

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: P196642

Luminaire Tested: **NAV-AF-04-D-UNV-SL4-7030-800-HSS**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P196642  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24285)  
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-SL4-7030-800-HSS  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(4) 70 CRI, 3000K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV SPILL  
LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 15531.2 lumens  
Efficiency: N/A  
Efficacy: 90.8 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type IV - Short - Non-Cutoff  
BUG Rating: B1 - U0 - G3

Input Watts (W): 171  
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

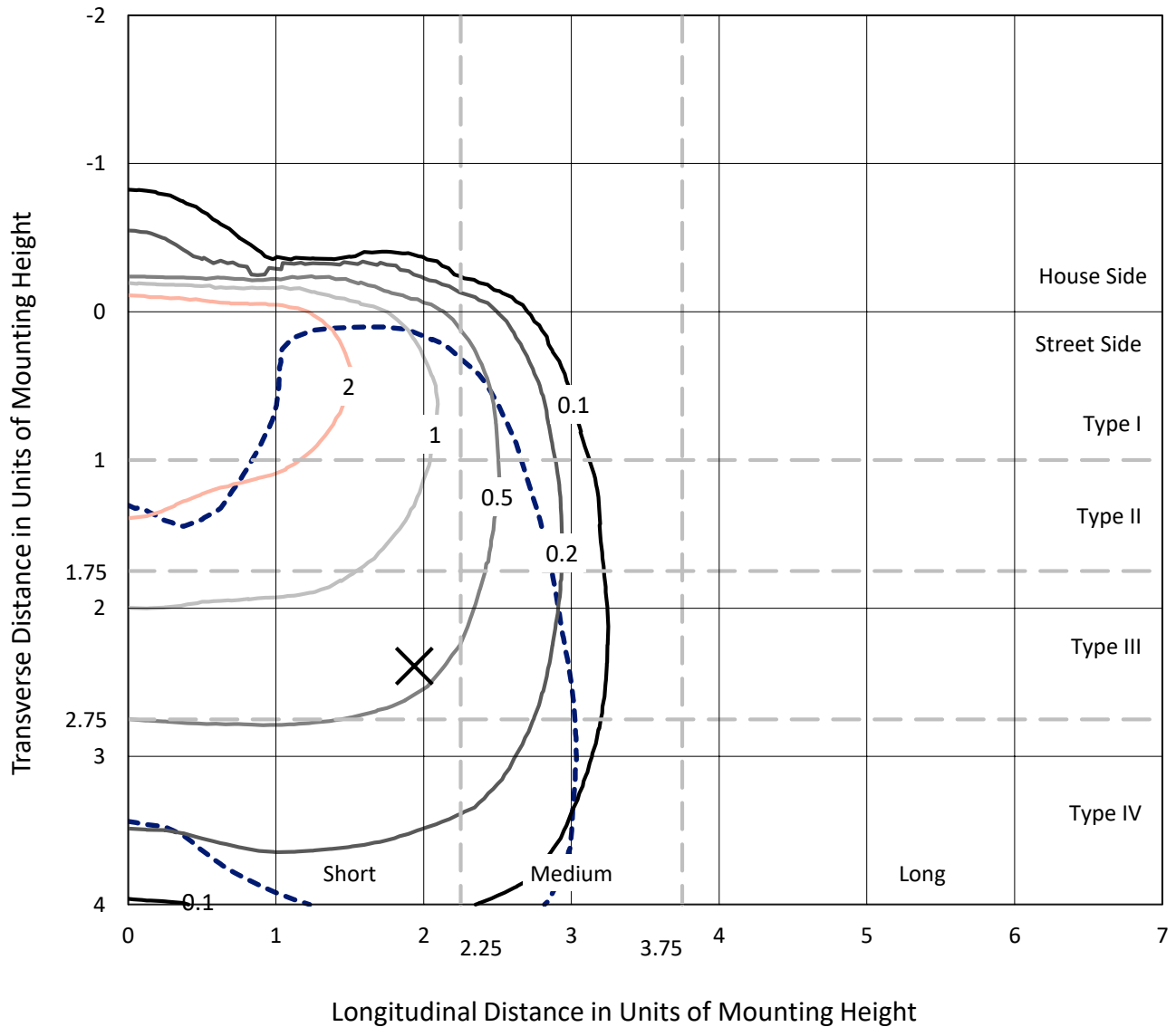


REPORT NUMBER: P196642

CATALOG NUMBER: NAV-AF-04-D-UNV-SL4-7030-800-HSS

### Iso-Footcandle Lines of Horizontal Illumination

× Max cd  
 - - - 1/2 Max cd

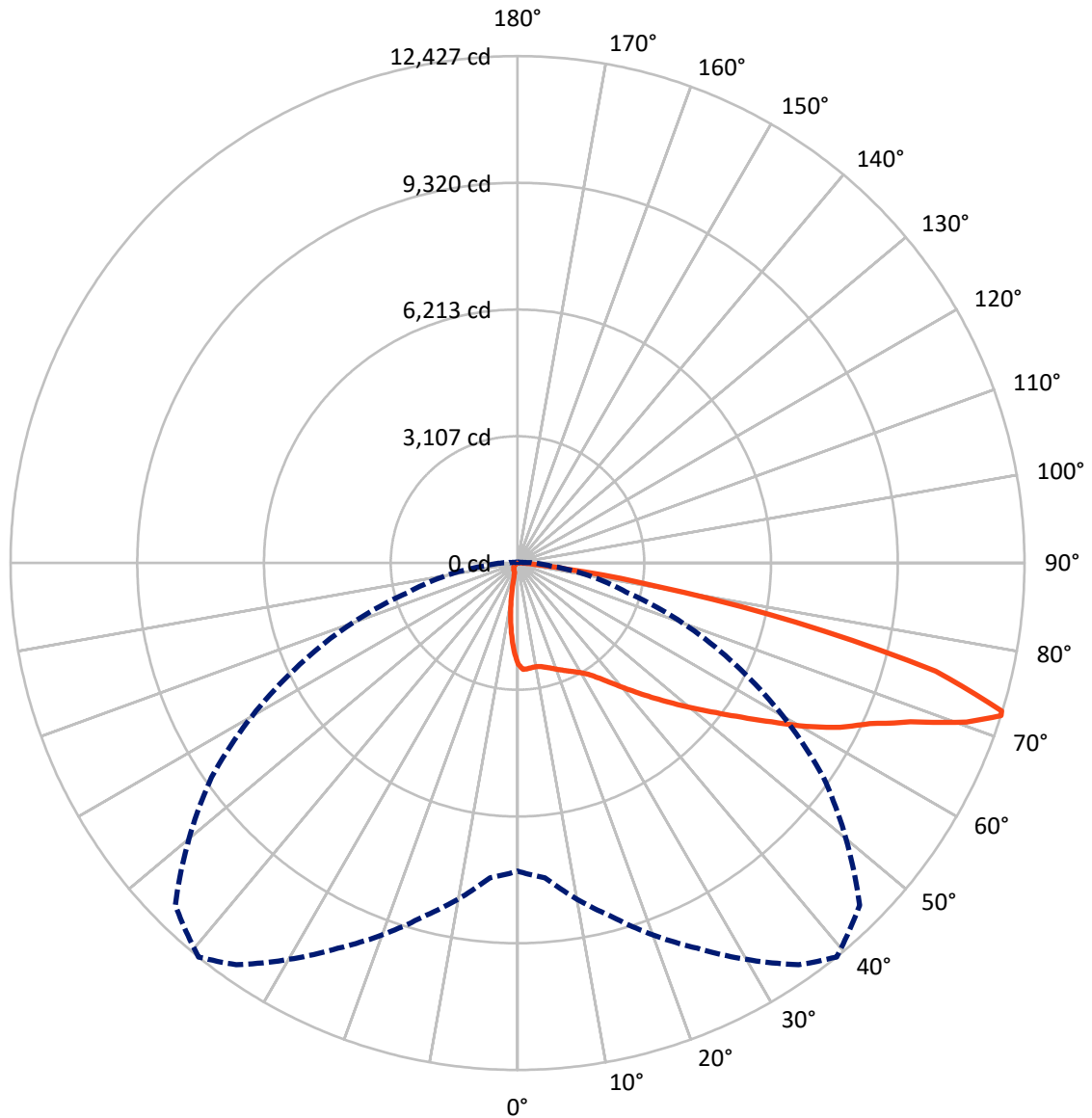


Based on 25 foot mounting height. Maximum calculated value = 4.2 fc  
 Type IV - Short - Non-Cutoff

REPORT NUMBER: P196642

CATALOG NUMBER: NAV-AF-04-D-UNV-SL4-7030-800-HSS

### Luminous Intensity Polar Plot



— Vertical Plane Through 39-Deg Lateral    - - - Horizontal Cone Through 72-Deg Vertical

REPORT NUMBER: P196642

CATALOG NUMBER: NAV-AF-04-D-UNV-SL4-7030-800-HSS

**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1017.9	0.0	1017.9
	% Fixture	6.6	0.0	6.6
<b>Street Side</b>	Lumens	14513.3	0.0	14513.3
	% Fixture	93.4	0.0	93.4
<b>Total</b>	Lumens	15531.2	0.0	15531.2
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	202.2	1.3
10°-20°	489.5	3.2
20°-30°	813.0	5.2
30°-40°	1295.7	8.3
40°-50°	2138.8	13.8
50°-60°	3230.0	20.8
60°-70°	4207.6	27.1
70°-80°	2843.1	18.3
80°-90°	311.4	2.0
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°	15531.2	100.0
0°-180°	15531.2	100.0

**Coefficient of Utilization**



REPORT NUMBER: P196642

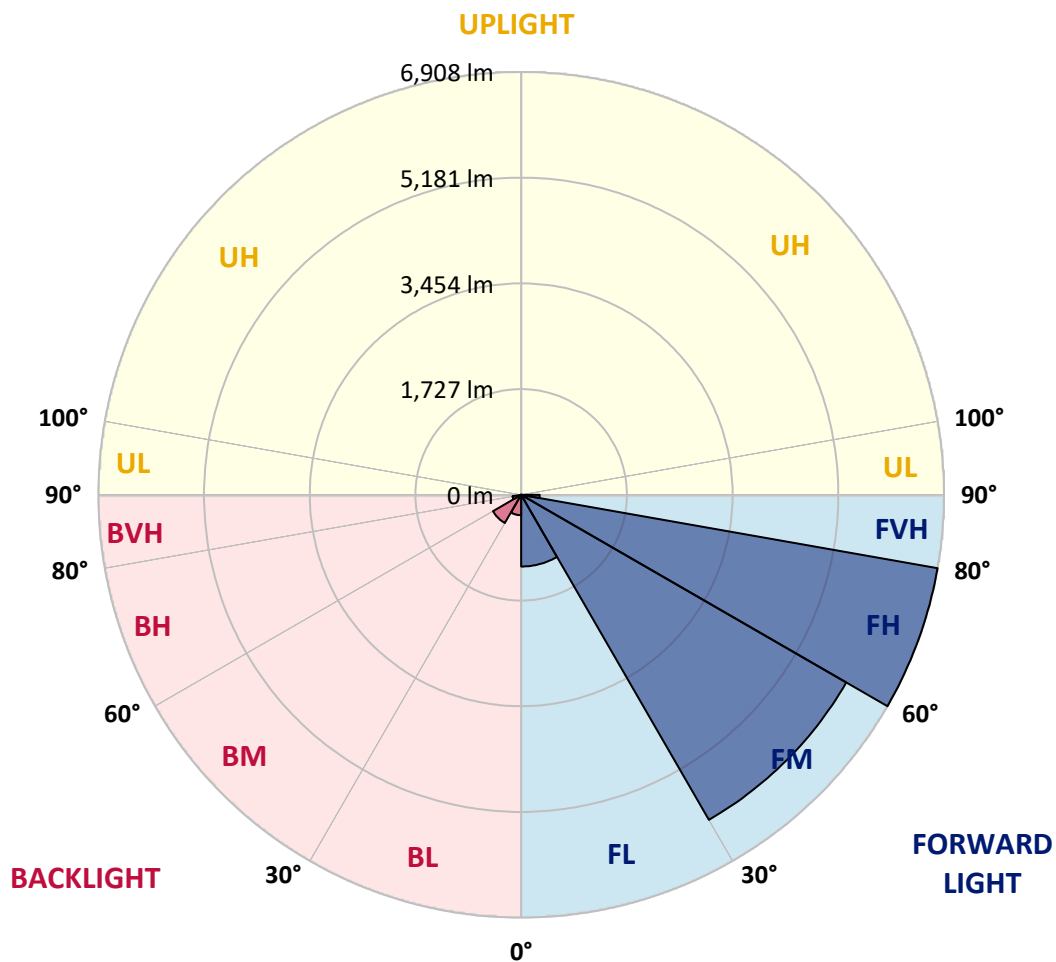
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1171.4	7.5			
FM	(30°-60°)	6131.9	39.5			
FH	(60°-80°)	6907.6	44.5			G3/7500
FVH	(80°-90°)	302.4	1.9			G3/500
BL	(0°-30°)	333.3	2.1	B1/500		
BM	(30°-60°)	532.6	3.4	B1/1000		
BH	(60°-80°)	143.1	0.9	B1/500		G1/500
BVH	(80°-90°)	9.0	0.1			G0/10
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B1-U0-G3**

Type IV Short





REPORT NUMBER: P196642

CATALOG NUMBER: NAV-AF-04-D-UNV-SL4-7030-800-HSS

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	39°	45°	55°	65°	75°	85°
0°	2485.8	2485.8	2485.8	2485.8	2485.8	2485.8	2485.8	2485.8	2485.8	2485.8	2485.8
2.5°	2647.1	2651.9	2645.8	2634.8	2619.0	2609.2	2595.8	2566.5	2529.8	2498.1	2461.5
5°	2667.8	2670.2	2662.8	2642.1	2617.8	2604.3	2587.3	2555.5	2517.7	2473.6	2407.7
7.5°	2673.9	2672.7	2664.2	2638.5	2600.6	2583.6	2554.3	2515.1	2476.2	2435.8	2361.3
10°	2671.5	2671.5	2665.4	2640.9	2598.1	2582.4	2549.3	2507.8	2459.0	2418.7	2339.3
12.5°	2662.8	2667.8	2664.2	2650.7	2619.0	2606.7	2577.4	2535.9	2489.6	2448.1	2363.9
15°	2673.9	2681.2	2688.6	2683.6	2665.4	2654.4	2627.4	2584.7	2547.0	2502.9	2412.7
17.5°	2717.9	2733.7	2750.8	2752.0	2732.5	2713.0	2682.5	2638.5	2601.9	2561.6	2463.9
20°	2800.9	2813.1	2844.8	2850.9	2811.9	2783.8	2741.1	2689.8	2653.2	2619.0	2511.6
22.5°	2924.3	2937.7	2963.2	2954.7	2888.9	2855.8	2802.1	2743.5	2705.7	2686.1	2566.5
25°	3111.0	3114.7	3120.8	3083.0	2974.2	2937.7	2871.7	2805.8	2775.1	2772.8	2644.6
27.5°	3330.8	3335.6	3308.8	3224.6	3069.5	3021.9	2947.4	2887.6	2872.9	2891.2	2743.5
30°	3582.3	3583.4	3509.1	3372.3	3179.3	3126.9	3050.0	2984.0	2997.4	3042.7	2870.5
32.5°	3839.9	3827.7	3725.2	3546.9	3329.5	3266.1	3200.1	3134.2	3173.2	3264.8	3056.1
35°	4075.6	4070.7	3949.8	3742.2	3524.9	3468.8	3421.1	3351.5	3415.0	3563.9	3308.8
37.5°	4311.2	4307.5	4169.6	3953.4	3765.4	3725.2	3689.6	3636.0	3739.8	3958.4	3647.0
40°	4571.3	4565.2	4395.5	4187.9	4045.0	4023.0	4002.2	3979.1	4156.1	4460.2	4068.3
42.5°	4892.4	4865.6	4634.8	4443.0	4352.7	4358.8	4360.0	4383.3	4660.4	5057.2	4565.2
45°	5261.1	5201.3	4875.2	4716.6	4690.9	4727.5	4764.1	4860.6	5247.7	5744.7	5114.7
47.5°	5618.8	5522.4	5152.4	5010.8	5063.3	5139.0	5227.0	5415.0	5907.0	6463.8	5612.7
50°	5926.6	5827.7	5427.1	5309.9	5477.1	5589.6	5745.8	6030.3	6603.0	7071.8	5926.6
52.5°	6168.2	6090.1	5717.7	5639.6	5936.3	6090.1	6335.5	6709.2	7259.8	7472.2	6146.3
55°	6346.6	6307.4	5996.1	6007.1	6446.7	6668.8	6974.1	7396.6	7814.1	7783.6	6311.2
57.5°	6548.0	6517.5	6288.0	6440.5	7060.8	7347.6	7700.6	8040.0	8217.1	8034.0	6472.3
60°	6754.3	6764.1	6642.0	6965.6	7820.2	8137.6	8445.4	8529.7	8562.5	8287.9	6642.0
62.5°	6910.6	6952.1	6963.1	7532.2	8599.2	8870.2	9003.3	8943.5	8936.2	8628.5	6628.5
65°	7090.1	7198.8	7379.5	8153.6	9307.4	9485.7	9580.8	9667.6	9484.4	8729.9	5976.6
67.5°	7400.2	7571.1	7977.8	8915.4	10125.4	10389.1	10659.0	10567.3	9566.2	7700.6	4553.0
70°	7817.8	8026.6	8744.4	9910.5	11235.2	11677.2	11903.1	10495.3	8121.8	5320.9	2401.6
72°	7554.0	7743.3	8981.3	10418.4	12021.6	12426.9	11861.6	9154.8	5887.4	2758.1	804.5
72.5°	7297.7	7493.0	8905.6	10412.3	12099.7	12409.7	11591.8	8626.0	5209.8	2146.4	554.3
75°	5063.3	5309.9	7634.6	9359.9	10926.4	10585.7	8869.0	5223.2	1887.6	368.8	183.1
77.5°	2617.8	2808.2	4631.1	6613.9	7615.2	6974.1	5241.6	2266.1	522.6	195.3	120.8
80°	1622.6	1716.7	2165.9	3258.7	3956.0	3460.2	2312.5	915.7	334.6	116.1	96.4
82.5°	839.9	912.1	1363.8	1314.9	1461.5	1214.9	853.5	766.8	206.4	72.0	98.9
85°	276.0	293.1	837.6	874.2	625.2	420.0	378.5	731.4	59.9	46.4	84.2
87.5°	36.6	42.7	294.2	500.6	307.7	190.4	227.2	257.7	20.8	25.6	23.2
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P196642

CATALOG NUMBER: NAV-AF-04-D-UNV-SL4-7030-800-HSS

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	2485.8	2485.8	2485.8	2485.8	2485.8	2485.8	2485.8	2485.8	2485.8	2485.8	2485.8
2.5°	2437.0	2421.1	2371.2	2321.0	2263.7	2211.2	2169.7	2142.8	2155.0	2114.7	2120.8
5°	2367.4	2327.1	2217.3	2098.9	1970.6	1851.0	1755.7	1684.9	1671.4	1610.5	1612.8
7.5°	2300.2	2234.4	2056.0	1860.6	1648.2	1476.1	1319.9	1183.1	1134.2	1084.2	1054.9
10°	2263.7	2173.2	1920.6	1636.0	1336.9	1084.2	864.5	692.2	620.3	567.7	542.2
12.5°	2274.7	2155.0	1819.2	1432.2	1039.0	718.0	488.4	362.6	318.7	294.2	285.7
15°	2311.3	2158.6	1727.6	1233.2	755.7	434.7	287.0	245.4	241.8	240.5	239.3
17.5°	2345.5	2162.3	1631.2	1025.6	505.5	277.2	230.7	227.2	227.2	227.2	227.2
20°	2380.9	2163.6	1524.9	808.3	332.1	227.2	217.3	214.9	217.3	217.3	217.3
22.5°	2422.4	2172.1	1422.4	597.1	245.4	213.7	207.6	206.4	207.6	207.6	206.4
25°	2473.6	2190.4	1311.3	427.3	222.3	205.1	199.1	197.8	199.1	197.8	197.8
27.5°	2542.0	2214.8	1181.8	306.5	212.4	196.5	190.4	190.4	190.4	189.2	189.2
30°	2630.0	2244.0	1008.5	241.8	202.6	188.0	183.1	183.1	181.9	180.8	180.8
32.5°	2755.7	2291.7	819.2	218.5	191.6	177.0	172.2	173.4	172.2	170.9	169.7
35°	2933.9	2366.2	632.5	206.4	180.8	166.1	161.1	161.1	161.1	158.8	158.8
37.5°	3186.6	2479.7	473.7	194.2	169.7	155.0	148.9	148.9	147.7	145.4	146.5
40°	3499.2	2622.7	343.1	183.1	158.8	142.8	138.0	135.5	133.1	130.7	130.7
42.5°	3875.3	2761.8	257.7	172.2	147.7	133.1	127.0	124.5	119.6	117.2	116.1
45°	4296.5	2909.6	213.7	158.8	135.5	122.1	117.2	112.3	106.2	102.6	101.4
47.5°	4651.8	2999.9	190.4	145.4	123.4	111.1	106.2	98.9	91.6	89.1	89.1
50°	4865.6	2962.0	170.9	131.8	111.1	100.1	94.0	84.2	79.3	76.9	75.7
52.5°	4985.2	2849.7	155.0	120.8	100.1	88.0	79.3	70.8	68.4	65.9	65.9
55°	5067.0	2687.3	138.0	110.0	90.3	76.9	67.2	61.0	58.6	57.4	56.2
57.5°	5145.1	2489.6	122.1	100.1	80.7	68.4	57.4	54.9	50.0	48.8	48.8
60°	5168.3	2217.3	107.4	89.1	72.0	59.9	50.0	46.4	41.5	40.3	40.3
62.5°	4872.9	1764.3	95.3	75.7	63.5	51.3	43.9	39.2	34.2	34.2	34.2
65°	4071.9	1197.8	81.8	65.9	56.2	43.9	37.8	31.8	29.3	29.3	29.3
67.5°	2836.3	667.9	69.6	56.2	47.6	36.6	31.8	26.9	25.6	26.9	26.9
70°	1278.4	265.0	58.6	46.4	39.2	30.5	26.9	23.2	25.6	25.6	25.6
72°	383.4	141.6	48.8	37.8	31.8	26.9	23.2	22.0	24.4	25.6	25.6
72.5°	284.5	127.0	46.4	36.6	31.8	25.6	22.0	22.0	24.4	25.6	25.6
75°	146.5	86.7	35.4	26.9	23.2	20.8	18.3	20.8	24.4	24.4	24.4
77.5°	114.7	70.8	29.3	20.8	19.5	18.3	17.1	19.5	22.0	22.0	22.0
80°	107.4	46.4	23.2	19.5	17.1	15.9	15.9	17.1	19.5	20.8	20.8
82.5°	108.7	37.8	20.8	18.3	15.9	14.6	14.6	15.9	18.3	19.5	19.5
85°	69.6	25.6	18.3	15.9	14.6	13.4	13.4	14.6	17.1	18.3	18.3
87.5°	23.2	19.5	15.9	14.6	12.2	12.2	12.2	12.2	14.6	15.9	17.1
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)