

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: P196959

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196959
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-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 80 CRI, 3000K, 1050mA 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: 12406 lumens
Efficiency: N/A
Efficacy: 74.7 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 - G2

Input Watts (W): 166
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

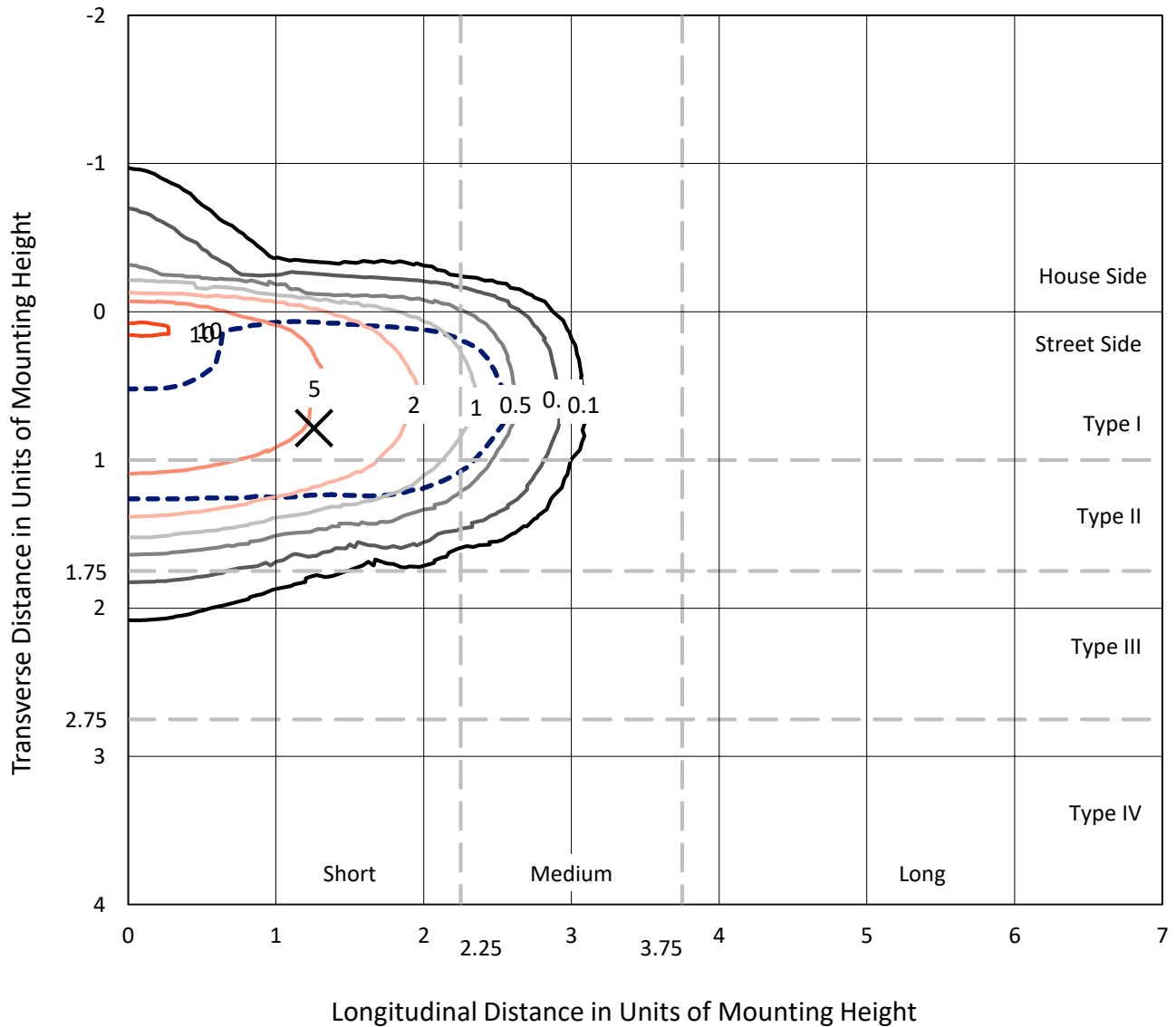


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Iso-Footcandle Lines of Horizontal Illumination

✕ Max cd
 - - - 1/2 Max cd

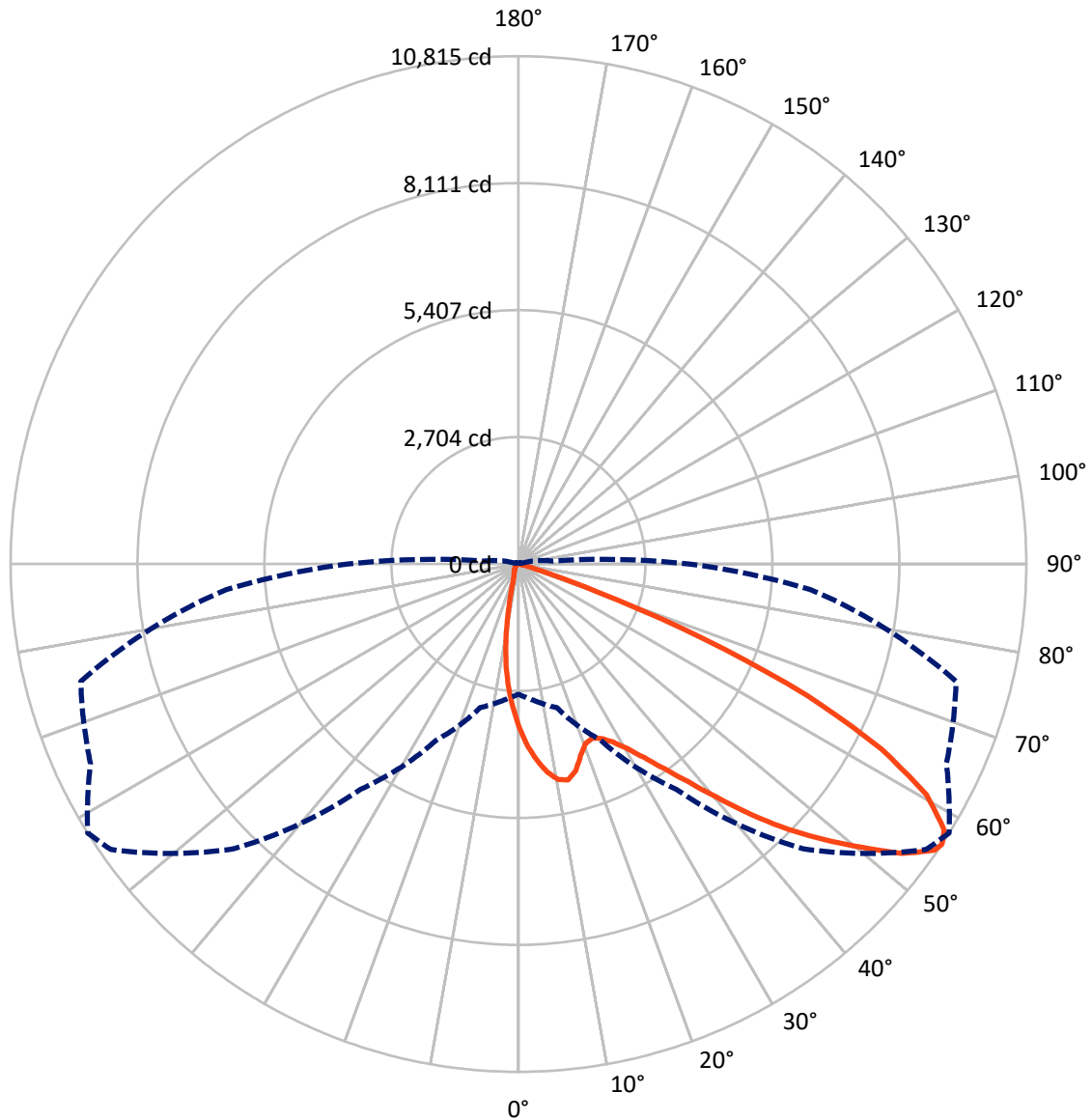


Based on 20 foot mounting height. Maximum calculated value = 10.9 fc
 Type II - Short - Full Cutoff

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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	774.4	0.0	774.4
	% Fixture	6.2	0.0	6.2
Street Side	Lumens	11631.6	0.0	11631.6
	% Fixture	93.8	0.0	93.8
Total	Lumens	12406.0	0.0	12406.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	299.6	2.4
10°-20°	697.2	5.6
20°-30°	1173.2	9.5
30°-40°	2008.9	16.2
40°-50°	3031.5	24.4
50°-60°	3151.2	25.4
60°-70°	1769.0	14.3
70°-80°	242.5	2.0
80°-90°	32.9	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°	12406.0	100.0
0°-180°	12406.0	100.0

Coefficient of Utilization



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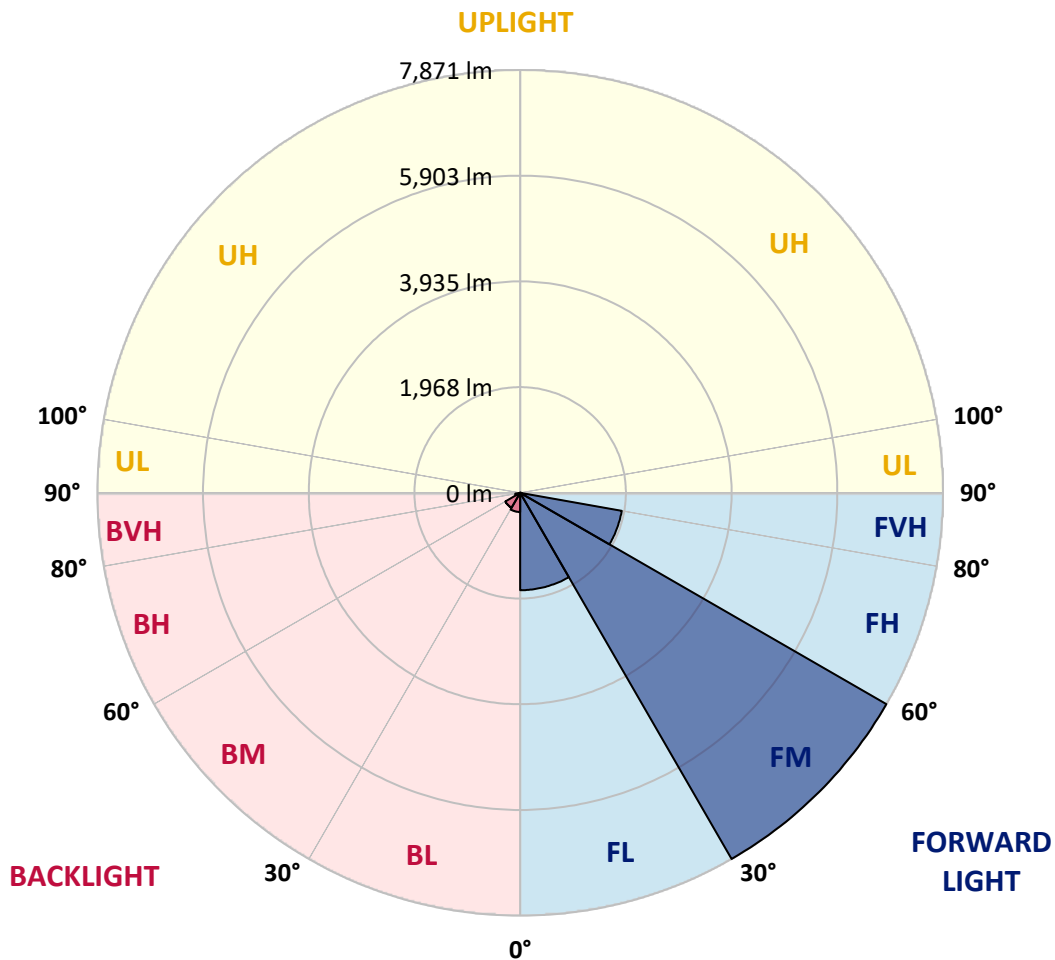
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1812.8	14.6			
FM	(30°-60°)	7870.9	63.4			
FH	(60°-80°)	1919.6	15.5			G2/5000
FVH	(80°-90°)	28.3	0.2			G1/100
BL	(0°-30°)	357.2	2.9	B1/500		
BM	(30°-60°)	320.8	2.6	B1/1000		
BH	(60°-80°)	91.9	0.7	B0/110		G0/110
BVH	(80°-90°)	4.5	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-G2

Type II Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	58°	65°	75°	85°
0°	3512.5	3512.5	3512.5	3512.5	3512.5	3512.5	3512.5	3512.5	3512.5	3512.5	3512.5
2.5°	4226.2	4200.6	4174.1	4124.9	4079.5	4009.4	3912.9	3889.2	3813.5	3688.6	3572.1
5°	4590.6	4585.9	4567.9	4528.1	4478.9	4393.7	4284.9	4212.0	4094.6	3897.7	3673.4
7.5°	4374.8	4414.5	4479.9	4572.6	4635.1	4626.6	4543.3	4479.9	4363.4	4094.6	3772.8
10°	3687.6	3695.2	3785.1	3980.1	4288.7	4576.4	4685.2	4668.2	4561.3	4266.9	3859.9
12.5°	3445.3	3450.0	3470.9	3533.3	3734.0	4135.3	4628.5	4717.4	4708.9	4431.6	3952.6
15°	3464.2	3467.1	3472.8	3492.6	3549.4	3751.0	4340.7	4566.9	4803.6	4587.8	4043.5
17.5°	3613.8	3611.9	3593.9	3575.0	3593.0	3659.2	4047.3	4285.8	4783.7	4719.3	4118.3
20°	3905.3	3914.8	3854.2	3770.0	3726.4	3729.3	3902.5	4081.4	4672.0	4821.5	4174.1
22.5°	4315.2	4321.8	4222.4	4076.6	3948.9	3884.5	3932.8	4027.4	4543.3	4916.2	4219.6
25°	4804.5	4804.5	4665.4	4458.1	4260.3	4119.2	4077.6	4113.6	4494.0	5023.2	4265.0
27.5°	5332.7	5351.6	5169.9	4898.2	4637.0	4430.6	4300.0	4293.4	4531.9	5157.6	4316.1
30°	5907.2	5924.2	5708.4	5376.2	5066.7	4802.6	4602.0	4558.4	4676.7	5338.3	4390.9
32.5°	6478.9	6493.1	6254.6	5915.7	5555.1	5244.6	4980.6	4911.5	4937.0	5602.4	4500.7
35°	7205.8	7208.7	6906.7	6503.5	6118.3	5753.9	5419.7	5351.6	5323.2	5935.6	4658.7
37.5°	7784.1	7761.4	7570.2	7188.8	6746.8	6366.3	5973.5	5884.5	5816.3	6404.1	4903.9
40°	7920.4	7920.4	7892.0	7777.5	7426.3	7060.0	6679.6	6547.0	6396.5	6955.9	5233.3
42.5°	7565.5	7588.2	7775.6	8024.5	8027.4	7792.7	7420.7	7309.0	7044.0	7584.4	5593.0
45°	6771.4	6778.0	7227.6	7899.6	8355.8	8490.2	8215.7	8061.5	7694.2	8237.5	5922.3
47.5°	6485.5	6506.3	6697.5	7519.1	8380.4	9055.3	8978.6	8766.6	8296.2	8833.8	6230.0
50°	6046.3	6071.9	6305.7	6958.8	8159.0	9417.8	9708.4	9481.2	8844.2	9330.7	6382.3
52.5°	4995.7	5035.5	5365.8	6217.7	7605.2	9433.0	10376.6	10240.3	9405.5	9596.7	6364.4
55°	3437.7	3467.1	3852.3	4853.7	6488.4	8970.1	10664.4	10758.1	9906.2	9656.3	6277.3
56°	2773.3	2883.1	3165.1	4135.3	5852.3	8576.4	10598.1	10814.9	10054.8	9646.9	6239.4
57.5°	1833.4	1854.2	2161.8	2996.7	4699.4	7721.7	10299.0	10693.7	10246.0	9598.6	6212.0
60°	862.3	871.7	982.5	1382.9	2543.3	5627.0	9326.9	9981.9	10316.1	9497.3	6211.0
62.5°	562.2	564.1	577.4	659.7	1040.2	3064.8	7732.1	8674.8	9735.8	9486.0	6193.0
65°	462.8	467.6	451.5	461.9	544.2	1155.7	5453.8	6762.8	8373.8	9219.0	5990.5
67.5°	407.9	408.9	387.1	374.8	398.5	507.3	2747.7	4265.9	6263.1	7833.4	4934.2
70°	372.0	371.0	346.4	318.0	319.0	337.0	895.4	1771.9	3465.2	4651.2	2832.9
72.5°	330.3	332.2	318.0	278.3	265.0	238.5	337.0	478.0	1179.4	1493.6	746.8
75°	289.6	285.8	271.6	246.1	221.5	160.0	169.4	203.5	307.6	304.8	160.9
77.5°	219.6	215.8	222.4	210.1	173.2	111.7	92.8	106.0	139.1	129.7	65.3
80°	167.5	165.6	151.4	179.8	158.1	84.2	63.4	65.3	75.7	69.1	32.2
82.5°	121.2	120.2	114.5	110.7	100.3	61.5	48.3	51.1	56.8	48.3	23.7
85°	46.4	46.4	89.9	75.7	69.1	41.6	34.1	36.9	43.5	35.0	16.1
87.5°	7.6	7.6	60.6	50.2	31.2	20.8	21.8	23.7	25.6	20.8	12.3
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°	3512.5	3512.5	3512.5	3512.5	3512.5	3512.5	3512.5	3512.5	3512.5	3512.5	3512.5
2.5°	3503.0	3439.6	3300.5	3166.1	3048.7	2920.0	2854.7	2779.0	2750.6	2693.8	2699.5
5°	3539.0	3406.5	3127.3	2832.9	2563.2	2288.7	2093.7	1910.1	1807.8	1706.6	1706.6
7.5°	3575.9	3373.4	2941.8	2471.3	2017.0	1546.6	1213.4	946.5	797.9	698.5	695.7
10°	3601.5	3330.8	2730.7	2052.0	1381.9	797.0	480.8	378.6	341.7	325.6	324.7
12.5°	3634.6	3288.2	2490.3	1558.0	767.6	378.6	300.0	284.0	277.3	273.5	273.5
15°	3663.0	3227.6	2198.8	1047.8	403.2	284.0	258.4	252.7	251.8	250.8	251.8
17.5°	3669.6	3141.5	1849.5	613.3	292.5	248.0	236.6	231.9	231.9	230.9	230.9
20°	3654.5	3027.9	1463.3	378.6	252.7	228.1	215.8	210.1	209.2	209.2	209.2
22.5°	3623.3	2883.1	1081.9	286.8	230.0	210.1	194.0	188.4	188.4	189.3	190.2
25°	3584.4	2711.8	743.0	247.0	213.0	191.2	175.1	169.4	171.3	173.2	174.2
27.5°	3535.2	2507.3	486.5	213.9	190.2	172.3	158.1	154.3	158.1	161.9	163.7
30°	3486.0	2283.0	329.4	185.5	164.7	151.4	142.9	142.0	147.7	156.2	157.1
32.5°	3453.8	2053.0	248.9	166.6	144.8	133.5	129.7	131.6	140.1	149.5	151.4
35°	3451.0	1828.7	212.0	151.4	131.6	121.2	119.3	124.9	134.4	142.0	143.9
37.5°	3495.5	1618.5	192.1	140.1	121.2	110.7	107.9	118.3	126.8	134.4	136.3
40°	3585.4	1430.2	178.9	129.7	112.6	100.3	98.4	107.0	115.5	124.0	126.8
42.5°	3698.0	1254.1	163.7	119.3	103.2	89.0	87.1	93.7	102.2	114.5	116.4
45°	3795.5	1090.4	147.7	107.9	92.8	76.7	75.7	83.3	89.9	101.3	103.2
47.5°	3877.9	954.1	132.5	95.6	79.5	68.1	67.2	71.0	74.8	85.2	87.1
50°	3834.3	838.6	117.4	78.6	64.4	58.7	57.7	57.7	62.5	72.9	74.8
52.5°	3727.4	766.7	103.2	65.3	53.0	50.2	47.3	48.3	53.0	57.7	58.7
55°	3641.2	732.6	90.9	57.7	44.5	41.6	38.8	37.9	38.8	36.9	35.0
56°	3620.4	728.8	88.0	55.8	42.6	38.8	35.0	33.1	32.2	28.4	27.4
57.5°	3611.0	728.8	83.3	52.1	39.8	35.0	30.3	26.5	22.7	19.9	19.9
60°	3603.4	733.5	77.6	45.4	34.1	28.4	21.8	16.1	13.3	13.3	13.3
62.5°	3587.3	731.7	71.0	37.9	29.3	21.8	13.3	10.4	9.5	10.4	11.4
65°	3406.5	679.6	62.5	30.3	22.7	15.1	7.6	7.6	8.5	10.4	11.4
67.5°	2744.9	514.9	51.1	23.7	16.1	11.4	6.6	6.6	8.5	10.4	11.4
70°	1507.8	271.6	43.5	17.0	12.3	9.5	6.6	5.7	8.5	10.4	11.4
72.5°	368.2	113.6	39.8	13.3	11.4	8.5	5.7	5.7	8.5	10.4	11.4
75°	90.9	85.2	32.2	10.4	9.5	7.6	5.7	5.7	8.5	10.4	11.4
77.5°	42.6	112.6	21.8	9.5	8.5	6.6	5.7	5.7	8.5	10.4	10.4
80°	25.6	85.2	13.3	8.5	7.6	6.6	5.7	5.7	8.5	10.4	11.4
82.5°	15.1	24.6	9.5	8.5	7.6	5.7	5.7	5.7	8.5	10.4	11.4
85°	13.3	12.3	9.5	8.5	7.6	6.6	5.7	5.7	9.5	11.4	11.4
87.5°	10.4	9.5	8.5	7.6	7.6	6.6	5.7	5.7	8.5	10.4	11.4
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)