

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: P196067

Luminaire Tested: **NAV-AF-05-D-UNV-SL2-800-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196067
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24258)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-AF-05-D-UNV-SL2-800-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 4000K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II SPILL
LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 20271.8 lumens
Efficiency: N/A
Efficacy: 96.5 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type II - Medium - Semi-Cutoff
BUG Rating: B2 - U0 - G3

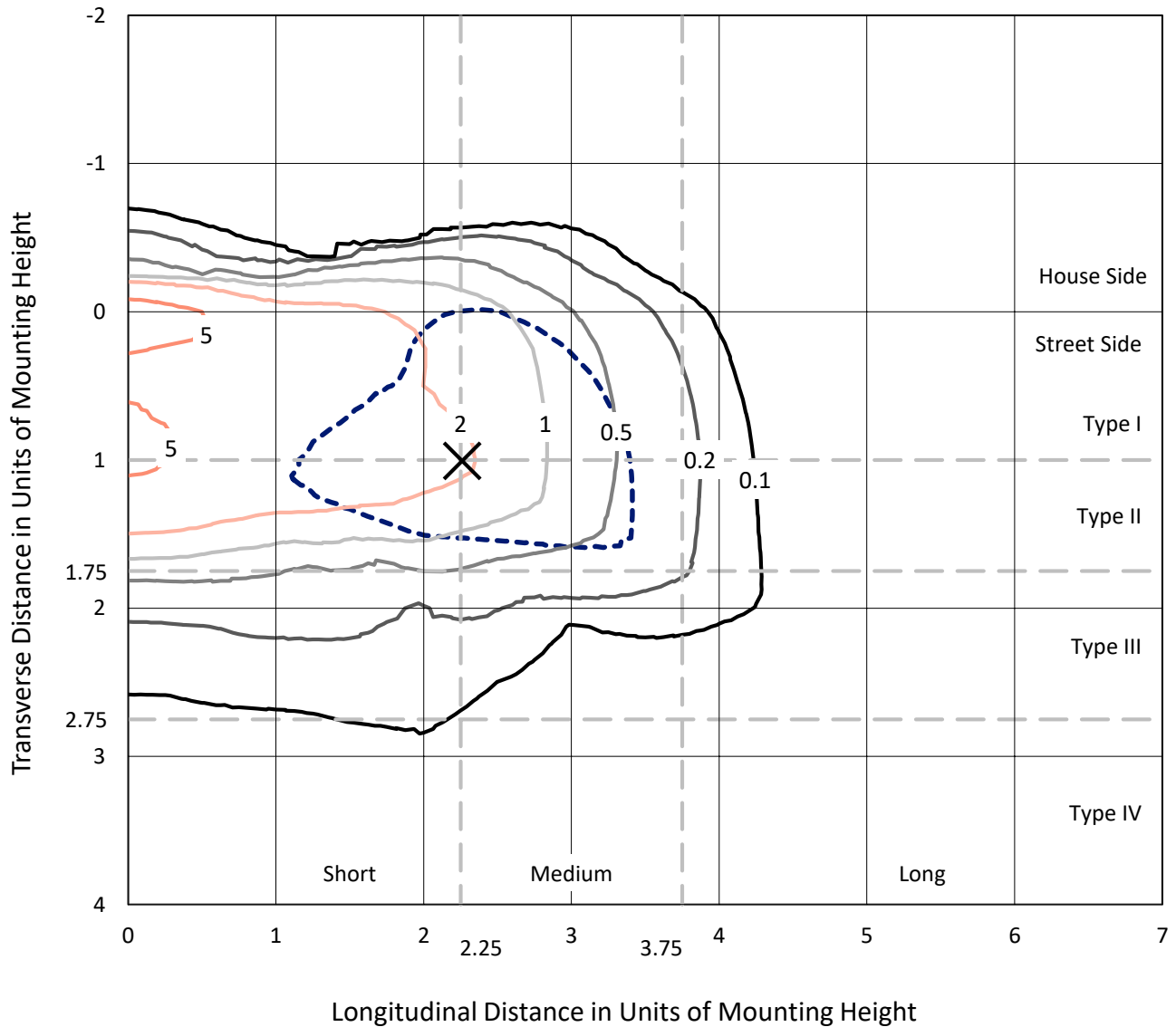
Input Watts (W): 210
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

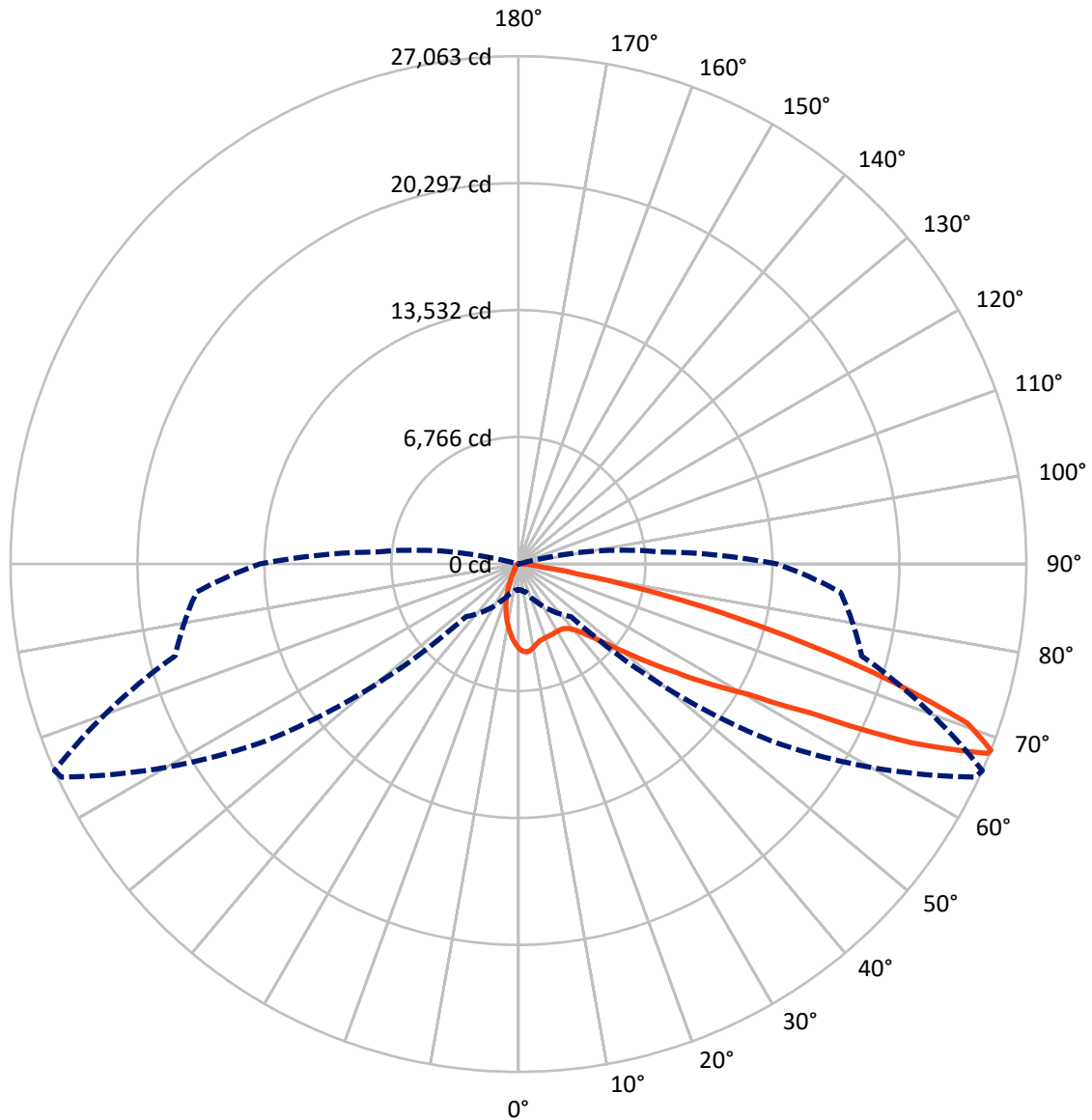
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 7.2 fc
 Type II - Medium - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 66-Deg Lateral - - - Horizontal Cone Through 68-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2053.3	0.0	2053.3
	% Fixture	10.1	0.0	10.1
Street Side	Lumens	18218.5	0.0	18218.5
	% Fixture	89.9	0.0	89.9
Total	Lumens	20271.8	0.0	20271.8
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	370.2	1.8
10°-20°	796.6	3.9
20°-30°	1154.4	5.7
30°-40°	1767.2	8.7
40°-50°	3022.6	14.9
50°-60°	4728.2	23.3
60°-70°	5444.3	26.9
70°-80°	2724.4	13.4
80°-90°	263.9	1.3
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°	20271.8	100.0
0°-180°	20271.8	100.0



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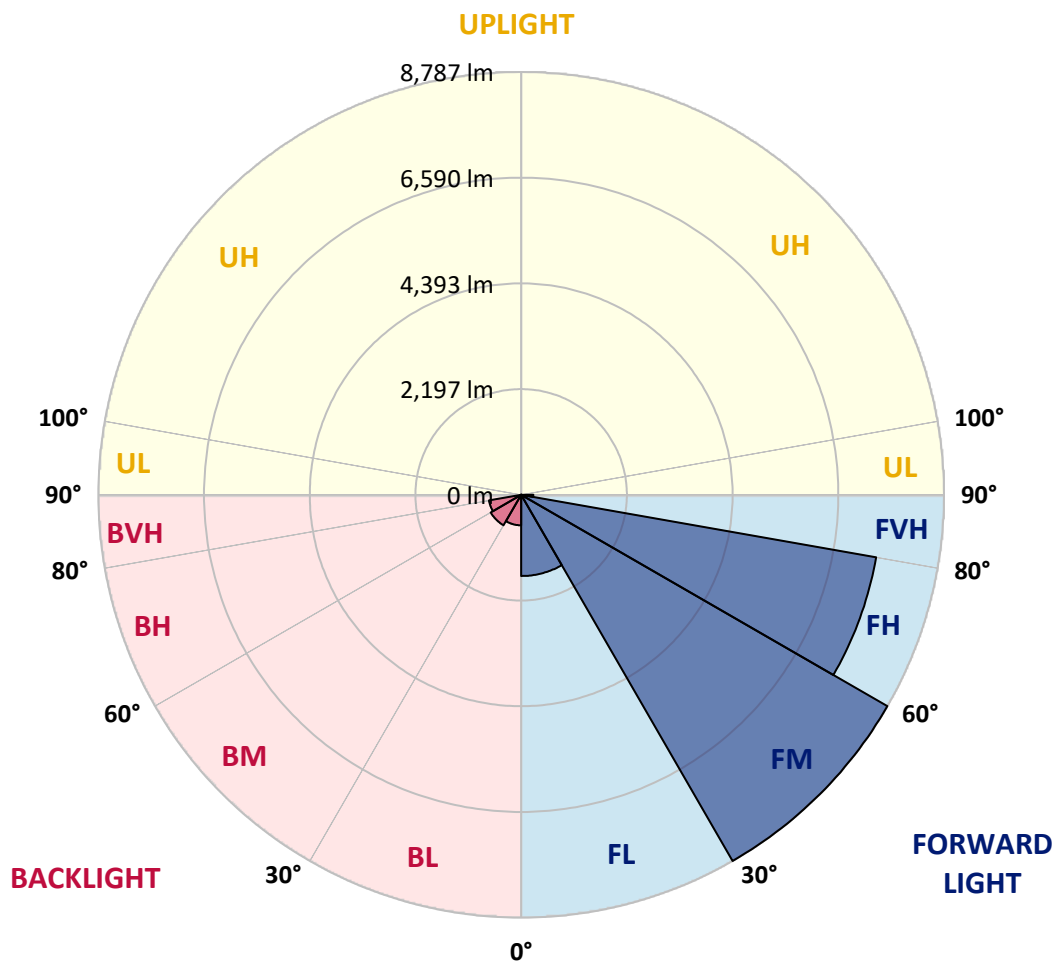
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1687.5	8.3			
FM (30°-60°)	8786.7	43.3			
FH (60°-80°)	7490.4	36.9			G3/7500
FVH (80°-90°)	253.9	1.3			G3/500
BL (0°-30°)	633.8	3.1	B2/1000		
BM (30°-60°)	731.2	3.6	B1/1000		
BH (60°-80°)	678.4	3.3	B2/1000		G2/1000
BVH (80°-90°)	10.0	0.0			G0/10
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G3

Type II Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	66°	75°	85°
0°	4516.3	4516.3	4516.3	4516.3	4516.3	4516.3	4516.3	4516.3	4516.3	4516.3	4516.3
2.5°	4750.3	4753.4	4751.9	4756.6	4753.4	4729.6	4704.1	4650.0	4654.8	4584.8	4506.8
5°	4416.1	4443.2	4470.2	4497.3	4562.6	4619.9	4688.3	4704.1	4704.1	4643.7	4529.1
7.5°	4075.5	4077.2	4107.4	4144.0	4231.5	4336.5	4495.7	4638.9	4642.0	4658.0	4532.3
10°	3819.3	3827.3	3848.0	3887.7	3975.3	4078.7	4257.0	4481.3	4498.8	4616.6	4500.5
12.5°	3620.4	3629.9	3652.2	3698.4	3778.0	3884.6	4072.4	4328.6	4352.5	4576.9	4490.9
15°	3467.6	3480.4	3497.9	3544.0	3629.9	3743.0	3948.3	4226.7	4255.4	4560.9	4521.1
17.5°	3404.0	3404.0	3402.4	3434.3	3520.2	3634.7	3849.6	4172.6	4209.2	4573.6	4572.1
20°	3431.1	3426.3	3392.8	3384.8	3437.4	3552.0	3771.6	4137.6	4179.0	4597.6	4634.2
22.5°	3574.3	3564.7	3489.9	3427.9	3412.0	3488.4	3719.0	4113.8	4163.1	4646.9	4716.9
25°	3878.2	3849.6	3746.1	3606.1	3480.4	3472.4	3682.5	4101.0	4153.5	4704.1	4807.6
27.5°	4272.9	4264.9	4099.5	3911.7	3669.7	3524.9	3671.4	4091.5	4144.0	4745.6	4880.8
30°	4763.1	4766.2	4575.2	4330.2	3964.1	3672.9	3706.4	4086.7	4140.8	4748.7	4912.6
32.5°	5269.1	5272.3	5113.1	4850.5	4366.8	3927.5	3805.0	4109.0	4158.3	4736.0	4911.1
35°	5756.0	5760.8	5665.3	5453.7	4904.6	4280.8	3991.2	4185.4	4220.4	4743.9	4907.8
37.5°	6372.0	6391.0	6273.2	6075.9	5579.4	4799.7	4295.2	4339.8	4368.4	4809.2	4931.7
40°	7422.2	7396.8	7059.4	6725.2	6311.5	5431.5	4734.4	4605.5	4615.0	4977.9	5022.4
42.5°	8646.0	8614.2	8036.5	7460.5	7064.2	6193.7	5296.1	5012.9	5011.3	5261.1	5219.8
45°	9699.5	9680.4	9072.6	8303.9	7898.1	7035.5	5988.5	5600.1	5581.0	5751.3	5579.4
47.5°	10447.5	10431.5	9971.6	9201.4	8862.4	7961.7	6852.5	6400.6	6360.8	6392.6	6163.5
50°	10520.6	10503.1	10342.4	9847.5	9989.1	9320.8	7920.4	7449.3	7398.4	7349.1	7046.7
52.5°	9836.4	9834.8	9919.1	9887.3	10778.5	11069.8	9230.1	8746.3	8685.8	8560.1	8259.3
55°	8437.6	8429.6	8749.5	9214.1	10761.0	12874.3	11227.3	10290.0	10210.4	9958.9	9564.3
57.5°	6165.0	6123.7	6792.1	7777.1	10005.1	13663.7	14399.0	12207.6	12075.5	11278.2	10670.3
60°	3404.0	3419.9	4279.2	5445.8	8214.8	13507.8	17317.5	14443.5	14096.6	12416.1	11803.3
62.5°	1908.1	1947.9	2587.6	3539.2	5237.3	12242.6	18883.5	18291.5	17455.9	13743.2	13235.7
65°	1443.4	1467.2	1788.7	2730.9	3302.2	8555.3	19133.3	23671.9	22951.0	15754.8	15516.1
67.5°	1359.1	1378.1	1535.7	2264.5	3007.7	4436.8	17252.3	26854.7	26945.4	18498.3	17282.5
68°	1368.6	1392.4	1550.0	2178.6	3003.0	3968.9	16450.2	26870.7	27063.2	18940.8	17222.0
70°	1257.2	1263.5	1639.2	2137.3	2910.7	3127.1	11900.4	25029.4	25374.7	19467.5	15633.9
72.5°	480.6	482.2	735.2	1850.8	3049.1	3144.6	5994.8	19782.5	19800.1	16941.9	12188.5
75°	249.8	210.1	230.8	579.3	2912.2	3065.1	3007.7	13507.8	13423.4	11458.0	7468.4
77.5°	171.9	146.4	154.4	200.5	1211.1	3063.4	2172.2	7767.6	7750.1	4874.5	2130.9
80°	97.1	84.4	92.3	168.7	424.9	2875.6	2024.2	3338.7	3146.2	856.2	345.3
82.5°	49.3	41.3	49.3	141.7	264.1	1809.4	1968.6	1309.7	1166.5	203.7	224.4
85°	12.7	12.7	23.8	98.7	163.9	593.6	1764.9	945.3	849.8	89.1	159.2
87.5°	3.2	1.6	9.5	36.6	58.9	128.9	978.7	526.7	453.6	46.1	92.3
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°	4516.3	4516.3	4516.3	4516.3	4516.3	4516.3	4516.3	4516.3	4516.3	4516.3	4516.3
2.5°	4475.0	4430.4	4342.9	4244.2	4174.3	4097.8	4053.2	3999.1	3957.8	3921.2	3948.3
5°	4459.0	4373.1	4179.0	3961.0	3778.0	3602.9	3472.4	3348.3	3254.4	3195.5	3219.4
7.5°	4417.7	4290.4	3975.3	3634.7	3335.5	3053.9	2824.7	2619.5	2460.3	2374.4	2401.4
10°	4347.6	4167.8	3744.5	3271.9	2853.3	2455.5	2115.0	1809.4	1578.6	1470.5	1495.9
12.5°	4296.8	4059.7	3505.9	2921.8	2371.2	1806.2	1354.3	1004.1	824.3	716.2	725.7
15°	4274.5	3975.3	3283.1	2552.6	1844.4	1160.1	732.0	529.9	467.9	445.6	447.1
17.5°	4277.7	3908.5	3071.4	2169.1	1312.9	666.8	448.8	404.2	394.7	389.8	389.8
20°	4285.7	3841.6	2851.8	1769.6	840.3	429.6	374.0	359.7	354.9	348.5	350.2
22.5°	4309.5	3790.6	2630.6	1368.6	517.2	350.2	331.0	318.2	310.4	300.7	302.4
25°	4346.1	3752.5	2412.5	985.1	364.5	305.6	288.1	270.6	256.2	245.1	246.6
27.5°	4368.4	3698.4	2180.2	671.6	302.4	267.4	243.5	219.6	203.7	194.2	192.5
30°	4352.5	3610.9	1916.0	440.8	267.4	230.8	202.1	175.0	159.2	151.2	151.2
32.5°	4309.5	3497.9	1624.9	321.4	237.1	199.0	163.9	140.0	128.9	124.1	125.7
35°	4260.2	3380.1	1314.5	272.1	213.3	168.7	133.7	114.6	109.8	108.2	108.2
37.5°	4233.1	3278.3	1016.9	246.6	191.0	140.0	109.8	98.7	93.9	93.9	93.9
40°	4263.4	3200.3	752.7	227.6	168.7	116.2	92.3	84.4	82.8	82.8	82.8
42.5°	4392.2	3173.2	550.7	211.6	146.4	97.1	79.6	73.2	71.6	73.2	73.2
45°	4643.7	3232.1	417.0	195.7	125.7	79.6	68.4	63.6	63.6	65.3	65.3
47.5°	5070.2	3383.3	342.2	179.8	105.1	66.8	58.9	55.6	55.6	57.3	57.3
50°	5732.2	3663.4	307.1	162.3	87.6	57.3	49.3	47.8	47.8	49.3	50.9
52.5°	6738.0	4196.5	289.6	144.8	71.6	47.8	41.3	39.8	41.3	43.0	43.0
55°	7856.7	4879.2	268.9	127.4	60.5	39.8	33.5	33.5	35.0	38.2	38.2
57.5°	8899.1	5538.1	249.8	105.1	52.5	31.8	27.0	27.0	30.3	33.5	33.5
60°	10000.3	6184.1	224.4	84.4	44.6	25.5	22.3	22.3	27.0	30.3	31.8
62.5°	11361.0	6935.3	191.0	66.8	35.0	19.1	16.0	20.7	25.5	30.3	30.3
65°	13327.9	7869.5	149.6	52.5	27.0	14.3	12.7	19.1	23.8	28.6	30.3
67.5°	14042.5	7750.1	113.0	43.0	20.7	11.2	11.2	17.5	23.8	28.6	28.6
68°	13781.5	7489.1	108.2	41.3	19.1	11.2	11.2	17.5	23.8	28.6	28.6
70°	12008.6	6122.1	89.1	31.8	16.0	9.5	9.5	16.0	23.8	27.0	28.6
72.5°	8991.3	4067.6	76.4	20.7	14.3	9.5	8.0	16.0	22.3	27.0	27.0
75°	5157.7	1688.5	65.3	16.0	12.7	8.0	8.0	14.3	22.3	27.0	27.0
77.5°	1457.7	394.7	52.5	12.7	11.2	8.0	6.3	14.3	20.7	25.5	25.5
80°	267.4	117.7	41.3	11.2	9.5	8.0	6.3	14.3	20.7	25.5	25.5
82.5°	176.7	55.6	30.3	11.2	9.5	8.0	6.3	12.7	19.1	23.8	23.8
85°	132.1	39.8	19.1	11.2	9.5	8.0	6.3	12.7	19.1	23.8	23.8
87.5°	73.2	17.5	14.3	12.7	11.2	8.0	6.3	11.2	17.5	22.3	22.3
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)