

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: P195987

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195987
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24283)
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-600-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 70 CRI, 4000K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND AUTOMOTIVE FRONTLINE OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 10246.9 lumens
Efficiency: N/A
Efficacy: 106.7 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')
IES Classification: Type II - Short - Full Cutoff
BUG Rating: B1 - U0 - G1

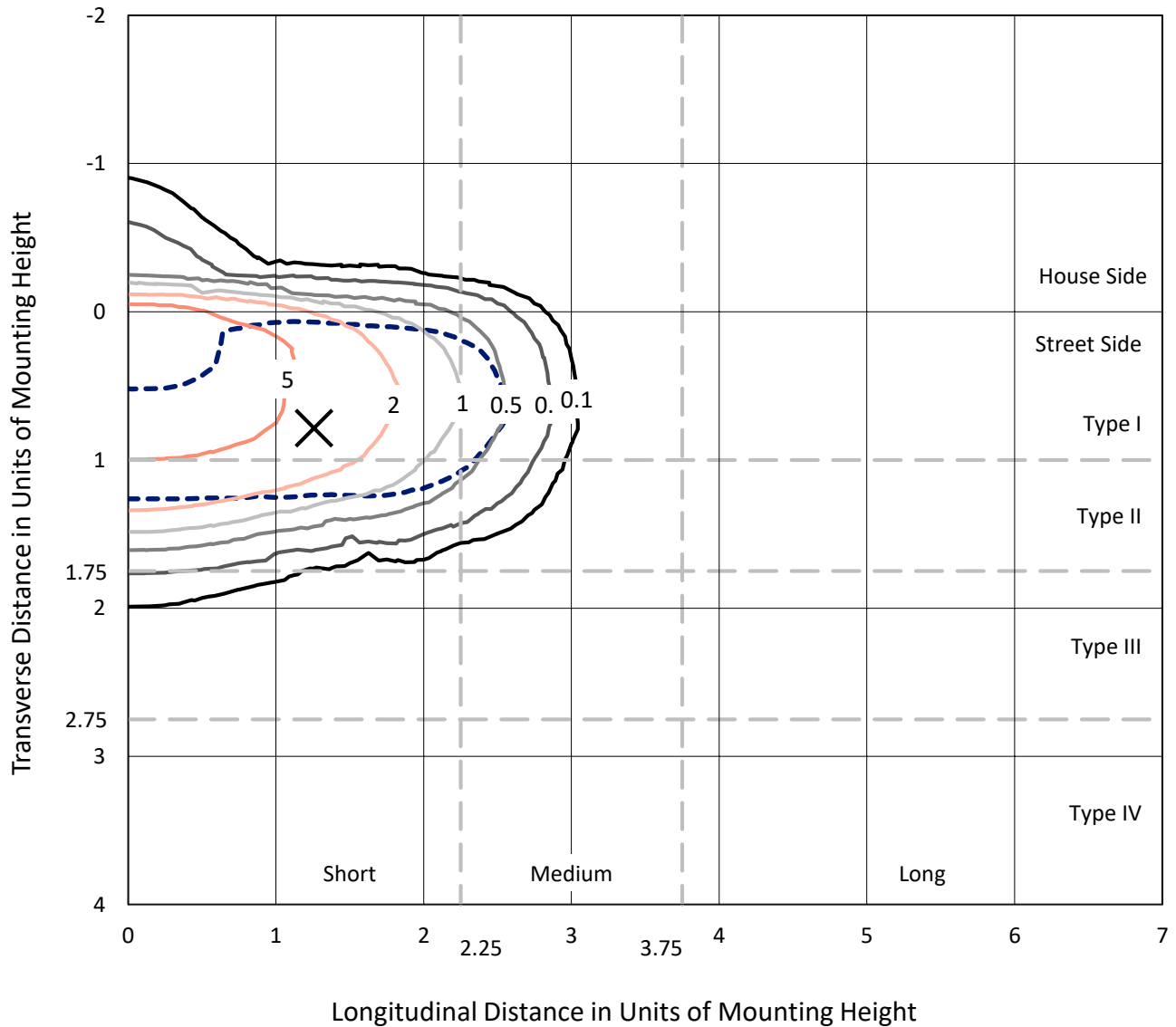
Input Watts (W): 96
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

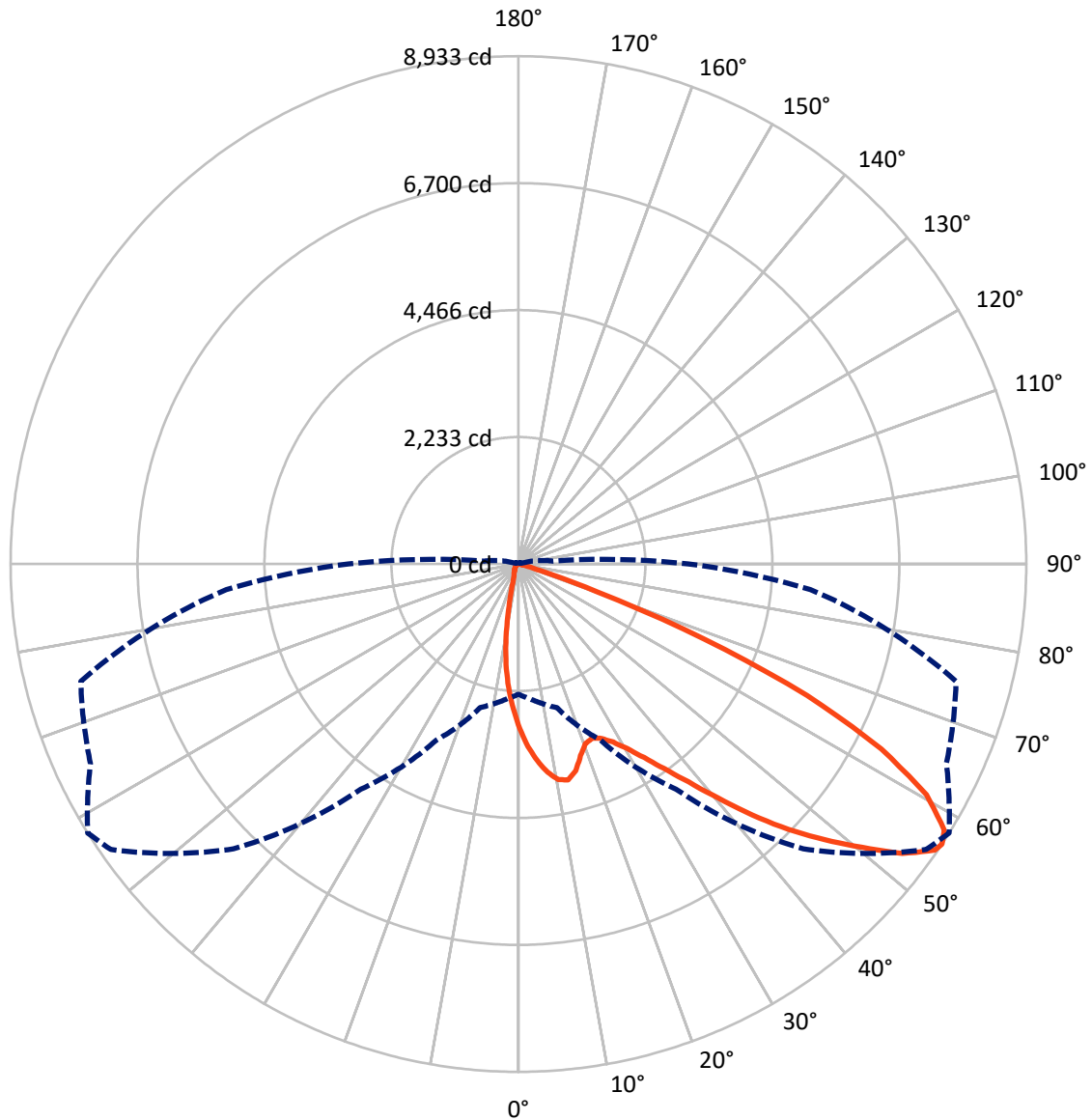
✕ Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 9 fc
 Type II - Short - Full Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 58-Deg Lateral - - - Horizontal Cone Through 56-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	639.6	0.0	639.6
	% Fixture	6.2	0.0	6.2
Street Side	Lumens	9607.3	0.0	9607.3
	% Fixture	93.8	0.0	93.8
Total	Lumens	10246.9	0.0	10246.9
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	247.5	2.4
10°-20°	575.9	5.6
20°-30°	969.0	9.5
30°-40°	1659.3	16.2
40°-50°	2503.9	24.4
50°-60°	2602.8	25.4
60°-70°	1461.1	14.3
70°-80°	200.3	2.0
80°-90°	27.1	0.3
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°	10246.9	100.0
0°-180°	10246.9	100.0



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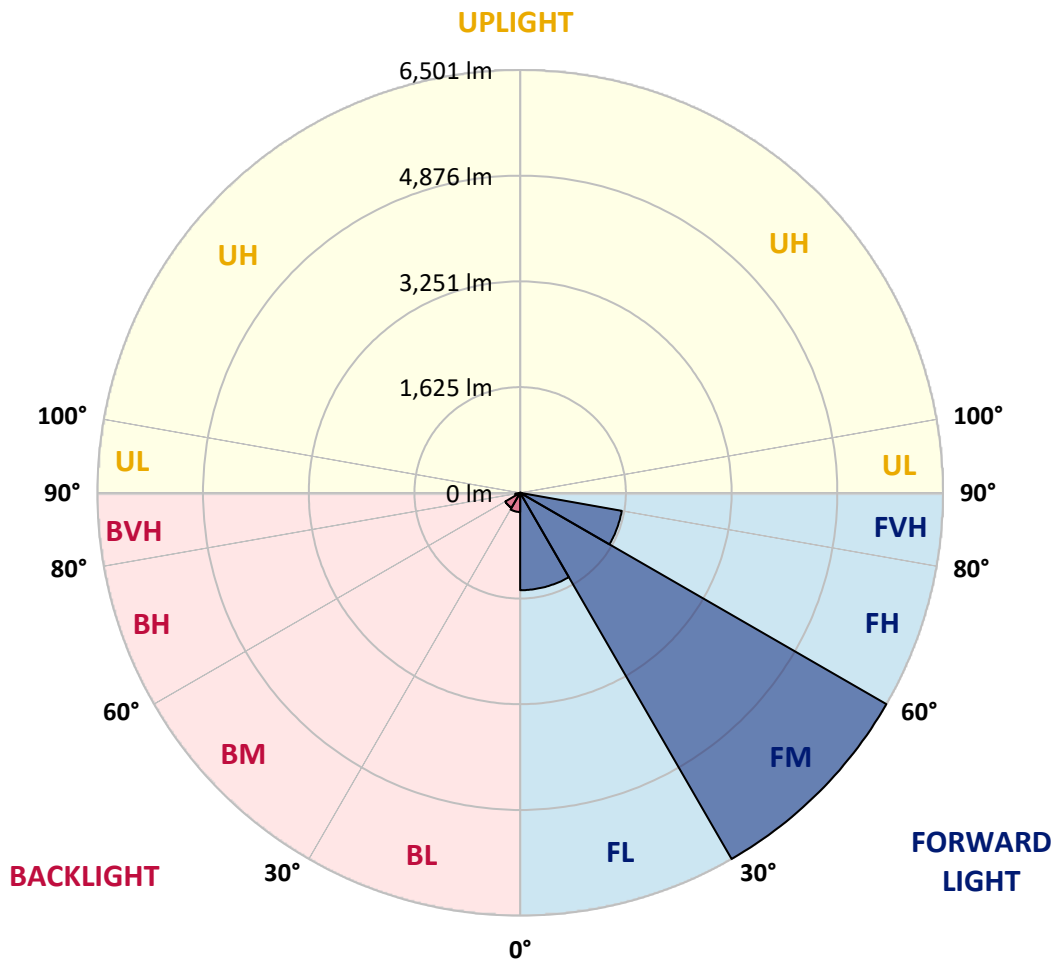
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1497.3	14.6			
FM	(30°-60°)	6501.1	63.4			
FH	(60°-80°)	1585.5	15.5			G1/1800
FVH	(80°-90°)	23.4	0.2			G1/100
BL	(0°-30°)	295.1	2.9	B1/500		
BM	(30°-60°)	264.9	2.6	B1/1000		
BH	(60°-80°)	75.9	0.7	B0/110		G0/110
BVH	(80°-90°)	3.7	0.0			G0/10
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°	58°	65°	75°	85°
0°	2901.2	2901.2	2901.2	2901.2	2901.2	2901.2	2901.2	2901.2	2901.2	2901.2	2901.2
2.5°	3490.7	3469.5	3447.7	3407.0	3369.5	3311.6	3231.9	3212.4	3149.8	3046.7	2950.5
5°	3791.7	3787.8	3772.8	3740.1	3699.4	3629.0	3539.1	3479.0	3382.0	3219.4	3034.1
7.5°	3613.4	3646.2	3700.2	3776.8	3828.4	3821.3	3752.6	3700.2	3604.1	3382.0	3116.2
10°	3045.8	3052.1	3126.3	3287.5	3542.3	3779.9	3869.8	3855.8	3767.4	3524.3	3188.1
12.5°	2845.7	2849.6	2866.8	2918.4	3084.1	3415.6	3823.0	3896.4	3889.4	3660.3	3264.7
15°	2861.3	2863.6	2868.4	2884.8	2931.7	3098.2	3585.2	3772.1	3967.5	3789.3	3339.8
17.5°	2984.9	2983.3	2968.4	2952.8	2967.7	3022.4	3342.9	3539.9	3951.1	3898.0	3401.5
20°	3225.7	3233.4	3183.4	3113.9	3077.9	3080.2	3223.3	3371.0	3858.9	3982.4	3447.7
22.5°	3564.2	3569.6	3487.5	3367.1	3261.6	3208.5	3248.3	3326.5	3752.6	4060.6	3485.2
25°	3968.3	3968.3	3853.5	3682.2	3518.8	3402.3	3368.0	3397.6	3711.9	4149.0	3522.7
27.5°	4404.6	4420.2	4270.1	4045.8	3829.9	3659.5	3551.7	3546.2	3743.2	4260.0	3565.0
30°	4879.2	4893.2	4715.0	4440.5	4184.9	3966.8	3801.1	3765.1	3862.8	4409.2	3626.7
32.5°	5351.4	5363.0	5166.0	4886.1	4588.3	4331.9	4113.8	4056.7	4077.8	4627.4	3717.4
35°	5951.7	5954.1	5704.7	5371.6	5053.5	4752.4	4476.5	4420.2	4396.7	4902.6	3847.9
37.5°	6429.5	6410.6	6252.7	5937.6	5572.5	5258.3	4933.9	4860.3	4804.1	5289.6	4050.5
40°	6542.0	6542.0	6518.5	6423.9	6133.9	5831.3	5517.1	5407.6	5283.3	5745.3	4322.5
42.5°	6248.8	6267.6	6422.4	6628.0	6630.4	6436.4	6129.2	6036.9	5818.0	6264.4	4619.5
45°	5592.9	5598.4	5969.7	6524.8	6901.6	7012.6	6785.9	6658.5	6355.2	6803.9	4891.6
47.5°	5356.8	5374.0	5531.9	6210.5	6921.9	7479.3	7416.0	7240.9	6852.3	7296.4	5145.7
50°	4994.0	5015.1	5208.3	5747.7	6739.0	7778.7	8018.8	7831.1	7305.0	7706.8	5271.6
52.5°	4126.3	4159.1	4431.9	5135.5	6281.6	7791.3	8570.7	8458.2	7768.6	7926.5	5256.7
55°	2839.4	2863.6	3181.9	4009.0	5359.1	7409.0	8808.4	8885.8	8182.2	7975.7	5184.8
56°	2290.6	2381.3	2614.3	3415.6	4833.7	7083.7	8753.7	8932.7	8304.9	7968.0	5153.5
57.5°	1514.3	1531.6	1785.6	2475.1	3881.6	6377.8	8506.7	8832.6	8462.9	7928.1	5130.8
60°	712.2	720.1	811.5	1142.2	2100.6	4647.7	7703.7	8244.7	8520.7	7844.4	5130.1
62.5°	464.4	466.0	476.9	544.9	859.2	2531.4	6386.4	7165.1	8041.4	7835.1	5115.3
65°	382.3	386.2	372.9	381.6	449.5	954.5	4504.7	5585.8	6916.5	7614.6	4947.9
67.5°	337.0	337.8	319.8	309.5	329.1	419.0	2269.5	3523.6	5173.1	6470.1	4075.4
70°	307.2	306.5	286.1	262.7	263.5	278.3	739.6	1463.5	2862.1	3841.7	2339.9
72.5°	272.8	274.5	262.7	229.9	218.9	197.0	278.3	394.8	974.2	1233.7	616.8
75°	239.3	236.1	224.3	203.3	182.9	132.2	139.9	168.1	254.1	251.7	132.9
77.5°	181.4	178.2	183.7	173.6	143.1	92.3	76.6	87.6	114.9	107.1	53.9
80°	138.4	136.8	125.1	148.5	130.5	69.6	52.4	53.9	62.5	57.1	26.6
82.5°	100.0	99.3	94.6	91.5	82.9	50.8	39.9	42.2	47.0	39.9	19.5
85°	38.3	38.3	74.3	62.5	57.1	34.4	28.1	30.5	36.0	28.9	13.3
87.5°	6.2	6.2	50.0	41.4	25.8	17.2	18.0	19.5	21.1	17.2	10.1
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°	2901.2	2901.2	2901.2	2901.2	2901.2	2901.2	2901.2	2901.2	2901.2	2901.2	2901.2
2.5°	2893.4	2841.0	2726.1	2615.1	2518.1	2411.8	2357.9	2295.3	2271.9	2224.9	2229.6
5°	2923.1	2813.6	2583.1	2339.9	2117.1	1890.3	1729.3	1577.6	1493.2	1409.5	1409.5
7.5°	2953.6	2786.3	2429.8	2041.2	1666.0	1277.5	1002.3	781.7	659.1	576.9	574.6
10°	2974.7	2751.1	2255.4	1694.9	1141.4	658.3	397.1	312.7	282.2	268.9	268.1
12.5°	3002.1	2715.9	2056.8	1286.8	634.0	312.7	247.9	234.6	229.0	226.0	226.0
15°	3025.5	2665.9	1816.0	865.4	333.1	234.6	213.4	208.8	208.0	207.1	208.0
17.5°	3031.0	2594.7	1527.6	506.6	241.6	204.8	195.5	191.5	191.5	190.8	190.8
20°	3018.5	2500.9	1208.6	312.7	208.8	188.4	178.2	173.6	172.8	172.8	172.8
22.5°	2992.6	2381.3	893.5	236.9	190.0	173.6	160.3	155.6	155.6	156.3	157.1
25°	2960.6	2239.9	613.7	204.1	175.9	157.9	144.6	139.9	141.5	143.1	143.8
27.5°	2920.0	2071.0	401.8	176.7	157.1	142.3	130.5	127.5	130.5	133.7	135.2
30°	2879.3	1885.7	272.1	153.2	136.1	125.1	118.0	117.2	121.9	129.0	129.8
32.5°	2852.7	1695.6	205.6	137.6	119.6	110.3	107.1	108.6	115.7	123.6	125.1
35°	2850.4	1510.4	175.1	125.1	108.6	100.0	98.5	103.2	111.0	117.2	118.9
37.5°	2887.2	1336.9	158.7	115.7	100.0	91.5	89.1	97.7	104.8	111.0	112.6
40°	2961.4	1181.3	147.7	107.1	93.0	82.9	81.3	88.4	95.3	102.4	104.8
42.5°	3054.4	1035.8	135.2	98.5	85.2	73.4	71.9	77.4	84.4	94.6	96.2
45°	3134.9	900.6	121.9	89.1	76.6	63.3	62.5	68.8	74.3	83.7	85.2
47.5°	3203.0	788.1	109.5	79.0	65.7	56.3	55.5	58.6	61.8	70.4	71.9
50°	3167.1	692.6	97.0	64.9	53.2	48.5	47.7	47.7	51.6	60.1	61.8
52.5°	3078.7	633.2	85.2	53.9	43.8	41.4	39.1	39.9	43.8	47.7	48.5
55°	3007.6	605.1	75.1	47.7	36.7	34.4	32.0	31.3	32.0	30.5	28.9
56°	2990.3	602.0	72.7	46.1	35.2	32.0	28.9	27.3	26.6	23.4	22.7
57.5°	2982.5	602.0	68.8	43.0	32.8	28.9	25.1	21.9	18.7	16.4	16.4
60°	2976.3	605.9	64.1	37.5	28.1	23.4	18.0	13.3	10.9	10.9	10.9
62.5°	2963.0	604.4	58.6	31.3	24.2	18.0	10.9	8.6	7.8	8.6	9.4
65°	2813.6	561.3	51.6	25.1	18.7	12.5	6.2	6.2	7.1	8.6	9.4
67.5°	2267.2	425.2	42.2	19.5	13.3	9.4	5.4	5.4	7.1	8.6	9.4
70°	1245.3	224.3	36.0	14.1	10.1	7.8	5.4	4.7	7.1	8.6	9.4
72.5°	304.1	93.8	32.8	10.9	9.4	7.1	4.7	4.7	7.1	8.6	9.4
75°	75.1	70.4	26.6	8.6	7.8	6.2	4.7	4.7	7.1	8.6	9.4
77.5°	35.2	93.0	18.0	7.8	7.1	5.4	4.7	4.7	7.1	8.6	8.6
80°	21.1	70.4	10.9	7.1	6.2	5.4	4.7	4.7	7.1	8.6	9.4
82.5°	12.5	20.4	7.8	7.1	6.2	4.7	4.7	4.7	7.1	8.6	9.4
85°	10.9	10.1	7.8	7.1	6.2	5.4	4.7	4.7	7.8	9.4	9.4
87.5°	8.6	7.8	7.1	6.2	6.2	5.4	4.7	4.7	7.1	8.6	9.4
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)