

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: P195640

Luminaire Tested: **NAV-AF-04-D-UNV-SL3-7050-HSS**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P195640  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24263)  
Test Lab: INNOVATION CENTER P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: LUMARK  
Catalog Number: NAV-AF-04-D-UNV-SL3-7050-HSS  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(4) 70 CRI, 5000K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III  
SPILL LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 20711 lumens  
Efficiency: N/A  
Efficacy: 92.0 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type III - Medium - Non-Cutoff  
BUG Rating: B2 - U0 - G4

Input Watts (W): 225  
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

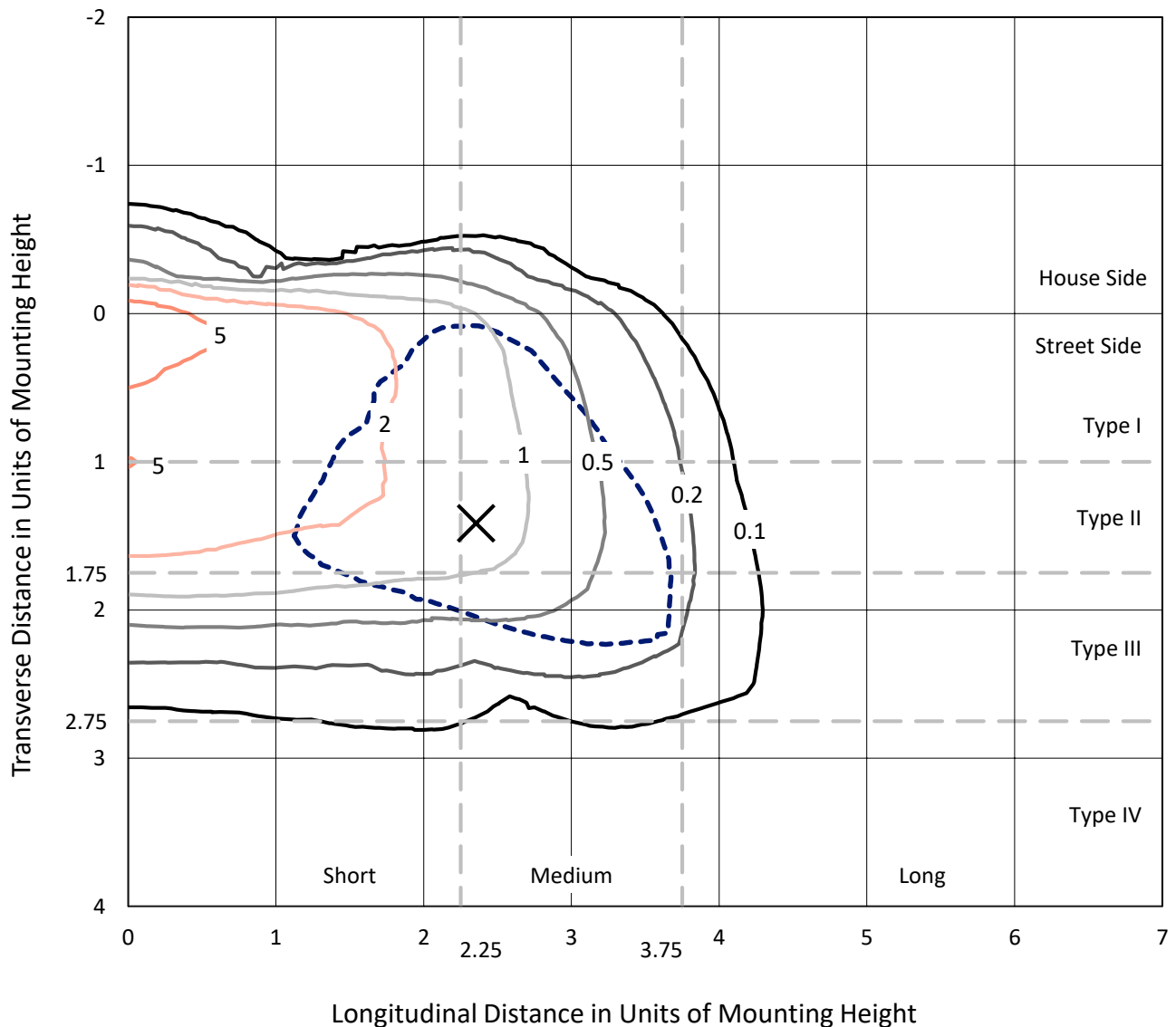


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### Iso-Footcandle Lines of Horizontal Illumination

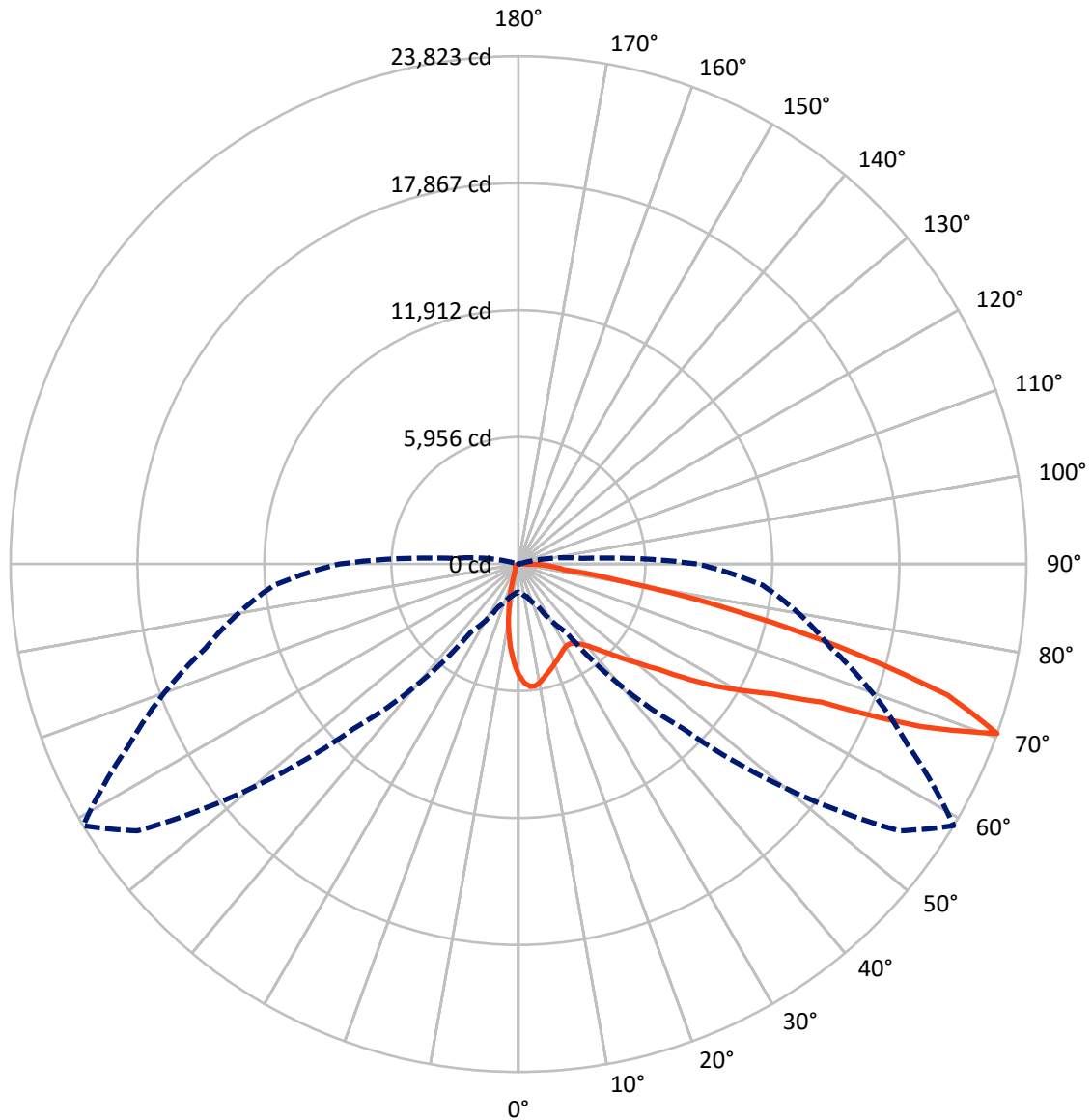
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 8.9 fc  
 Type III - Medium - Non-Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 59-Deg Lateral    - - - Horizontal Cone Through 70-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1592.1	0.0	1592.1
	% Fixture	7.7	0.0	7.7
<b>Street Side</b>	Lumens	19118.9	0.0	19118.9
	% Fixture	92.3	0.0	92.3
<b>Total</b>	Lumens	20711.0	0.0	20711.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	430.6	2.1
10°-20°	903.2	4.4
20°-30°	1222.7	5.9
30°-40°	1764.6	8.5
40°-50°	2930.5	14.1
50°-60°	4482.5	21.6
60°-70°	5575.3	26.9
70°-80°	3082.0	14.9
80°-90°	319.6	1.5
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°	20711.0	100.0
0°-180°	20711.0	100.0

**Coefficient of Utilization**



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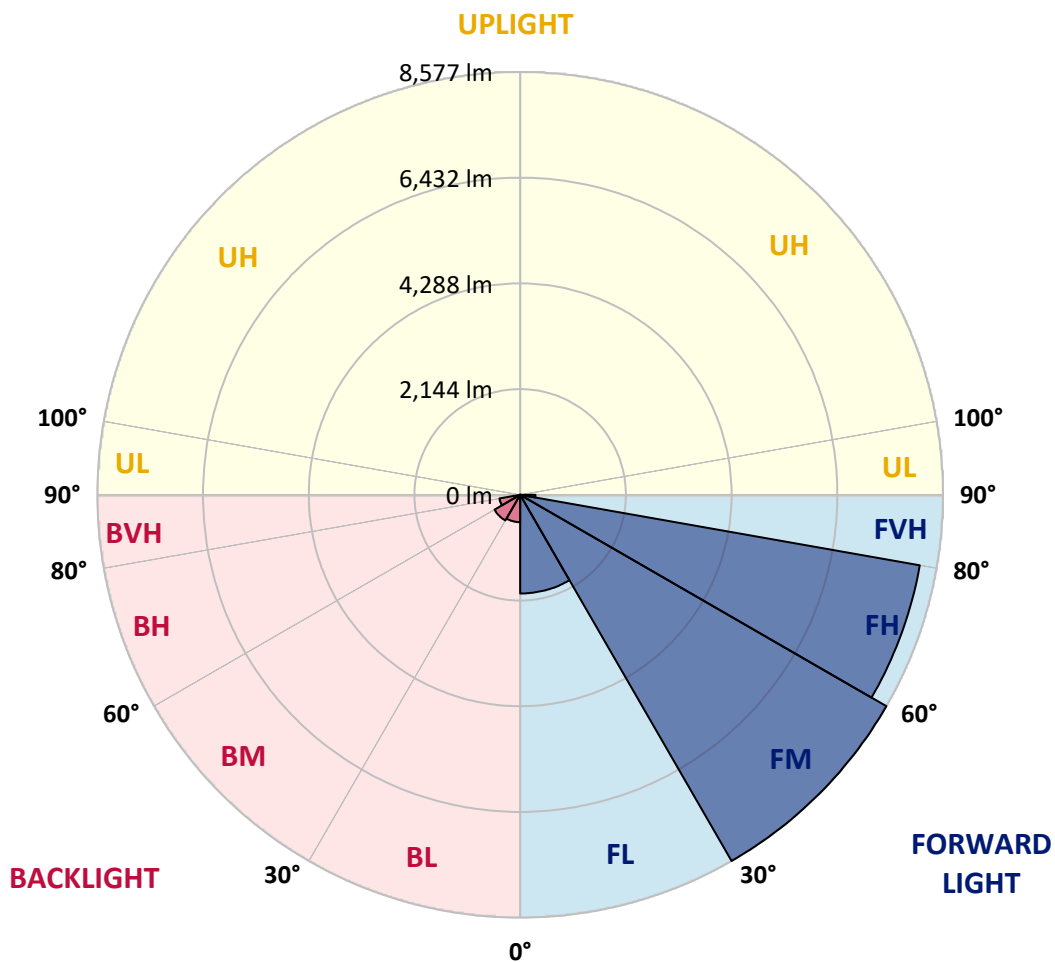
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	2001.8	9.7			
FM	(30°-60°)	8576.6	41.4			
FH	(60°-80°)	8230.1	39.7			G4/12000
FVH	(80°-90°)	310.3	1.5			G3/500
BL	(0°-30°)	554.8	2.7	B2/1000		
BM	(30°-60°)	601.0	2.9	B1/1000		
BH	(60°-80°)	427.1	2.1	B1/500		G1/500
BVH	(80°-90°)	9.2	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-G4**

Type III Medium





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	59°	65°	75°	85°
0°	5237.1	5237.1	5237.1	5237.1	5237.1	5237.1	5237.1	5237.1	5237.1	5237.1	5237.1
2.5°	5919.8	5910.4	5871.4	5863.6	5819.8	5732.3	5630.8	5590.2	5507.4	5376.1	5230.8
5°	6018.3	6022.9	6026.1	6008.9	6002.6	5930.8	5818.3	5769.8	5658.9	5443.3	5177.7
7.5°	5649.5	5662.0	5701.1	5718.3	5793.3	5821.4	5798.0	5766.7	5679.2	5424.6	5051.1
10°	5260.5	5283.9	5326.1	5354.2	5446.4	5521.4	5616.7	5624.5	5605.8	5362.1	4909.0
12.5°	4926.2	4948.0	4994.9	5051.1	5144.9	5241.8	5383.9	5433.9	5496.4	5321.4	4807.4
15°	4638.7	4644.9	4690.2	4760.5	4884.0	5016.8	5185.5	5258.9	5380.8	5305.8	4729.3
17.5°	4387.1	4388.7	4418.4	4482.4	4632.4	4807.4	5004.3	5101.1	5255.8	5283.9	4660.6
20°	4221.5	4220.0	4221.5	4255.9	4388.7	4596.5	4835.5	4937.1	5135.5	5257.4	4590.2
22.5°	4165.3	4157.5	4121.5	4109.0	4193.4	4376.2	4662.1	4794.9	5027.7	5249.6	4538.7
25°	4234.0	4229.3	4152.8	4080.9	4088.7	4202.8	4485.6	4648.1	4943.3	5277.7	4526.2
27.5°	4455.9	4446.5	4329.3	4188.7	4099.7	4120.0	4354.3	4524.6	4876.2	5346.4	4543.4
30°	4746.5	4748.0	4623.1	4452.8	4243.4	4127.8	4284.0	4444.9	4830.9	5449.5	4580.9
32.5°	5069.9	5068.3	4979.3	4782.4	4515.3	4271.5	4315.3	4451.2	4837.1	5601.1	4652.7
35°	5404.2	5387.1	5357.4	5183.9	4871.5	4523.1	4457.4	4557.4	4902.7	5801.1	4774.6
37.5°	5790.1	5783.9	5813.6	5630.8	5312.1	4893.3	4707.4	4774.6	5068.3	6096.4	4971.5
40°	6404.2	6369.8	6383.8	6135.4	5808.9	5391.7	5057.4	5074.6	5332.4	6487.0	5282.4
42.5°	7574.4	7435.3	7174.4	6708.8	6355.7	5944.8	5515.2	5485.5	5705.8	6960.4	5691.7
45°	8972.7	8813.3	8155.6	7341.6	6902.6	6538.5	6080.7	6001.1	6165.1	7524.4	6219.8
47.5°	10139.8	9967.9	9096.1	8002.5	7458.8	7151.0	6707.3	6613.5	6715.1	8179.0	6854.1
50°	10538.2	10442.9	9677.3	8552.4	8019.6	7838.4	7493.1	7336.9	7361.9	8885.2	7594.7
52.5°	10355.4	10322.6	9810.1	8928.9	8538.4	8597.7	8354.0	8189.9	8161.8	9657.0	8413.4
55°	9969.5	9953.9	9703.9	9138.3	8996.1	9293.0	9561.7	9419.5	9153.9	10477.3	9089.9
57.5°	9418.0	9477.3	9657.0	9541.4	9558.6	10027.3	10683.5	10756.9	10360.1	11130.3	9591.4
60°	7944.7	8104.0	8927.4	9974.2	10775.7	11249.1	11885.0	12022.4	11381.9	11577.2	10171.0
62.5°	5873.0	6101.1	7274.4	9197.7	11445.9	13572.3	13483.3	13422.3	12356.8	12175.6	11225.6
65°	3449.7	3716.9	4709.0	7186.9	10435.1	15065.9	16467.4	15623.7	13842.6	13419.2	12905.2
67.5°	1718.6	1720.2	2168.6	3793.4	7711.9	14023.8	20823.3	20335.8	17001.7	15251.9	13567.6
70°	1321.8	1357.7	1604.6	2204.5	3899.7	10922.5	21821.6	23823.0	20176.5	15170.6	11511.5
72.5°	1120.2	1143.7	1428.0	1918.6	2915.4	5996.4	18890.6	21057.6	19253.1	12817.7	8485.2
75°	806.2	824.9	1264.0	1740.5	2684.2	2974.8	12958.3	15617.5	14445.7	9016.4	4669.9
77.5°	200.0	198.4	440.6	1412.4	2401.4	2477.9	7435.3	10014.8	8288.4	3691.9	1199.9
80°	89.1	85.9	100.0	296.9	2234.2	2338.9	3270.0	5057.4	3179.4	598.4	367.2
82.5°	62.5	59.4	62.5	109.4	746.8	2170.1	1976.4	2192.0	1164.0	204.7	156.2
85°	20.3	18.7	34.4	92.2	209.4	1251.5	1928.0	1637.4	865.6	87.5	104.7
87.5°	3.1	3.1	12.5	50.0	60.9	417.2	1131.2	1134.3	389.0	51.6	46.9
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°	5237.1	5237.1	5237.1	5237.1	5237.1	5237.1	5237.1	5237.1	5237.1	5237.1	5237.1
2.5°	5157.4	5065.2	4935.5	4805.9	4688.7	4568.4	4471.5	4426.2	4405.9	4377.8	4316.8
5°	5038.6	4871.5	4587.1	4307.5	4046.5	3796.6	3582.5	3460.7	3329.4	3323.2	3259.1
7.5°	4848.0	4610.6	4162.2	3727.8	3329.4	2948.2	2620.1	2407.6	2262.3	2171.7	2109.2
10°	4635.6	4330.9	3737.2	3126.3	2584.2	2074.8	1653.0	1378.0	1210.8	1126.5	1078.0
12.5°	4466.8	4084.0	3318.5	2549.8	1870.2	1285.8	893.7	693.7	604.6	570.3	554.6
15°	4321.5	3857.5	2926.3	2034.2	1248.3	739.0	517.1	451.5	437.5	437.5	435.9
17.5°	4174.7	3638.8	2545.1	1528.0	785.9	484.3	407.8	398.4	400.0	404.7	404.7
20°	4035.6	3431.0	2177.9	1089.0	515.6	387.5	370.3	367.2	371.8	378.1	376.5
22.5°	3923.1	3248.2	1834.2	748.4	396.8	351.5	340.6	335.9	339.0	343.7	342.2
25°	3843.4	3091.9	1518.6	521.8	345.3	320.3	307.8	301.5	298.4	301.5	300.0
27.5°	3795.0	2960.7	1221.8	392.2	309.3	289.0	273.4	260.9	253.1	253.1	250.0
30°	3763.8	2837.3	957.7	325.0	279.7	257.8	235.9	218.7	206.2	203.1	201.5
32.5°	3762.2	2731.0	715.6	287.5	251.5	226.5	200.0	178.1	164.0	160.9	159.4
35°	3801.2	2645.1	526.5	259.4	226.5	196.9	167.2	143.7	131.2	131.2	129.7
37.5°	3902.8	2595.1	398.4	237.5	206.2	171.9	140.6	118.7	107.8	110.9	110.9
40°	4091.8	2585.7	325.0	220.3	189.0	150.0	114.1	96.9	92.2	96.9	96.9
42.5°	4380.9	2635.7	289.0	207.8	173.4	128.1	95.3	82.8	81.2	85.9	85.9
45°	4757.4	2734.1	268.7	196.9	156.2	106.2	79.7	71.9	70.3	76.6	76.6
47.5°	5213.6	2867.0	250.0	184.4	139.1	87.5	67.2	60.9	60.9	67.2	68.7
50°	5754.2	3046.6	231.2	171.9	125.0	73.4	56.2	51.6	53.1	59.4	60.9
52.5°	6376.0	3266.9	214.0	160.9	109.4	59.4	46.9	43.7	45.3	51.6	53.1
55°	6911.9	3459.1	193.7	150.0	89.1	48.4	39.1	37.5	39.1	46.9	46.9
57.5°	7379.1	3643.4	175.0	132.8	70.3	39.1	31.2	31.2	34.4	42.2	43.7
60°	7999.3	3934.0	159.4	112.5	53.1	29.7	25.0	26.6	31.2	37.5	39.1
62.5°	9097.7	4427.8	139.1	93.7	39.1	23.4	20.3	21.9	28.1	35.9	37.5
65°	10472.6	4894.9	115.6	78.1	29.7	17.2	15.6	20.3	28.1	35.9	37.5
67.5°	10332.0	4257.5	90.6	62.5	21.9	14.1	12.5	18.7	26.6	35.9	37.5
70°	8379.0	2984.1	67.2	42.2	17.2	12.5	12.5	18.7	26.6	34.4	35.9
72.5°	5812.0	1660.8	51.6	28.1	15.6	12.5	10.9	17.2	25.0	34.4	35.9
75°	2765.4	509.3	40.6	20.3	14.1	10.9	9.4	17.2	25.0	34.4	35.9
77.5°	531.2	129.7	32.8	17.2	12.5	10.9	9.4	15.6	25.0	32.8	34.4
80°	179.7	57.8	26.6	15.6	12.5	10.9	9.4	15.6	23.4	31.2	32.8
82.5°	98.4	32.8	23.4	14.1	12.5	9.4	7.8	14.1	21.9	31.2	32.8
85°	76.6	23.4	18.7	14.1	12.5	9.4	7.8	14.1	21.9	29.7	31.2
87.5°	39.1	17.2	15.6	14.1	12.5	9.4	7.8	12.5	20.3	28.1	31.2
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)