

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: P197123

Luminaire Tested: **NAV-AF-05-D-UNV-SL4-8030-800-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P197123
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-05-D-UNV-SL4-8030-800-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 80 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: 16149 lumens
Efficiency: N/A
Efficacy: 76.9 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B1 - 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

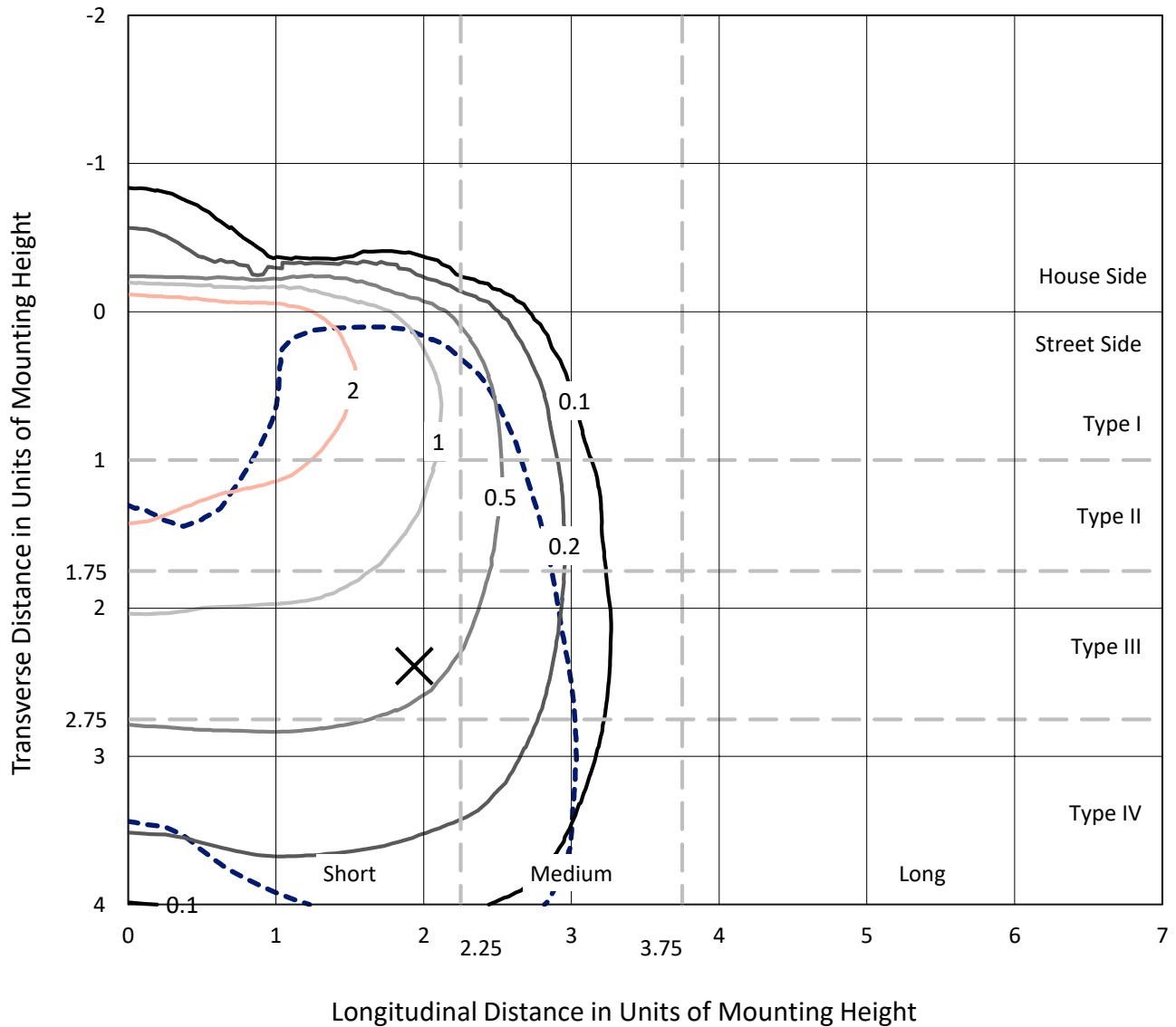


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

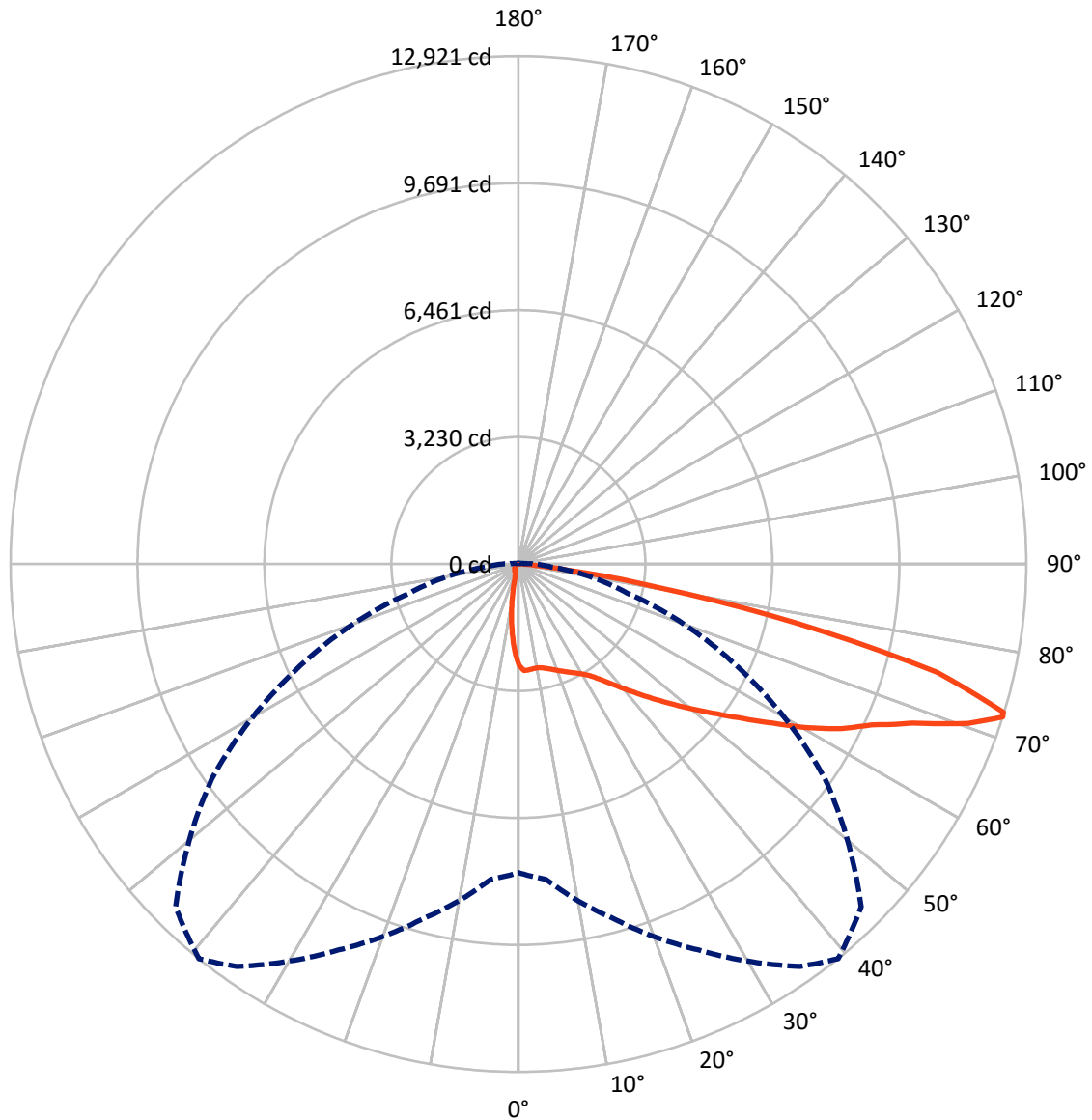


Based on 25 foot mounting height. Maximum calculated value = 4.3 fc
 Type IV - Short - Non-Cutoff

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Luminous Intensity Polar Plot



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

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1058.4	0.0	1058.4
	% Fixture	6.6	0.0	6.6
Street Side	Lumens	15090.6	0.0	15090.6
	% Fixture	93.4	0.0	93.4
Total	Lumens	16149.0	0.0	16149.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	210.2	1.3
10°-20°	509.0	3.2
20°-30°	845.3	5.2
30°-40°	1347.3	8.3
40°-50°	2223.9	13.8
50°-60°	3358.4	20.8
60°-70°	4374.9	27.1
70°-80°	2956.2	18.3
80°-90°	323.8	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°	16149.0	100.0
0°-180°	16149.0	100.0



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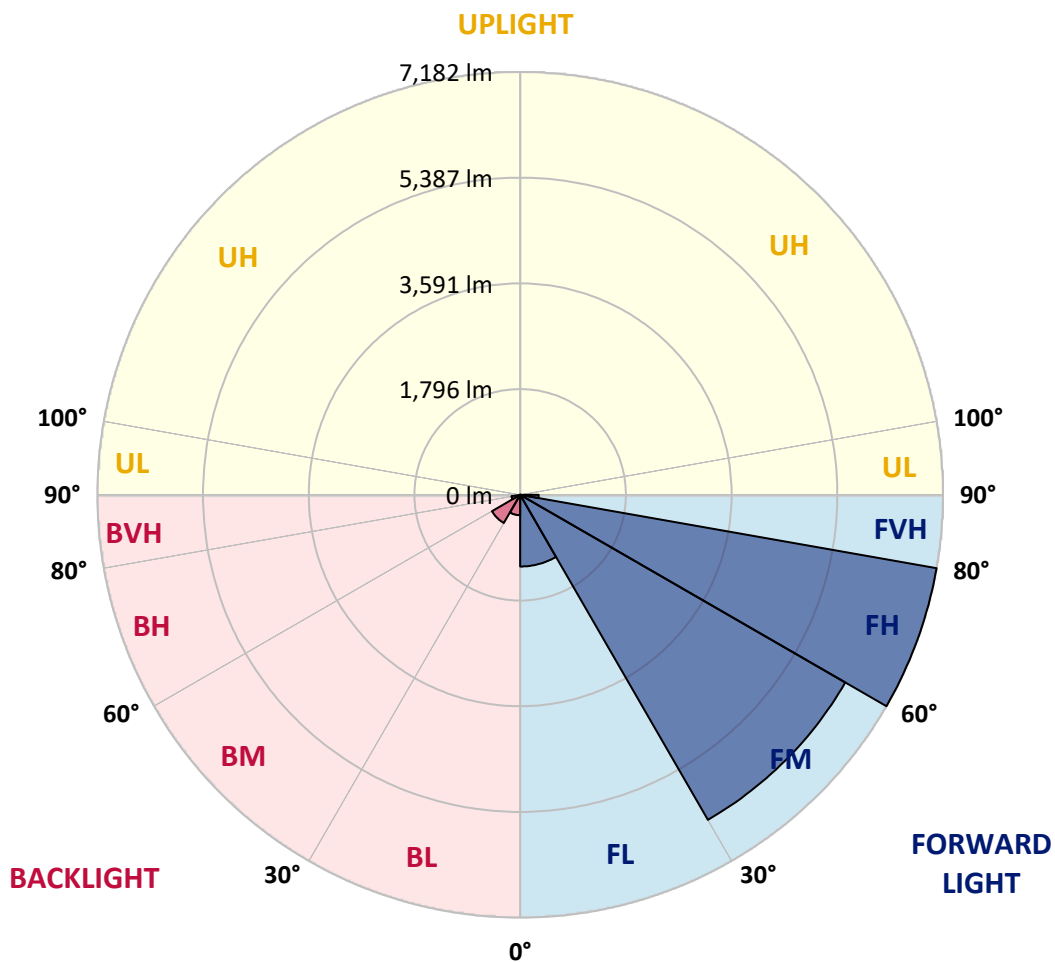
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1218.0	7.5			
FM	(30°-60°)	6375.8	39.5			
FH	(60°-80°)	7182.3	44.5			G3/7500
FVH	(80°-90°)	314.4	1.9			G3/500
BL	(0°-30°)	346.6	2.1	B1/500		
BM	(30°-60°)	553.8	3.4	B1/1000		
BH	(60°-80°)	148.8	0.9	B1/500		G1/500
BVH	(80°-90°)	9.3	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





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	39°	45°	55°	65°	75°	85°
0°	2584.8	2584.8	2584.8	2584.8	2584.8	2584.8	2584.8	2584.8	2584.8	2584.8	2584.8
2.5°	2752.3	2757.4	2751.1	2739.6	2723.1	2713.0	2699.0	2668.5	2630.5	2597.4	2559.4
5°	2773.9	2776.5	2768.8	2747.3	2721.9	2707.9	2690.1	2657.1	2617.8	2572.1	2503.5
7.5°	2780.3	2779.0	2770.1	2743.4	2704.1	2686.3	2655.8	2615.2	2574.6	2532.7	2455.3
10°	2777.7	2777.7	2771.4	2746.0	2701.5	2685.0	2650.8	2607.6	2556.8	2514.9	2432.4
12.5°	2768.8	2773.9	2770.1	2756.1	2723.1	2710.4	2680.0	2636.8	2588.6	2545.4	2457.8
15°	2780.3	2787.9	2795.5	2790.4	2771.4	2759.9	2732.0	2687.6	2648.2	2602.5	2508.6
17.5°	2826.0	2842.5	2860.2	2861.5	2841.2	2820.9	2789.1	2743.4	2705.4	2663.5	2561.9
20°	2912.3	2925.0	2958.0	2964.3	2923.7	2894.5	2850.1	2796.8	2758.7	2723.1	2611.4
22.5°	3040.5	3054.5	3081.1	3072.2	3003.7	2969.4	2913.6	2852.6	2813.3	2793.0	2668.5
25°	3234.7	3238.6	3244.9	3205.5	3092.6	3054.5	2985.9	2917.4	2885.6	2883.1	2749.8
27.5°	3463.3	3468.3	3440.4	3352.8	3191.6	3142.1	3064.6	3002.4	2987.2	3006.2	2852.6
30°	3724.8	3726.1	3648.6	3506.4	3305.8	3251.3	3171.3	3102.7	3116.7	3163.7	2984.7
32.5°	3992.7	3980.0	3873.3	3688.0	3462.0	3396.0	3327.4	3258.9	3299.5	3394.7	3177.6
35°	4237.7	4232.6	4106.9	3891.1	3665.1	3606.7	3557.2	3484.8	3550.9	3705.7	3440.4
37.5°	4482.7	4478.9	4335.4	4110.7	3915.2	3873.3	3836.5	3780.6	3888.6	4115.8	3792.1
40°	4753.1	4746.8	4570.3	4354.5	4205.9	4183.1	4161.5	4137.4	4321.5	4637.6	4230.1
42.5°	5087.0	5059.1	4819.1	4619.8	4525.9	4532.2	4533.5	4557.6	4845.8	5258.4	4746.8
45°	5470.4	5408.2	5069.2	4904.2	4877.5	4915.6	4953.7	5054.0	5456.4	5973.1	5318.0
47.5°	5842.4	5742.1	5357.4	5210.1	5264.7	5343.4	5434.8	5630.3	6142.0	6720.9	5836.0
50°	6162.3	6059.4	5643.0	5521.2	5695.1	5811.9	5974.4	6270.2	6865.6	7353.1	6162.3
52.5°	6413.6	6332.4	5945.2	5863.9	6172.4	6332.4	6587.6	6976.0	7548.6	7769.5	6390.8
55°	6599.0	6558.4	6234.6	6246.1	6703.1	6934.1	7251.5	7690.8	8125.0	8093.2	6562.2
57.5°	6808.5	6776.7	6538.1	6696.7	7341.7	7640.0	8006.9	8359.8	8543.9	8353.5	6729.7
60°	7023.0	7033.2	6906.2	7242.6	8131.3	8461.4	8781.3	8868.9	8903.2	8617.5	6906.2
62.5°	7185.5	7228.7	7240.1	7831.7	8941.3	9223.1	9361.5	9299.3	9291.6	8971.7	6892.2
65°	7372.1	7485.1	7673.0	8477.9	9677.6	9862.9	9962.0	10052.1	9861.7	9077.1	6214.3
67.5°	7694.6	7872.3	8295.1	9270.1	10528.2	10802.4	11082.9	10987.7	9946.7	8006.9	4734.1
70°	8128.8	8345.9	9092.3	10304.7	11682.2	12141.7	12376.6	10912.8	8444.9	5532.6	2497.2
72°	7854.5	8051.3	9338.6	10832.9	12499.7	12921.2	12333.4	9518.9	6121.6	2867.9	836.6
72.5°	7587.9	7791.1	9259.9	10826.5	12581.0	12903.4	12052.9	8969.2	5417.1	2231.8	576.4
75°	5264.7	5521.2	7938.3	9732.2	11361.0	11006.8	9221.8	5431.0	1962.7	383.4	190.4
77.5°	2721.9	2919.9	4815.3	6877.0	7918.0	7251.5	5450.1	2356.2	543.4	203.1	125.7
80°	1687.2	1785.0	2252.1	3388.4	4113.3	3597.8	2404.5	952.1	347.8	120.6	100.3
82.5°	873.4	948.3	1418.1	1367.3	1519.6	1263.2	887.4	797.3	214.5	74.9	102.8
85°	286.9	304.7	870.9	909.0	650.0	436.7	393.6	760.4	62.2	48.2	87.6
87.5°	38.1	44.4	306.0	520.5	319.9	198.0	236.1	267.9	21.6	26.7	24.1
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°	2584.8	2584.8	2584.8	2584.8	2584.8	2584.8	2584.8	2584.8	2584.8	2584.8	2584.8
2.5°	2534.0	2517.5	2465.4	2413.4	2353.7	2299.1	2255.9	2228.0	2240.7	2198.8	2205.2
5°	2461.6	2419.7	2305.5	2182.3	2049.0	1924.6	1825.6	1751.9	1738.0	1674.5	1677.0
7.5°	2391.8	2323.2	2137.9	1934.8	1713.9	1534.9	1372.4	1230.2	1179.4	1127.3	1096.9
10°	2353.7	2259.8	1997.0	1701.2	1390.1	1127.3	898.8	719.8	644.9	590.3	563.7
12.5°	2365.1	2240.7	1891.6	1489.2	1080.4	746.5	507.8	377.0	331.3	306.0	297.1
15°	2403.2	2244.5	1796.4	1282.2	785.8	452.0	298.3	255.2	251.4	250.1	248.8
17.5°	2438.8	2248.3	1696.1	1066.4	525.6	288.2	239.9	236.1	236.1	236.1	236.1
20°	2475.6	2249.6	1585.6	840.4	345.3	236.1	226.0	223.4	226.0	226.0	226.0
22.5°	2518.7	2258.5	1479.0	620.8	255.2	222.2	215.8	214.5	215.8	215.8	214.5
25°	2572.1	2277.5	1363.5	444.3	231.1	213.3	206.9	205.7	206.9	205.7	205.7
27.5°	2643.2	2302.9	1228.9	318.7	220.9	204.4	198.0	198.0	198.0	196.8	196.8
30°	2734.6	2333.4	1048.6	251.4	210.7	195.5	190.4	190.4	189.2	187.9	187.9
32.5°	2865.3	2382.9	851.9	227.2	199.3	184.1	179.0	180.3	179.0	177.7	176.5
35°	3050.7	2460.3	657.6	214.5	187.9	172.7	167.6	167.6	167.6	165.0	165.0
37.5°	3313.5	2578.4	492.6	201.9	176.5	161.2	154.9	154.9	153.6	151.1	152.3
40°	3638.5	2726.9	356.7	190.4	165.0	148.5	143.5	140.9	138.4	135.8	135.8
42.5°	4029.5	2871.7	267.9	179.0	153.6	138.4	132.0	129.5	124.4	121.9	120.6
45°	4467.5	3025.3	222.2	165.0	140.9	127.0	121.9	116.8	110.4	106.6	105.4
47.5°	4836.9	3119.2	198.0	151.1	128.2	115.5	110.4	102.8	95.2	92.7	92.7
50°	5059.1	3079.9	177.7	137.1	115.5	104.1	97.8	87.6	82.5	80.0	78.7
52.5°	5183.5	2963.1	161.2	125.7	104.1	91.4	82.5	73.6	71.1	68.6	68.6
55°	5268.5	2794.2	143.5	114.3	93.9	80.0	69.8	63.5	60.9	59.7	58.4
57.5°	5349.8	2588.6	127.0	104.1	83.8	71.1	59.7	57.1	52.1	50.8	50.8
60°	5373.9	2305.5	111.7	92.7	74.9	62.2	52.1	48.2	43.2	41.9	41.9
62.5°	5066.7	1834.5	99.0	78.7	66.0	53.3	45.7	40.6	35.5	35.5	35.5
65°	4233.9	1245.4	85.1	68.6	58.4	45.7	39.4	33.0	30.5	30.5	30.5
67.5°	2949.1	694.4	72.4	58.4	49.5	38.1	33.0	27.9	26.7	27.9	27.9
70°	1329.2	275.5	60.9	48.2	40.6	31.7	27.9	24.1	26.7	26.7	26.7
72°	398.6	147.3	50.8	39.4	33.0	27.9	24.1	22.9	25.4	26.7	26.7
72.5°	295.8	132.0	48.2	38.1	33.0	26.7	22.9	22.9	25.4	26.7	26.7
75°	152.3	90.1	36.8	27.9	24.1	21.6	19.0	21.6	25.4	25.4	25.4
77.5°	119.3	73.6	30.5	21.6	20.3	19.0	17.8	20.3	22.9	22.9	22.9
80°	111.7	48.2	24.1	20.3	17.8	16.5	16.5	17.8	20.3	21.6	21.6
82.5°	113.0	39.4	21.6	19.0	16.5	15.2	15.2	16.5	19.0	20.3	20.3
85°	72.4	26.7	19.0	16.5	15.2	14.0	14.0	15.2	17.8	19.0	19.0
87.5°	24.1	20.3	16.5	15.2	12.7	12.7	12.7	12.7	15.2	16.5	17.8
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)