

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: P196953

Luminaire Tested: **NAV-AF-03-D-UNV-AFL-8030-800-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196953
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-8030-800-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 80 CRI, 3000K, 800mA 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: 10024 lumens
Efficiency: N/A
Efficacy: 80.8 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): 124
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

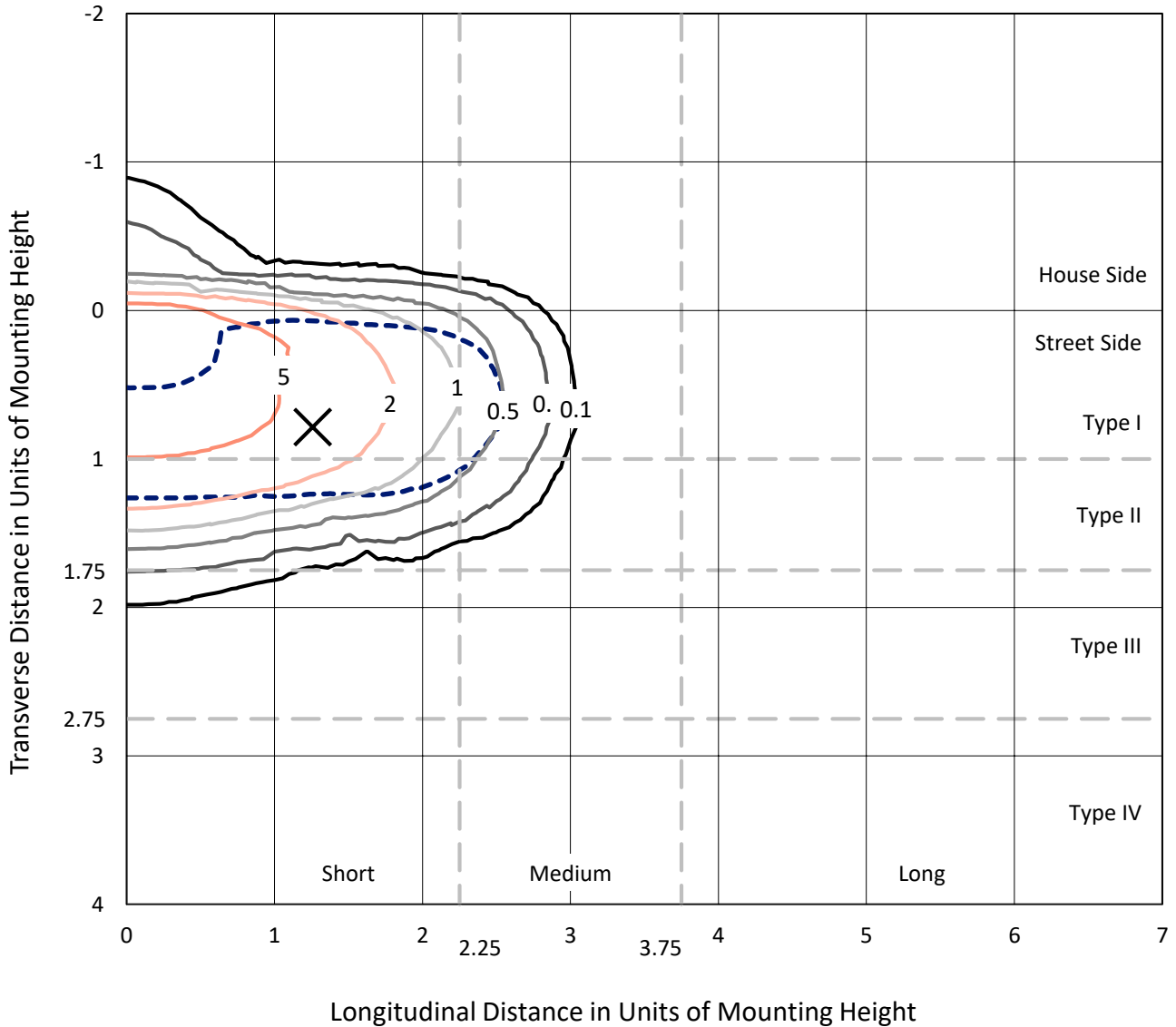


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

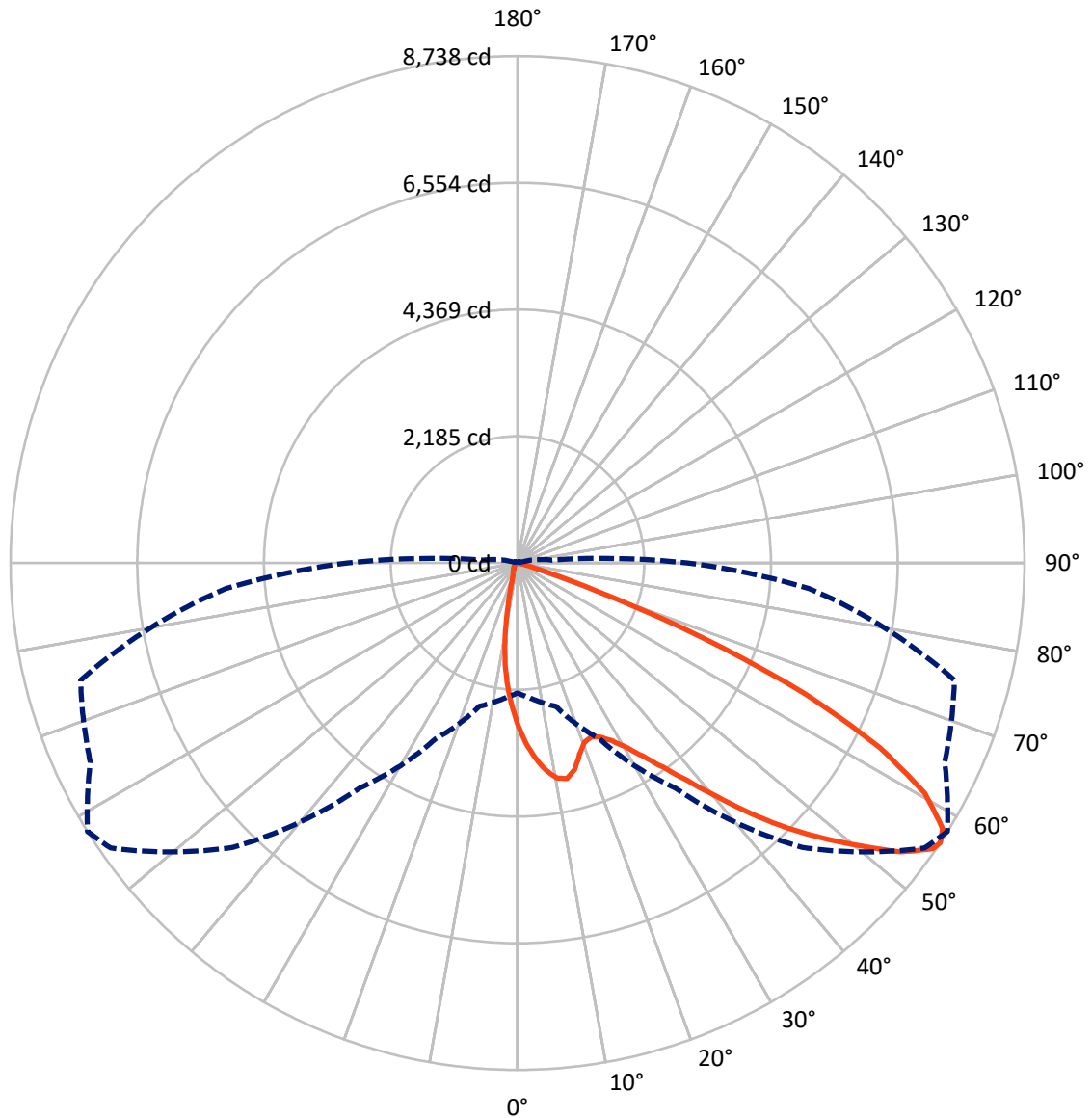


Based on 20 foot mounting height. Maximum calculated value = 8.8 fc
 Type II - Short - Full Cutoff

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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	625.7	0.0	625.7
	% Fixture	6.2	0.0	6.2
Street Side	Lumens	9398.3	0.0	9398.3
	% Fixture	93.8	0.0	93.8
Total	Lumens	10024.0	0.0	10024.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	242.1	2.4
10°-20°	563.3	5.6
20°-30°	947.9	9.5
30°-40°	1623.2	16.2
40°-50°	2449.5	24.4
50°-60°	2546.1	25.4
60°-70°	1429.4	14.3
70°-80°	195.9	2.0
80°-90°	26.5	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°	10024.0	100.0
0°-180°	10024.0	100.0



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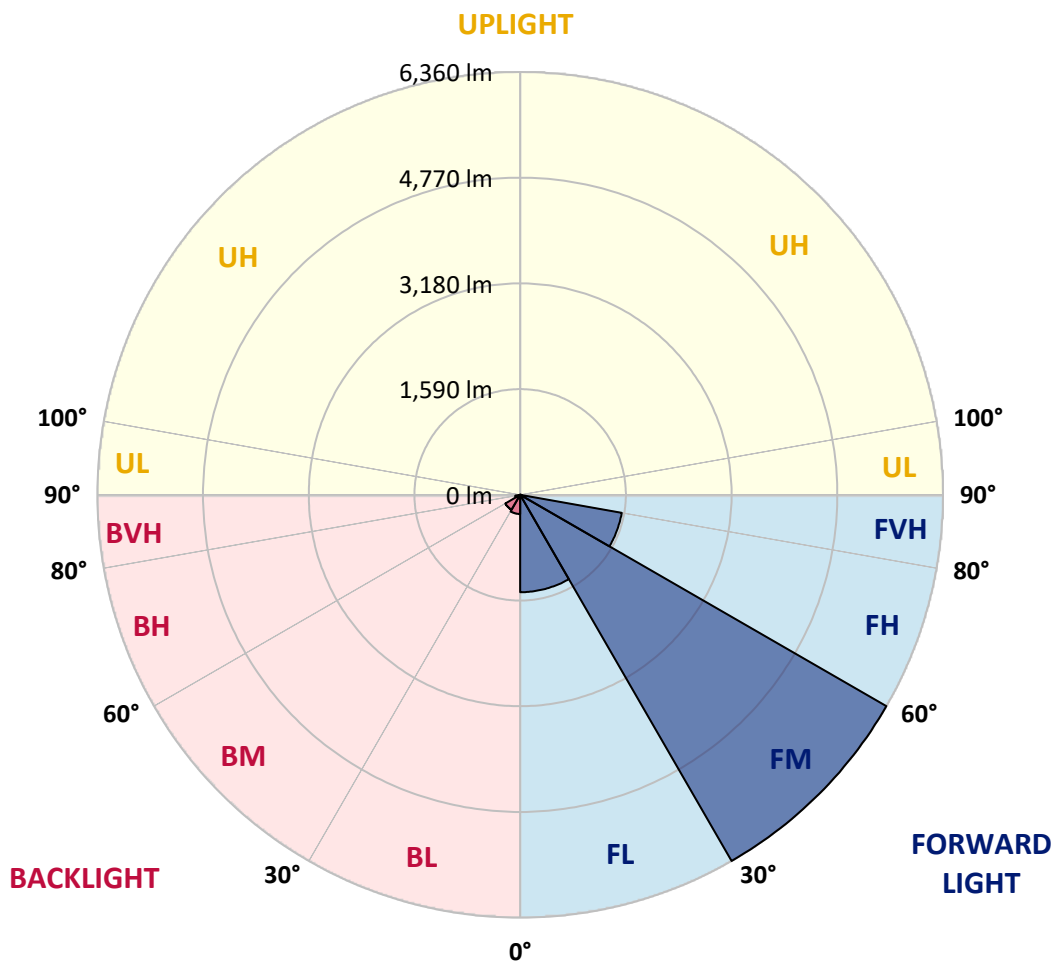
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1464.7	14.6			
FM	(30°-60°)	6359.6	63.4			
FH	(60°-80°)	1551.0	15.5			G1/1800
FVH	(80°-90°)	22.9	0.2			G1/100
BL	(0°-30°)	288.6	2.9	B1/500		
BM	(30°-60°)	259.2	2.6	B1/1000		
BH	(60°-80°)	74.2	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°	2838.1	2838.1	2838.1	2838.1	2838.1	2838.1	2838.1	2838.1	2838.1	2838.1	2838.1
2.5°	3414.7	3394.1	3372.7	3332.9	3296.2	3239.6	3161.6	3142.5	3081.3	2980.3	2886.3
5°	3709.2	3705.4	3690.8	3658.7	3618.9	3550.1	3462.2	3403.3	3308.4	3149.4	2968.1
7.5°	3534.8	3566.9	3619.7	3694.7	3745.1	3738.2	3670.9	3619.7	3525.6	3308.4	3048.4
10°	2979.6	2985.7	3058.4	3215.9	3465.2	3697.7	3785.7	3771.9	3685.5	3447.6	3118.8
12.5°	2783.8	2787.6	2804.4	2854.9	3017.1	3341.3	3739.8	3811.7	3804.8	3580.7	3193.7
15°	2799.1	2801.4	2806.0	2822.0	2867.9	3030.8	3507.3	3690.1	3881.3	3706.9	3267.1
17.5°	2919.9	2918.4	2903.9	2888.6	2903.1	2956.6	3270.2	3462.9	3865.2	3813.2	3327.6
20°	3155.5	3163.1	3114.2	3046.1	3010.9	3013.2	3153.2	3297.7	3775.0	3895.8	3372.7
22.5°	3486.6	3492.0	3411.7	3293.9	3190.7	3138.7	3177.7	3254.1	3670.9	3972.3	3409.4
25°	3882.0	3882.0	3769.6	3602.1	3442.3	3328.3	3294.7	3323.7	3631.2	4058.7	3446.1
27.5°	4308.8	4324.1	4177.2	3957.7	3746.7	3579.9	3474.4	3469.0	3661.8	4167.3	3487.4
30°	4773.0	4786.8	4612.4	4343.9	4093.9	3880.5	3718.4	3683.2	3778.8	4313.4	3547.8
32.5°	5234.9	5246.4	5053.7	4779.9	4488.5	4237.6	4024.3	3968.4	3989.1	4526.7	3636.5
35°	5822.3	5824.6	5580.6	5254.8	4943.5	4649.1	4379.1	4324.1	4301.1	4795.9	3764.2
37.5°	6289.5	6271.2	6116.7	5808.5	5451.3	5143.9	4826.5	4754.6	4699.6	5174.5	3962.3
40°	6399.7	6399.7	6376.7	6284.2	6000.5	5704.5	5397.1	5290.0	5168.4	5620.4	4228.5
42.5°	6112.9	6131.2	6282.7	6483.8	6486.1	6296.4	5995.9	5905.6	5691.5	6128.2	4519.1
45°	5471.2	5476.6	5839.9	6382.9	6751.5	6860.1	6638.3	6513.6	6216.9	6655.9	4785.2
47.5°	5240.3	5257.1	5411.6	6075.4	6771.4	7316.6	7254.7	7083.4	6703.3	7137.7	5033.8
50°	4885.4	4906.1	5095.0	5622.7	6592.4	7609.6	7844.3	7660.8	7146.1	7539.2	5156.9
52.5°	4036.5	4068.6	4335.5	5023.8	6145.0	7621.8	8384.3	8274.2	7599.6	7754.1	5142.4
55°	2777.7	2801.4	3112.7	3921.8	5242.6	7247.8	8616.8	8692.5	8004.2	7802.3	5072.0
56°	2240.8	2329.5	2557.4	3341.3	4728.6	6929.7	8563.2	8738.4	8124.3	7794.6	5041.4
57.5°	1481.4	1498.2	1746.8	2421.3	3797.1	6239.1	8321.6	8640.5	8278.7	7755.6	5019.2
60°	696.7	704.4	793.8	1117.3	2055.0	4546.6	7536.1	8065.4	8335.3	7673.8	5018.5
62.5°	454.3	455.8	466.5	533.1	840.5	2476.4	6247.5	7009.2	7866.5	7664.6	5004.0
65°	374.0	377.8	364.8	373.2	439.7	933.8	4406.7	5464.4	6766.0	7449.0	4840.3
67.5°	329.6	330.4	312.8	302.9	322.0	409.9	2220.2	3446.9	5060.5	6329.3	3986.8
70°	300.6	299.8	279.9	257.0	257.7	272.3	723.5	1431.7	2799.9	3758.1	2289.0
72.5°	266.9	268.4	257.0	224.8	214.1	192.7	272.3	386.2	952.9	1206.8	603.4
75°	234.0	231.0	219.5	198.8	179.0	129.2	136.9	164.4	248.6	246.3	130.0
77.5°	177.4	174.4	179.7	169.8	140.0	90.2	74.9	85.7	112.4	104.8	52.8
80°	135.4	133.8	122.4	145.3	127.7	68.1	51.2	52.8	61.2	55.8	26.0
82.5°	97.9	97.1	92.5	89.5	81.1	49.7	39.0	41.3	45.9	39.0	19.1
85°	37.5	37.5	72.7	61.2	55.8	33.7	27.5	29.8	35.2	28.3	13.0
87.5°	6.1	6.1	48.9	40.5	25.2	16.8	17.6	19.1	20.6	16.8	9.9
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°	2838.1	2838.1	2838.1	2838.1	2838.1	2838.1	2838.1	2838.1	2838.1	2838.1	2838.1
2.5°	2830.4	2779.2	2666.8	2558.2	2463.4	2359.3	2306.6	2245.4	2222.4	2176.6	2181.2
5°	2859.5	2752.4	2526.8	2289.0	2071.0	1849.2	1691.7	1543.3	1460.7	1378.9	1378.9
7.5°	2889.3	2725.7	2376.9	1996.8	1629.7	1249.7	980.4	764.8	644.7	564.4	562.1
10°	2910.0	2691.3	2206.4	1658.0	1116.6	643.9	388.5	305.9	276.1	263.1	262.3
12.5°	2936.8	2656.8	2012.1	1258.8	620.2	305.9	242.4	229.4	224.1	221.0	221.0
15°	2959.7	2607.9	1776.6	846.6	325.8	229.4	208.8	204.2	203.4	202.7	203.4
17.5°	2965.1	2538.3	1494.4	495.6	236.3	200.4	191.2	187.4	187.4	186.6	186.6
20°	2952.8	2446.5	1182.3	305.9	204.2	184.3	174.4	169.8	169.0	169.0	169.0
22.5°	2927.6	2329.5	874.1	231.7	185.8	169.8	156.8	152.2	152.2	153.0	153.7
25°	2896.2	2191.1	600.4	199.6	172.1	154.5	141.5	136.9	138.4	140.0	140.7
27.5°	2856.5	2025.9	393.1	172.8	153.7	139.2	127.7	124.7	127.7	130.8	132.3
30°	2816.7	1844.6	266.1	149.9	133.1	122.4	115.5	114.7	119.3	126.2	127.0
32.5°	2790.7	1658.8	201.1	134.6	117.0	107.8	104.8	106.3	113.2	120.8	122.4
35°	2788.4	1477.6	171.3	122.4	106.3	97.9	96.4	101.0	108.6	114.7	116.2
37.5°	2824.3	1307.8	155.3	113.2	97.9	89.5	87.2	95.6	102.5	108.6	110.1
40°	2897.0	1155.6	144.5	104.8	91.0	81.1	79.5	86.4	93.3	100.2	102.5
42.5°	2988.0	1013.3	132.3	96.4	83.4	71.9	70.4	75.7	82.6	92.5	94.1
45°	3066.8	881.0	119.3	87.2	74.9	61.9	61.2	67.3	72.7	81.8	83.4
47.5°	3133.3	770.9	107.1	77.2	64.2	55.1	54.3	57.4	60.4	68.8	70.4
50°	3098.1	677.6	94.8	63.5	52.0	47.4	46.7	46.7	50.5	58.9	60.4
52.5°	3011.7	619.5	83.4	52.8	42.8	40.5	38.2	39.0	42.8	46.7	47.4
55°	2942.1	591.9	73.4	46.7	35.9	33.7	31.4	30.6	31.4	29.8	28.3
56°	2925.3	588.9	71.1	45.1	34.4	31.4	28.3	26.8	26.0	22.9	22.2
57.5°	2917.6	588.9	67.3	42.1	32.1	28.3	24.5	21.4	18.4	16.1	16.1
60°	2911.5	592.7	62.7	36.7	27.5	22.9	17.6	13.0	10.7	10.7	10.7
62.5°	2898.5	591.2	57.4	30.6	23.7	17.6	10.7	8.4	7.6	8.4	9.2
65°	2752.4	549.1	50.5	24.5	18.4	12.2	6.1	6.1	6.9	8.4	9.2
67.5°	2217.9	416.0	41.3	19.1	13.0	9.2	5.4	5.4	6.9	8.4	9.2
70°	1218.3	219.5	35.2	13.8	9.9	7.6	5.4	4.6	6.9	8.4	9.2
72.5°	297.5	91.8	32.1	10.7	9.2	6.9	4.6	4.6	6.9	8.4	9.2
75°	73.4	68.8	26.0	8.4	7.6	6.1	4.6	4.6	6.9	8.4	9.2
77.5°	34.4	91.0	17.6	7.6	6.9	5.4	4.6	4.6	6.9	8.4	8.4
80°	20.6	68.8	10.7	6.9	6.1	5.4	4.6	4.6	6.9	8.4	9.2
82.5°	12.2	19.9	7.6	6.9	6.1	4.6	4.6	4.6	6.9	8.4	9.2
85°	10.7	9.9	7.6	6.9	6.1	5.4	4.6	4.6	7.6	9.2	9.2
87.5°	8.4	7.6	6.9	6.1	6.1	5.4	4.6	4.6	6.9	8.4	9.2
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)