.8	402.0	410.9	409.6
45°	3105.5	1262.9	458.8	391.3	363.0	364.9	363.6	373.7	389.4	402.7	402.7
47.5°	3141.4	1158.9	432.9	358.6	351.0	351.0	347.2	357.3	371.8	387.6	388.8
50°	3175.4	1091.5	414.7	333.4	335.9	334.0	332.7	342.2	361.7	380.6	383.8
52.5°	3210.1	1068.8	398.3	315.1	320.1	317.6	318.9	332.1	354.2	373.7	376.8
55°	3258.6	1083.3	381.3	302.5	305.0	304.4	309.4	324.5	344.1	363.6	364.9
57.5°	3318.5	1136.2	366.8	293.0	290.5	294.3	302.5	317.0	335.9	359.2	361.1
58°	3330.5	1148.8	364.2	290.5	287.4	293.0	301.2	315.1	334.6	359.2	361.1
60°	3348.7	1193.5	357.9	285.5	276.6	286.7	296.8	310.7	332.1	362.3	366.1
62.5°	3260.5	1202.4	356.0	279.8	265.3	277.9	289.9	305.6	329.6	373.1	381.3
65°	2954.9	1111.6	342.8	270.3	255.8	271.0	283.6	301.9	337.1	405.2	409.0
67.5°	2372.0	923.2	310.7	255.8	245.1	262.8	278.5	301.9	340.3	410.2	412.8
70°	1630.9	693.8	270.3	240.1	232.5	252.7	276.6	308.8	329.6	388.2	380.6
72.5°	852.0	482.7	236.9	221.8	217.4	243.9	294.9	301.9	317.0	362.3	354.8
75°	429.1	328.3	208.6	201.0	200.4	240.7	330.2	290.5	303.7	340.9	357.3
77.5°	253.3	257.1	185.9	181.5	184.6	235.1	330.8	279.2	288.6	313.8	331.5
80°	173.3	212.4	168.3	167.0	169.5	216.1	305.0	265.3	271.0	296.8	315.7
82.5°	97.7	117.2	147.5	155.7	154.4	177.1	263.4	241.4	248.3	351.0	371.2
85°	47.3	70.6	123.5	145.6	131.7	117.8	214.3	214.3	216.1	251.4	254.6
87.5°	17.6	31.5	83.2	115.3	92.0	70.6	145.6	151.9	168.9	173.9	177.7
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)