

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: P196964

Luminaire Tested: **NAV-AF-02-D-UNV-AFL-8030-1200-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196964
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-02-D-UNV-AFL-8030-1200-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 80 CRI, 3000K, 1200mA 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: 9152 lumens
Efficiency: N/A
Efficacy: 70.9 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): 129
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

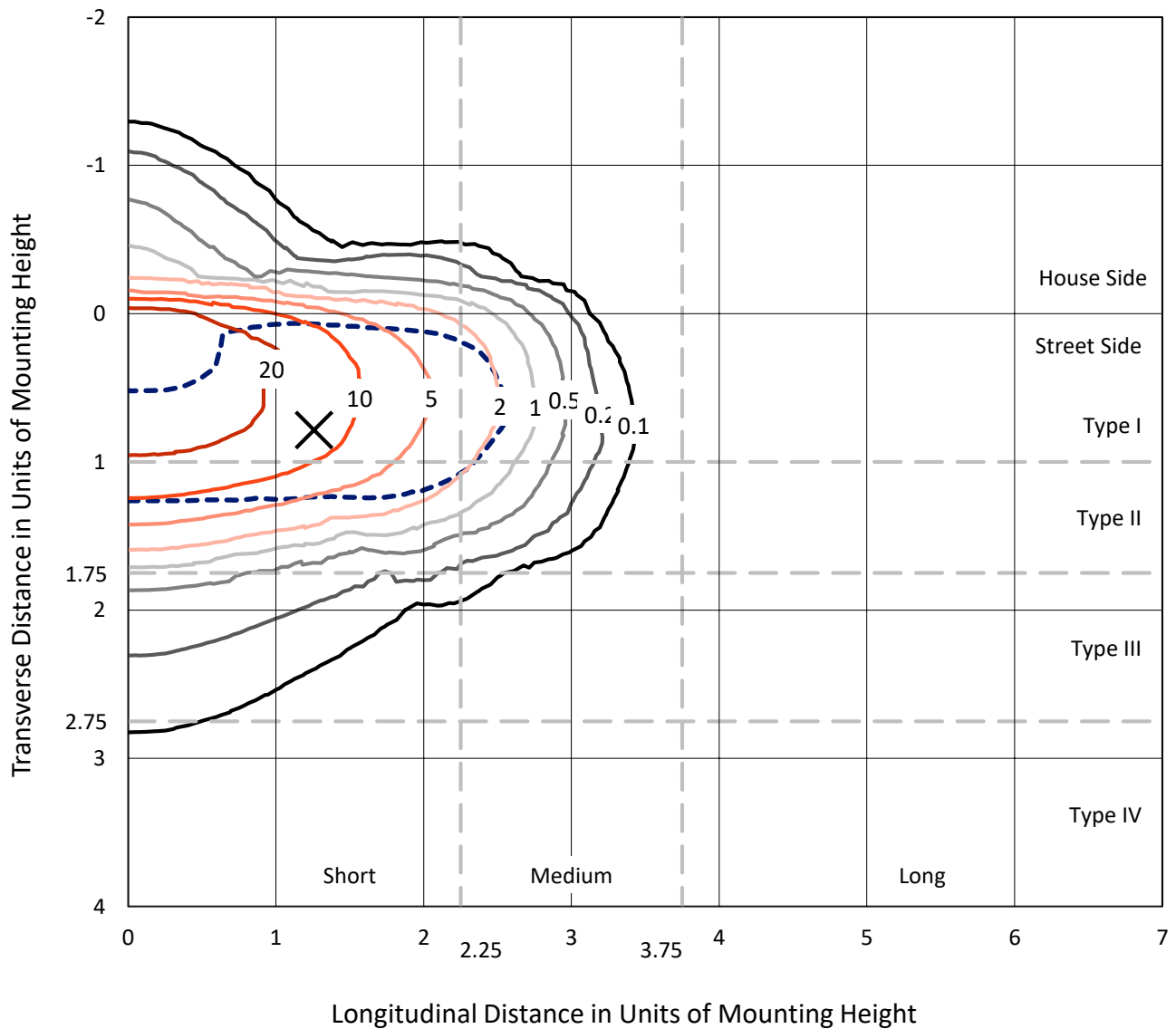


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

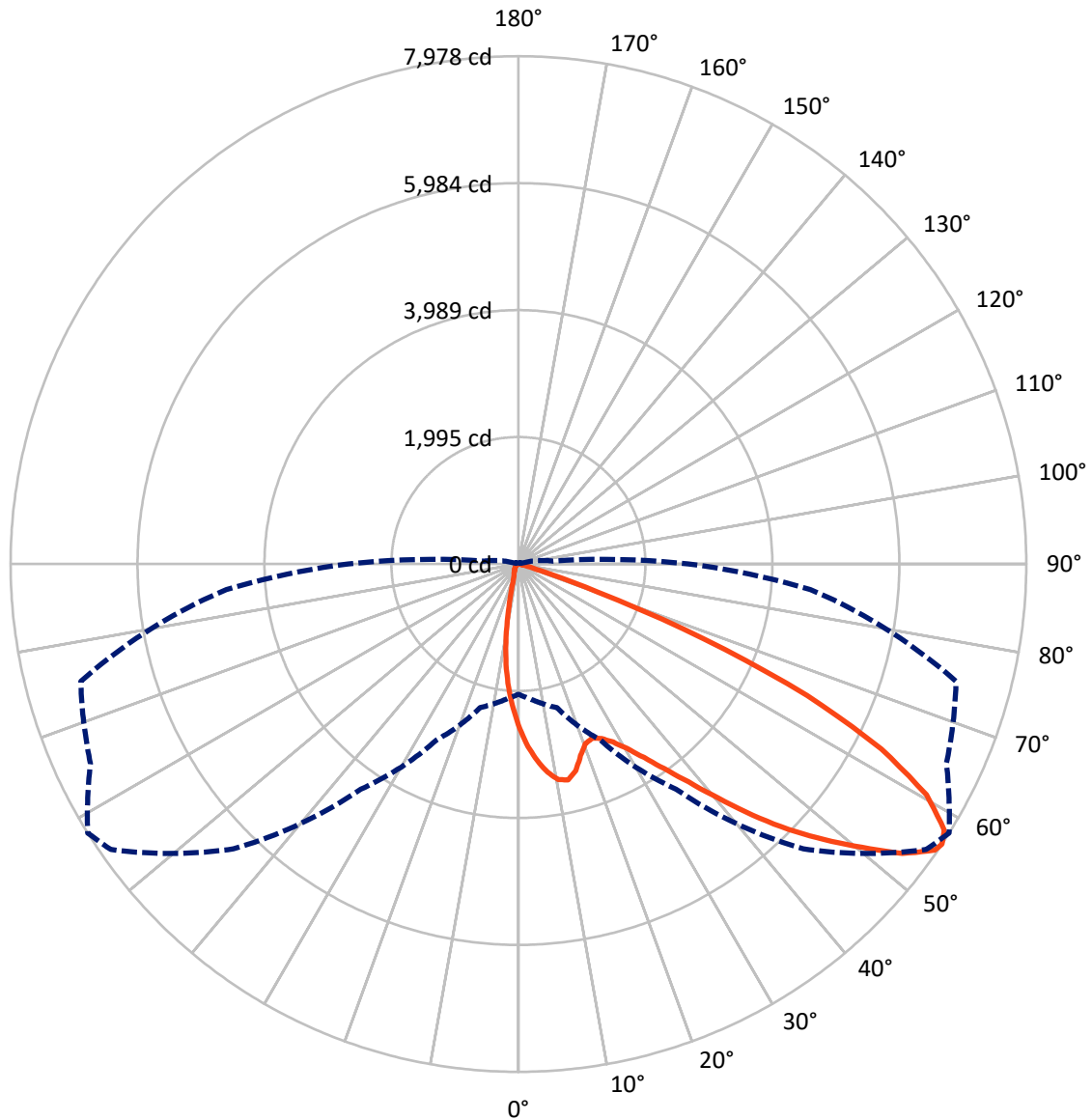


Based on 10 foot mounting height. Maximum calculated value = 32.2 fc
 Type II - Short - Full Cutoff

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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	571.3	0.0	571.3
	% Fixture	6.2	0.0	6.2
Street Side	Lumens	8580.7	0.0	8580.7
	% Fixture	93.8	0.0	93.8
Total	Lumens	9152.0	0.0	9152.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	221.0	2.4
10°-20°	514.3	5.6
20°-30°	865.5	9.5
30°-40°	1482.0	16.2
40°-50°	2236.4	24.4
50°-60°	2324.6	25.4
60°-70°	1305.0	14.3
70°-80°	178.9	2.0
80°-90°	24.2	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°	9152.0	100.0
0°-180°	9152.0	100.0

Coefficient of Utilization



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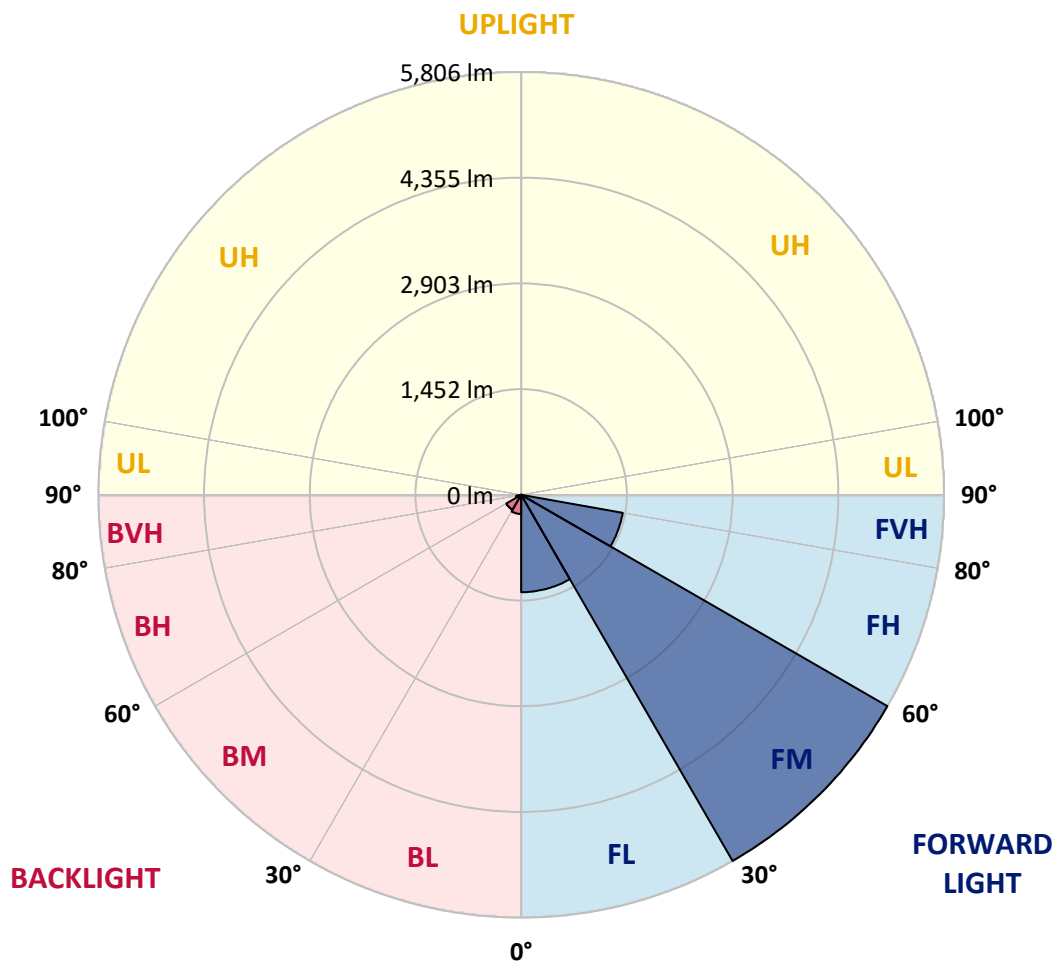
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1337.3	14.6			
FM	(30°-60°)	5806.4	63.4			
FH	(60°-80°)	1416.1	15.5			G1/1800
FVH	(80°-90°)	20.9	0.2			G1/100
BL	(0°-30°)	263.5	2.9	B1/500		
BM	(30°-60°)	236.6	2.6	B1/1000		
BH	(60°-80°)	67.8	0.7	B0/110		G0/110
BVH	(80°-90°)	3.4	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°	2591.2	2591.2	2591.2	2591.2	2591.2	2591.2	2591.2	2591.2	2591.2	2591.2	2591.2
2.5°	3117.7	3098.8	3079.3	3043.0	3009.5	2957.8	2886.6	2869.1	2813.3	2721.1	2635.2
5°	3386.5	3383.0	3369.8	3340.4	3304.1	3241.3	3161.0	3107.2	3020.6	2875.4	2709.9
7.5°	3227.3	3256.6	3304.8	3373.2	3419.3	3413.0	3351.6	3304.8	3218.9	3020.6	2783.2
10°	2720.4	2726.0	2792.3	2936.1	3163.8	3376.0	3456.3	3443.8	3364.9	3147.7	2847.5
12.5°	2541.6	2545.1	2560.5	2606.6	2754.6	3050.7	3414.4	3480.1	3473.8	3269.2	2915.9
15°	2555.6	2557.7	2561.9	2576.5	2618.4	2767.2	3202.2	3369.1	3543.6	3384.4	2982.9
17.5°	2665.9	2664.5	2651.3	2637.3	2650.6	2699.4	2985.7	3161.7	3529.0	3481.5	3038.1
20°	2881.0	2888.0	2843.3	2781.1	2749.0	2751.1	2878.9	3010.9	3446.6	3556.9	3079.3
22.5°	3183.3	3188.2	3114.9	3007.4	2913.1	2865.6	2901.2	2971.1	3351.6	3626.7	3112.8
25°	3544.3	3544.3	3441.7	3288.8	3142.8	3038.8	3008.1	3034.6	3315.3	3705.6	3146.3
27.5°	3933.9	3947.9	3813.8	3613.4	3420.7	3268.5	3172.2	3167.3	3343.2	3804.8	3184.0
30°	4357.8	4370.4	4211.1	3966.1	3737.7	3542.9	3394.9	3362.8	3450.1	3938.1	3239.2
32.5°	4779.5	4790.0	4614.0	4364.1	4098.0	3869.0	3674.2	3623.2	3642.1	4132.9	3320.2
35°	5315.8	5317.9	5095.1	4797.7	4513.5	4244.7	3998.2	3947.9	3927.0	4378.7	3436.8
37.5°	5742.4	5725.7	5584.6	5303.2	4977.1	4696.4	4406.7	4341.0	4290.8	4724.4	3617.6
40°	5843.0	5843.0	5822.0	5737.5	5478.5	5208.3	4927.6	4829.8	4718.8	5131.4	3860.6
42.5°	5581.1	5597.9	5736.1	5919.8	5921.9	5748.7	5474.3	5391.9	5196.4	5595.1	4126.0
45°	4995.3	5000.2	5331.8	5827.6	6164.2	6263.3	6060.8	5947.0	5676.1	6076.9	4369.0
47.5°	4784.4	4799.8	4940.8	5546.9	6182.3	6680.2	6623.6	6467.2	6120.2	6516.8	4595.9
50°	4460.4	4479.3	4651.7	5133.5	6018.9	6947.6	7162.0	6994.4	6524.5	6883.4	4708.3
52.5°	3685.4	3714.7	3958.4	4586.8	5610.4	6958.8	7654.9	7554.4	6938.5	7079.6	4695.0
55°	2536.0	2557.7	2841.9	3580.6	4786.5	6617.3	7867.2	7936.3	7307.9	7123.6	4630.8
56°	2045.9	2126.9	2335.0	3050.7	4317.3	6326.8	7818.3	7978.2	7417.5	7116.6	4602.9
57.5°	1352.5	1367.9	1594.8	2210.7	3466.8	5696.3	7597.7	7888.8	7558.6	7081.0	4582.6
60°	636.1	643.1	724.8	1020.1	1876.2	4151.1	6880.6	7363.8	7610.2	7006.2	4581.9
62.5°	414.8	416.2	425.9	486.7	767.4	2260.9	5704.0	6399.5	7182.2	6997.9	4568.7
65°	341.4	344.9	333.1	340.7	401.5	852.6	4023.3	4989.0	6177.4	6801.0	4419.2
67.5°	300.9	301.6	285.6	276.5	294.0	374.3	2027.0	3147.0	4620.3	5778.7	3640.0
70°	274.4	273.7	255.6	234.6	235.3	248.6	660.5	1307.1	2556.3	3431.2	2089.9
72.5°	243.7	245.1	234.6	205.3	195.5	176.0	248.6	352.6	870.0	1101.8	550.9
75°	213.7	210.9	200.4	181.5	163.4	118.0	125.0	150.1	226.9	224.8	118.7
77.5°	162.0	159.2	164.1	155.0	127.8	82.4	68.4	78.2	102.6	95.7	48.2
80°	123.6	122.2	111.7	132.7	116.6	62.1	46.8	48.2	55.9	51.0	23.7
82.5°	89.4	88.7	84.5	81.7	74.0	45.4	35.6	37.7	41.9	35.6	17.5
85°	34.2	34.2	66.3	55.9	51.0	30.7	25.1	27.2	32.1	25.8	11.9
87.5°	5.6	5.6	44.7	37.0	23.0	15.4	16.1	17.5	18.9	15.4	9.1
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°	2591.2	2591.2	2591.2	2591.2	2591.2	2591.2	2591.2	2591.2	2591.2	2591.2	2591.2
2.5°	2584.2	2537.4	2434.8	2335.6	2249.1	2154.1	2105.9	2050.1	2029.1	1987.2	1991.4
5°	2610.8	2513.0	2307.0	2089.9	1890.9	1688.4	1544.5	1409.1	1333.7	1258.9	1258.9
7.5°	2638.0	2488.6	2170.2	1823.1	1488.0	1140.9	895.2	698.3	588.6	515.3	513.2
10°	2656.8	2457.1	2014.5	1513.8	1019.4	587.9	354.7	279.3	252.1	240.2	239.5
12.5°	2681.3	2425.7	1837.1	1149.3	566.3	279.3	221.3	209.5	204.6	201.8	201.8
15°	2702.2	2381.0	1622.0	773.0	297.5	209.5	190.6	186.4	185.7	185.0	185.7
17.5°	2707.1	2317.5	1364.4	452.5	215.8	182.9	174.6	171.1	171.1	170.4	170.4
20°	2695.9	2233.7	1079.5	279.3	186.4	168.3	159.2	155.0	154.3	154.3	154.3
22.5°	2672.9	2126.9	798.1	211.6	169.7	155.0	143.1	139.0	139.0	139.7	140.3
25°	2644.3	2000.5	548.1	182.2	157.1	141.0	129.2	125.0	126.4	127.8	128.5
27.5°	2608.0	1849.7	358.9	157.8	140.3	127.1	116.6	113.8	116.6	119.4	120.8
30°	2571.7	1684.2	243.0	136.9	121.5	111.7	105.4	104.7	108.9	115.2	115.9
32.5°	2547.9	1514.5	183.6	122.9	106.8	98.5	95.7	97.1	103.3	110.3	111.7
35°	2545.8	1349.0	156.4	111.7	97.1	89.4	88.0	92.2	99.2	104.7	106.1
37.5°	2578.6	1194.0	141.7	103.3	89.4	81.7	79.6	87.3	93.6	99.2	100.5
40°	2645.0	1055.1	132.0	95.7	83.1	74.0	72.6	78.9	85.2	91.5	93.6
42.5°	2728.1	925.2	120.8	88.0	76.1	65.6	64.2	69.1	75.4	84.5	85.9
45°	2800.0	804.4	108.9	79.6	68.4	56.6	55.9	61.4	66.3	74.7	76.1
47.5°	2860.7	703.8	97.8	70.5	58.7	50.3	49.6	52.4	55.2	62.8	64.2
50°	2828.6	618.7	86.6	58.0	47.5	43.3	42.6	42.6	46.1	53.8	55.2
52.5°	2749.7	565.6	76.1	48.2	39.1	37.0	34.9	35.6	39.1	42.6	43.3
55°	2686.2	540.4	67.0	42.6	32.8	30.7	28.6	27.9	28.6	27.2	25.8
56°	2670.8	537.7	64.9	41.2	31.4	28.6	25.8	24.4	23.7	20.9	20.2
57.5°	2663.8	537.7	61.4	38.4	29.3	25.8	22.3	19.6	16.8	14.7	14.7
60°	2658.2	541.1	57.3	33.5	25.1	20.9	16.1	11.9	9.8	9.8	9.8
62.5°	2646.4	539.7	52.4	27.9	21.6	16.1	9.8	7.7	7.0	7.7	8.4
65°	2513.0	501.3	46.1	22.3	16.8	11.2	5.6	5.6	6.3	7.7	8.4
67.5°	2024.9	379.8	37.7	17.5	11.9	8.4	4.9	4.9	6.3	7.7	8.4
70°	1112.3	200.4	32.1	12.6	9.1	7.0	4.9	4.2	6.3	7.7	8.4
72.5°	271.6	83.8	29.3	9.8	8.4	6.3	4.2	4.2	6.3	7.7	8.4
75°	67.0	62.8	23.7	7.7	7.0	5.6	4.2	4.2	6.3	7.7	8.4
77.5°	31.4	83.1	16.1	7.0	6.3	4.9	4.2	4.2	6.3	7.7	7.7
80°	18.9	62.8	9.8	6.3	5.6	4.9	4.2	4.2	6.3	7.7	8.4
82.5°	11.2	18.2	7.0	6.3	5.6	4.2	4.2	4.2	6.3	7.7	8.4
85°	9.8	9.1	7.0	6.3	5.6	4.9	4.2	4.2	7.0	8.4	8.4
87.5°	7.7	7.0	6.3	5.6	5.6	4.9	4.2	4.2	6.3	7.7	8.4
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)