

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: P270591

Luminaire Tested: **NAV-AF-05-D-UNV-SL2-7027-1200-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P270591
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-SL2-7027-1200-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 2700K, 1200mA 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: 23376.9 lumens
Efficiency: N/A
Efficacy: 73.1 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 - G4

Input Watts (W): 320
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

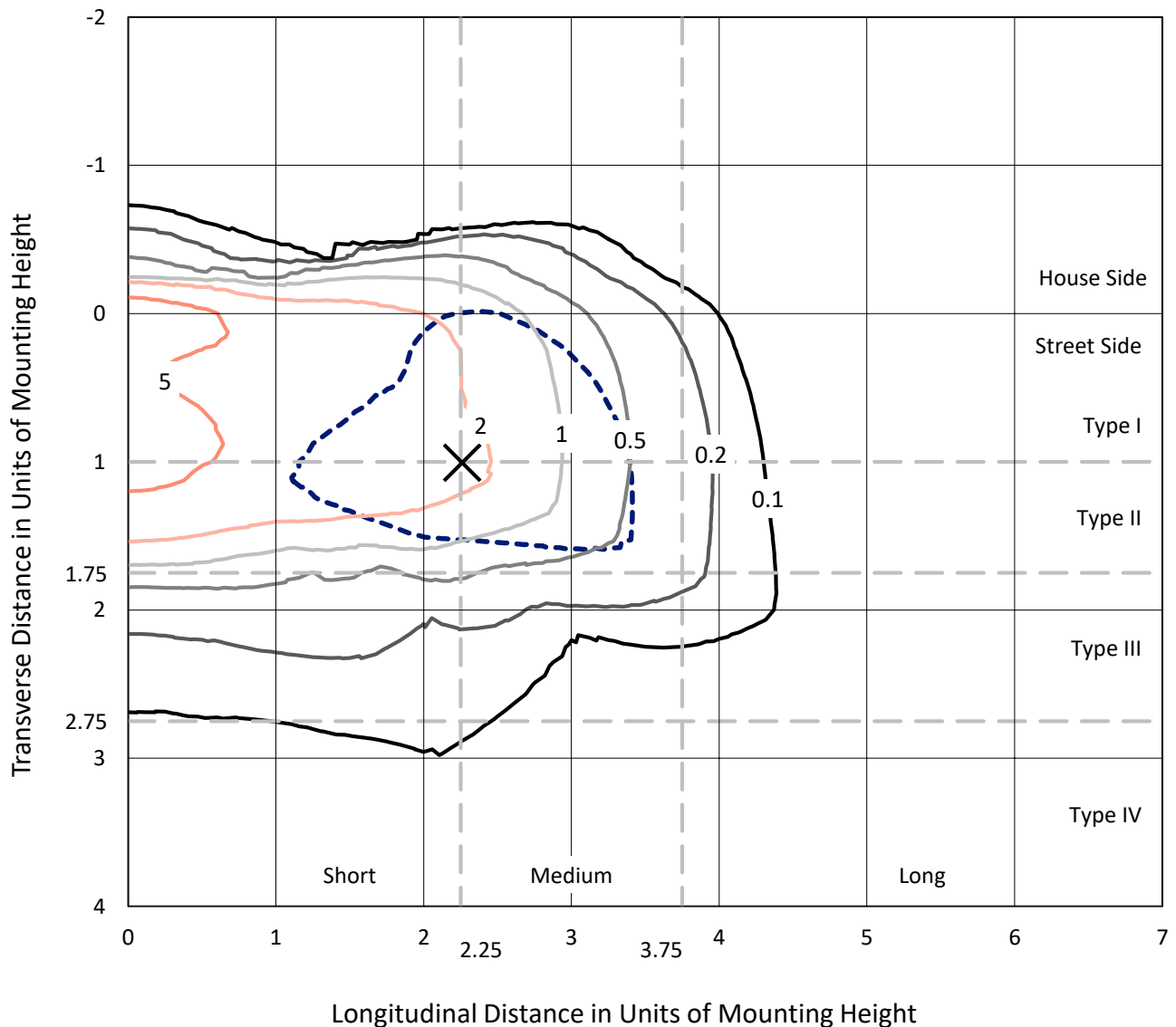


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

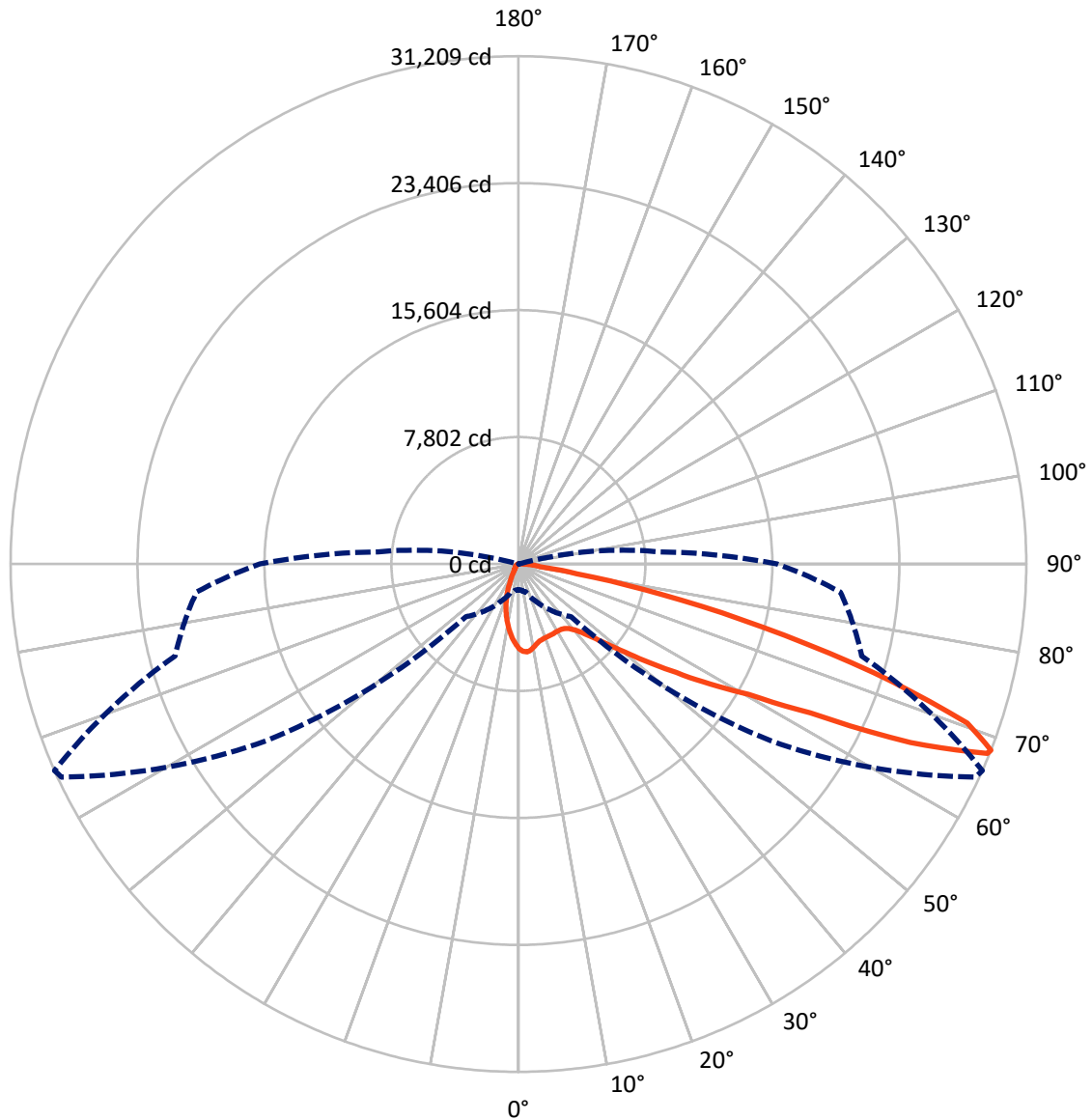


Based on 25 foot mounting height. Maximum calculated value = 8.3 fc
 Type II - Medium - Semi-Cutoff

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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	2367.8	0.0	2367.8
	% Fixture	10.1	0.0	10.1
Street Side	Lumens	21009.1	0.0	21009.1
	% Fixture	89.9	0.0	89.9
Total	Lumens	23376.9	0.0	23376.9
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	427.0	1.8
10°-20°	918.6	3.9
20°-30°	1331.2	5.7
30°-40°	2037.8	8.7
40°-50°	3485.6	14.9
50°-60°	5452.4	23.3
60°-70°	6278.3	26.9
70°-80°	3141.7	13.4
80°-90°	304.3	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°	23376.9	100.0
0°-180°	23376.9	100.0



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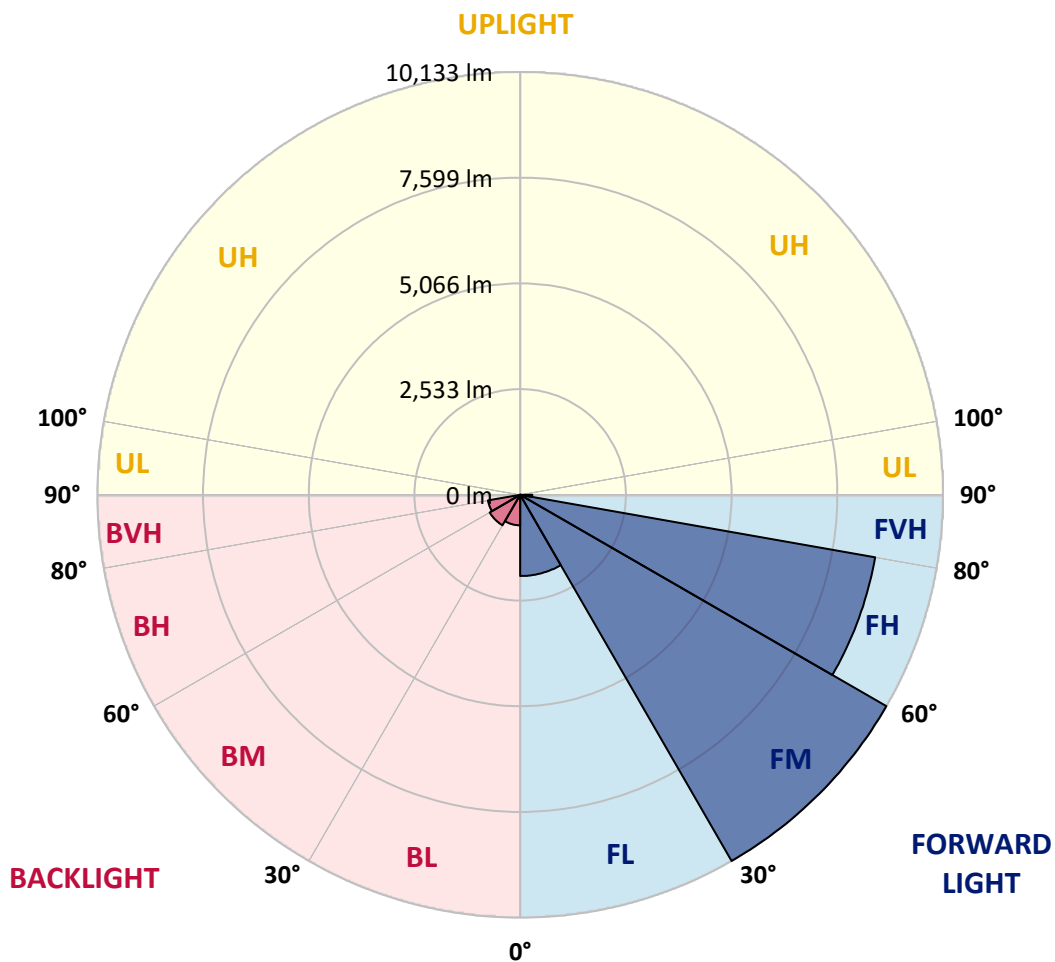
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1946.0	8.3			
FM	(30°-60°)	10132.6	43.3			
FH	(60°-80°)	8637.7	36.9			G4/12000
FVH	(80°-90°)	292.7	1.3			G3/500
BL	(0°-30°)	730.8	3.1	B2/1000		
BM	(30°-60°)	843.2	3.6	B1/1000		
BH	(60°-80°)	782.3	3.3	B2/1000		G2/1000
BVH	(80°-90°)	11.5	0.0			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G4

Type II Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	66°	75°	85°
0°	5208.2	5208.2	5208.2	5208.2	5208.2	5208.2	5208.2	5208.2	5208.2	5208.2	5208.2
2.5°	5478.0	5481.5	5479.8	5485.3	5481.5	5454.1	5424.8	5362.3	5367.8	5287.1	5197.1
5°	5092.5	5123.8	5155.0	5186.2	5261.4	5327.5	5406.4	5424.8	5424.8	5354.9	5222.8
7.5°	4699.8	4701.6	4736.6	4778.8	4879.7	5000.8	5184.3	5349.4	5353.1	5371.4	5226.5
10°	4404.4	4413.6	4437.4	4483.4	4584.2	4703.4	4909.1	5167.8	5188.0	5323.7	5189.8
12.5°	4175.0	4186.0	4211.7	4265.0	4356.6	4479.6	4696.2	4991.6	5019.1	5277.9	5178.8
15°	3998.7	4013.4	4033.7	4086.8	4186.0	4316.3	4553.0	4874.2	4907.3	5259.5	5213.7
17.5°	3925.5	3925.5	3923.5	3960.3	4059.4	4191.5	4439.2	4811.9	4854.0	5274.2	5272.4
20°	3956.6	3951.0	3912.6	3903.3	3964.0	4096.0	4349.4	4771.3	4819.0	5301.7	5343.9
22.5°	4121.8	4110.7	4024.4	3952.9	3934.5	4022.6	4288.8	4743.9	4800.7	5358.6	5439.3
25°	4472.2	4439.2	4319.9	4158.4	4013.4	4004.4	4246.6	4729.1	4789.8	5424.8	5544.0
27.5°	4927.4	4918.2	4727.3	4510.7	4231.8	4064.9	4233.7	4718.2	4778.8	5472.5	5628.4
30°	5492.5	5496.3	5276.0	4993.5	4571.4	4235.5	4274.0	4712.7	4775.1	5476.1	5665.2
32.5°	6076.1	6079.9	5896.4	5593.6	5035.7	4529.2	4387.9	4738.4	4795.2	5461.4	5663.3
35°	6637.8	6643.2	6533.2	6289.0	5656.0	4936.5	4602.6	4826.5	4866.7	5470.6	5659.6
37.5°	7348.0	7370.0	7234.2	7006.6	6434.0	5534.7	4953.1	5004.5	5037.4	5545.9	5687.1
40°	8559.1	8529.8	8140.7	7755.3	7278.2	6263.3	5459.5	5310.9	5322.0	5740.3	5791.7
42.5°	9970.4	9933.6	9267.5	8603.2	8146.2	7142.5	6107.3	5780.8	5778.8	6067.1	6019.4
45°	11185.2	11163.1	10462.2	9575.8	9107.8	8113.2	6905.7	6457.8	6435.8	6632.2	6434.0
47.5°	12047.8	12029.5	11499.1	10610.8	10219.9	9181.2	7902.2	7381.0	7335.1	7371.9	7107.5
50°	12132.1	12111.9	11926.6	11356.0	11519.2	10748.5	9133.5	8590.3	8531.7	8474.7	8126.1
52.5°	11343.1	11341.2	11438.5	11401.7	12429.5	12765.4	10643.8	10086.0	10016.2	9871.3	9524.4
55°	9730.0	9720.7	10089.7	10625.5	12409.2	14846.4	12947.0	11866.2	11774.4	11484.4	11029.3
57.5°	7109.4	7061.7	7832.4	8968.4	11537.7	15756.6	16604.5	14077.5	13925.2	13005.8	12304.8
60°	3925.5	3943.6	4934.7	6280.0	9473.0	15576.8	19970.1	16655.8	16255.8	14317.8	13611.3
62.5°	2200.4	2246.2	2984.0	4081.4	6039.5	14117.9	21776.0	21093.2	20129.8	15848.3	15262.9
65°	1664.5	1692.0	2062.7	3149.1	3807.9	9865.7	22064.0	27297.9	26466.6	18168.0	17892.7
67.5°	1567.3	1589.2	1770.9	2611.5	3468.4	5116.3	19894.9	30968.2	31072.8	21331.8	19929.7
68°	1578.2	1605.8	1787.4	2512.3	3463.0	4576.9	18970.0	30986.6	31208.6	21842.0	19860.0
70°	1449.8	1457.1	1890.3	2464.6	3356.4	3606.1	13723.2	28863.3	29261.5	22449.5	18028.5
72.5°	554.3	556.1	847.8	2134.3	3516.1	3626.3	6912.9	22812.7	22832.9	19537.0	14055.4
75°	288.1	242.3	266.1	668.0	3358.4	3534.6	3468.4	15576.8	15479.6	13213.1	8612.4
77.5°	198.2	168.8	178.0	231.3	1396.5	3532.7	2505.0	8957.4	8937.1	5621.1	2457.3
80°	112.0	97.2	106.4	194.6	489.9	3316.2	2334.3	3850.1	3628.1	987.2	398.2
82.5°	57.0	47.7	57.0	163.3	304.6	2086.6	2270.0	1510.3	1345.1	234.8	258.7
85°	14.7	14.7	27.5	113.7	189.1	684.5	2035.2	1090.1	980.1	102.8	183.6
87.5°	3.7	1.8	11.0	42.2	67.9	148.7	1128.6	607.4	523.1	53.2	106.4
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°	5208.2	5208.2	5208.2	5208.2	5208.2	5208.2	5208.2	5208.2	5208.2	5208.2	5208.2
2.5°	5160.5	5109.1	5008.1	4894.3	4813.6	4725.5	4674.2	4611.7	4564.0	4521.8	4553.0
5°	5142.1	5042.9	4819.0	4567.7	4356.6	4154.8	4004.4	3861.2	3752.8	3684.9	3712.5
7.5°	5094.4	4947.5	4584.2	4191.5	3846.5	3521.6	3257.4	3020.7	2837.1	2738.0	2769.2
10°	5013.6	4806.2	4318.2	3773.2	3290.4	2831.6	2438.9	2086.6	1820.4	1695.7	1725.0
12.5°	4955.0	4681.4	4042.8	3369.4	2734.4	2082.9	1561.8	1157.9	950.5	825.8	836.9
15°	4929.2	4584.2	3785.8	2943.6	2126.9	1337.8	844.1	611.0	539.5	513.8	515.6
17.5°	4933.0	4507.2	3541.8	2501.3	1514.1	768.9	517.6	466.1	455.1	449.6	449.6
20°	4942.0	4430.0	3288.5	2040.7	968.9	495.4	431.2	414.7	409.3	401.9	403.8
22.5°	4969.7	4371.3	3033.4	1578.2	596.5	403.8	381.7	367.0	357.9	346.8	348.7
25°	5011.9	4327.2	2782.1	1135.9	420.2	352.3	332.2	312.0	295.5	282.5	284.5
27.5°	5037.4	4265.0	2514.1	774.3	348.7	308.3	280.8	253.2	234.8	223.9	222.1
30°	5019.1	4164.0	2209.6	508.4	308.3	266.1	233.1	201.8	183.6	174.4	174.4
32.5°	4969.7	4033.7	1873.7	370.7	273.4	229.3	189.1	161.4	148.7	143.1	144.9
35°	4912.7	3897.8	1515.8	313.8	246.0	194.6	154.1	132.1	126.7	124.8	124.8
37.5°	4881.5	3780.3	1172.6	284.5	220.3	161.4	126.7	113.7	108.2	108.2	108.2
40°	4916.3	3690.4	868.0	262.5	194.6	133.9	106.4	97.2	95.4	95.4	95.4
42.5°	5065.1	3659.2	634.9	244.1	168.8	112.0	91.7	84.4	82.6	84.4	84.4
45°	5354.9	3727.2	480.9	225.7	144.9	91.7	79.0	73.4	73.4	75.3	75.3
47.5°	5846.8	3901.5	394.5	207.4	121.1	77.1	67.9	64.1	64.1	66.0	66.0
50°	6610.2	4224.5	354.2	187.1	100.9	66.0	57.0	55.1	55.1	57.0	58.7
52.5°	7770.0	4839.3	334.0	166.9	82.6	55.1	47.7	45.9	47.7	49.5	49.5
55°	9060.1	5626.5	310.2	146.9	69.8	45.9	38.5	38.5	40.3	44.0	44.0
57.5°	10262.1	6386.3	288.1	121.1	60.5	36.7	31.3	31.3	34.9	38.5	38.5
60°	11532.1	7131.5	258.7	97.2	51.5	29.4	25.7	25.7	31.3	34.9	36.7
62.5°	13101.2	7997.6	220.3	77.1	40.3	22.0	18.3	23.9	29.4	34.9	34.9
65°	15369.5	9074.8	172.6	60.5	31.3	16.4	14.7	22.0	27.5	33.1	34.9
67.5°	16193.3	8937.1	130.3	49.5	23.9	12.8	12.8	20.2	27.5	33.1	33.1
68°	15892.5	8636.2	124.8	47.7	22.0	12.8	12.8	20.2	27.5	33.1	33.1
70°	13848.0	7059.8	102.8	36.7	18.3	11.0	11.0	18.3	27.5	31.3	33.1
72.5°	10368.5	4690.6	88.0	23.9	16.4	11.0	9.2	18.3	25.7	31.3	31.3
75°	5947.7	1947.0	75.3	18.3	14.7	9.2	9.2	16.4	25.7	31.3	31.3
77.5°	1681.0	455.1	60.5	14.7	12.8	9.2	7.4	16.4	23.9	29.4	29.4
80°	308.3	135.9	47.7	12.8	11.0	9.2	7.4	16.4	23.9	29.4	29.4
82.5°	203.6	64.1	34.9	12.8	11.0	9.2	7.4	14.7	22.0	27.5	27.5
85°	152.4	45.9	22.0	12.8	11.0	9.2	7.4	14.7	22.0	27.5	27.5
87.5°	84.4	20.2	16.4	14.7	12.8	9.2	7.4	12.8	20.2	25.7	25.7
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)