

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: P196666

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196666
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24284)
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
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 3000K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV SPILL
LIGHT ELIMINATOR OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 18186.2 lumens
Efficiency: N/A
Efficacy: 106.4 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B2 - U0 - G4

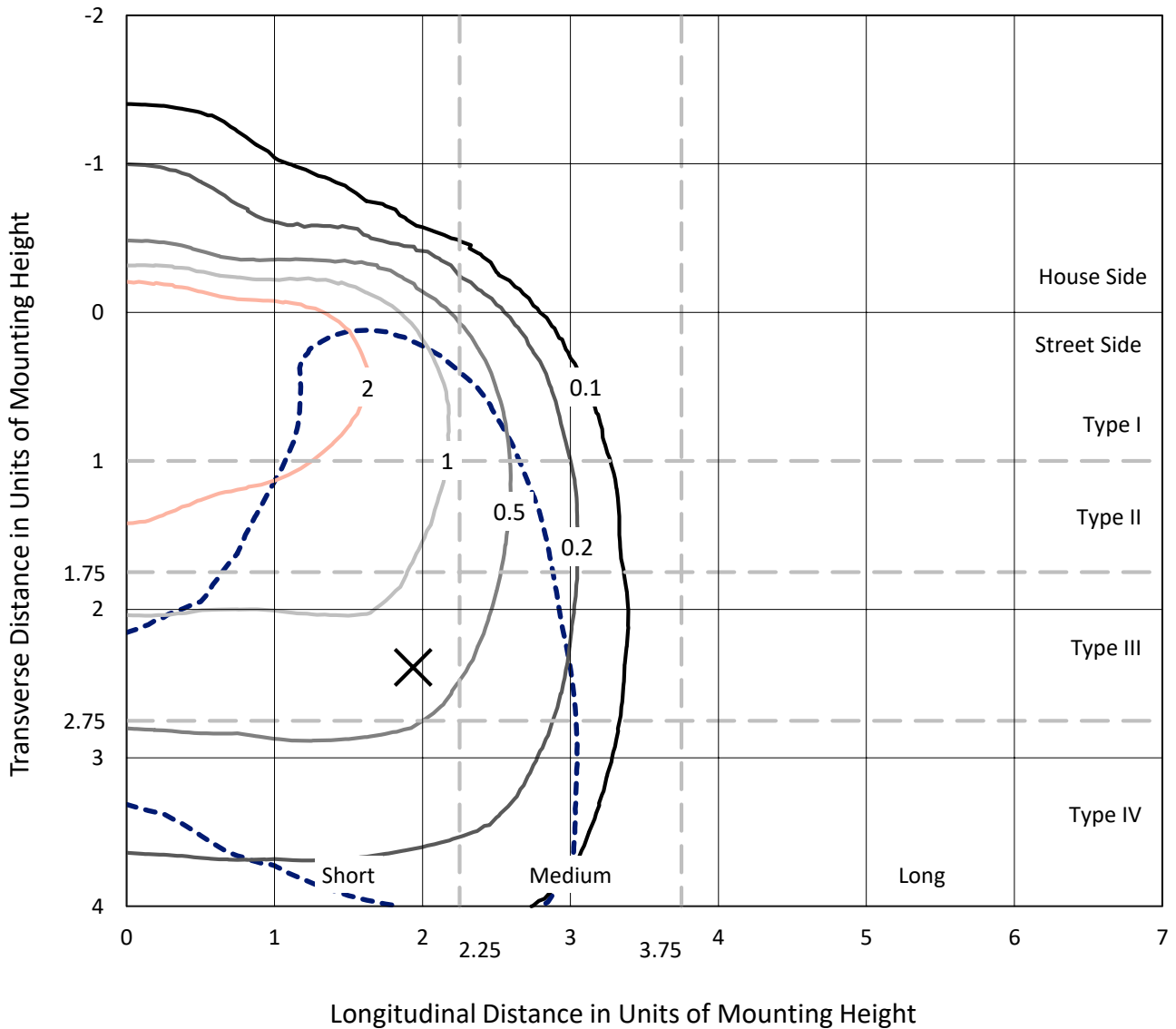
Input Watts (W): 171
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

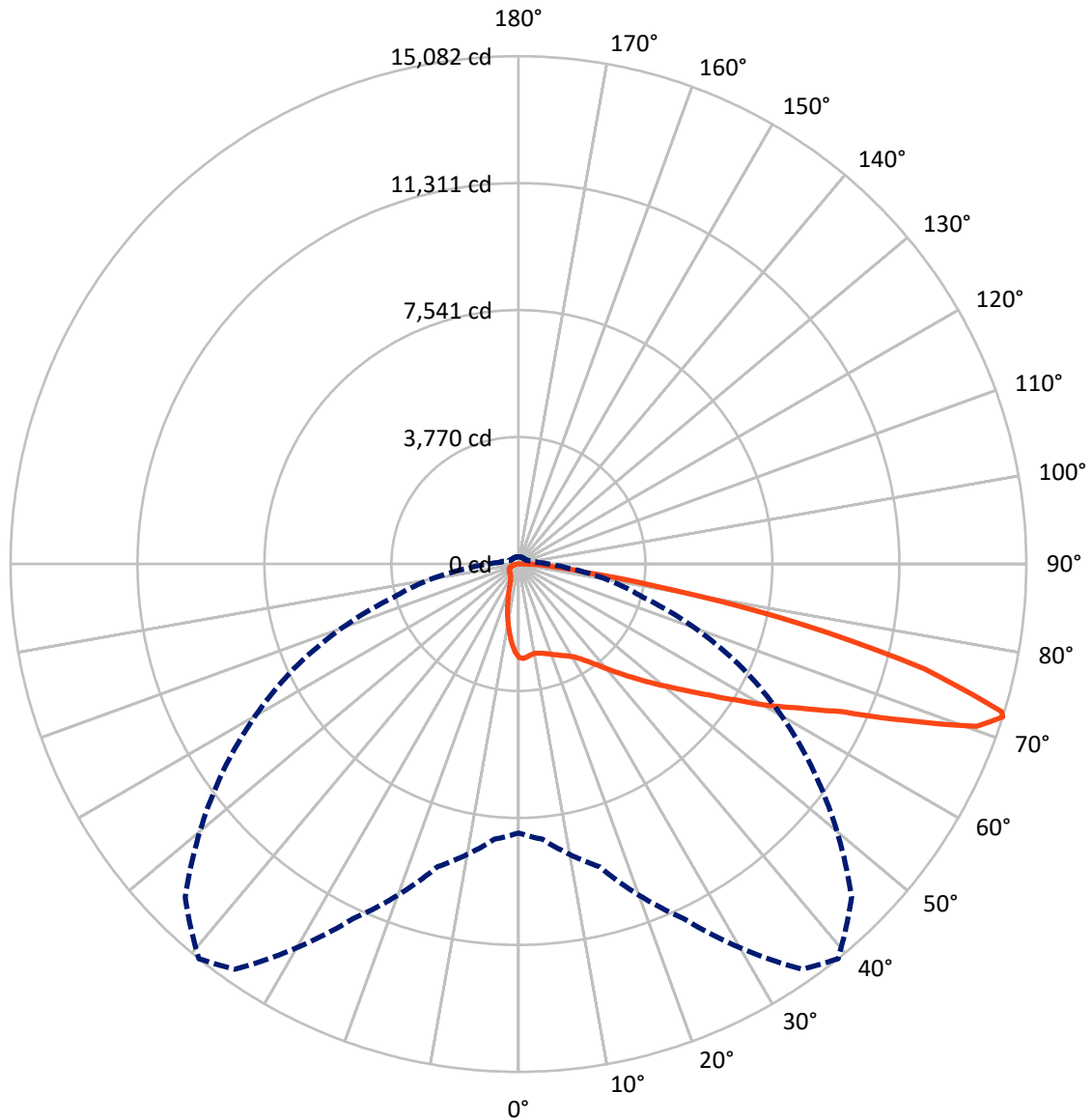


Based on 25 foot mounting height. Maximum calculated value = 4.4 fc
 Type IV - Short - Non-Cutoff

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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	2085.3	0.0	2085.3
	% Fixture	11.5	0.0	11.5
Street Side	Lumens	16100.9	0.0	16100.9
	% Fixture	88.5	0.0	88.5
Total	Lumens	18186.2	0.0	18186.2
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	238.7	1.3
10°-20°	599.7	3.3
20°-30°	934.6	5.1
30°-40°	1439.0	7.9
40°-50°	2345.9	12.9
50°-60°	3645.4	20.0
60°-70°	4879.2	26.8
70°-80°	3508.8	19.3
80°-90°	594.8	3.3
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°	18186.2	100.0
0°-180°	18186.2	100.0

Coefficient of Utilization



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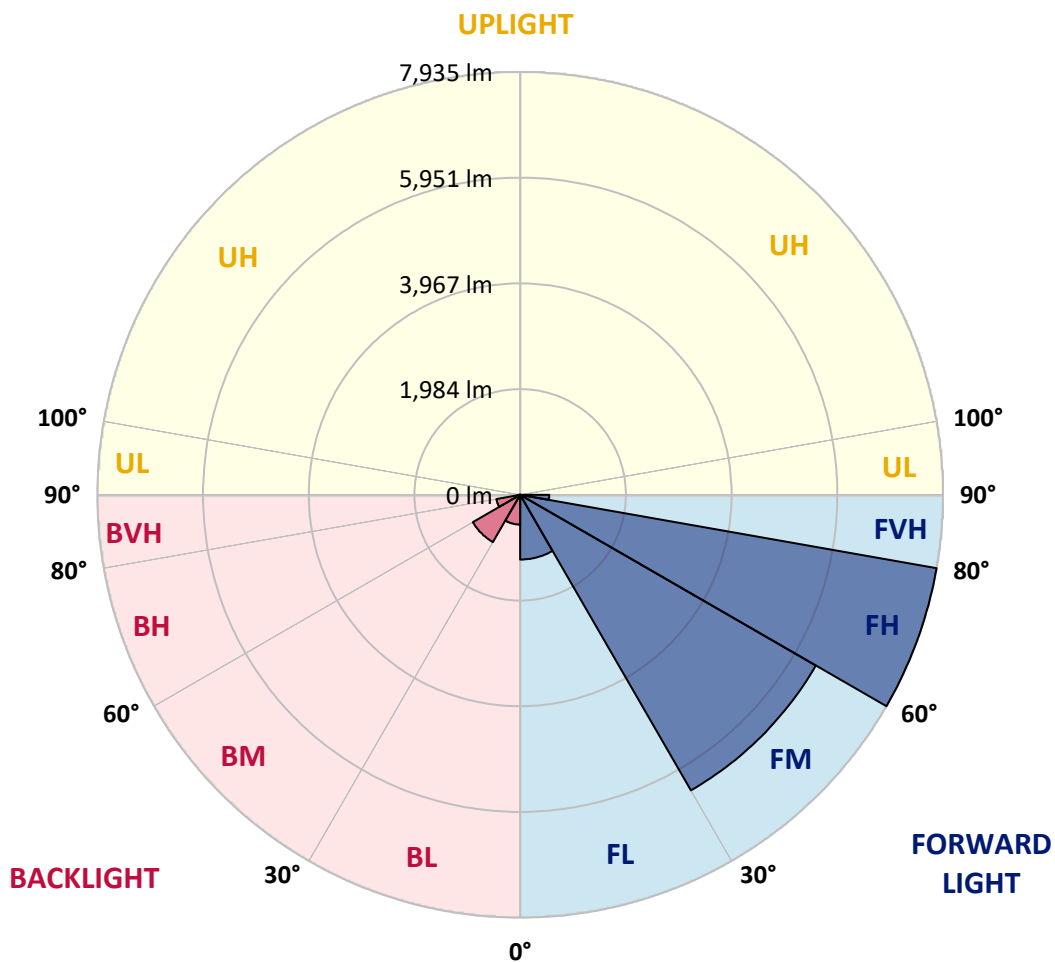
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1214.8	6.7			
FM	(30°-60°)	6405.5	35.2			
FH	(60°-80°)	7934.9	43.6			G4/12000
FVH	(80°-90°)	545.6	3.0			G4/750
BL	(0°-30°)	558.2	3.1	B2/1000		
BM	(30°-60°)	1024.8	5.6	B2/2500		
BH	(60°-80°)	453.1	2.5	B1/500		G1/500
BVH	(80°-90°)	49.2	0.3			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 IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	39°	45°	55°	65°	75°	85°
0°	2777.4	2777.4	2777.4	2777.4	2777.4	2777.4	2777.4	2777.4	2777.4	2777.4	2777.4
2.5°	2837.1	2838.4	2834.7	2823.7	2814.0	2809.0	2800.6	2785.9	2766.3	2752.9	2742.0
5°	2810.3	2814.0	2811.6	2793.2	2776.2	2766.3	2752.9	2732.1	2706.6	2695.5	2670.0
7.5°	2789.6	2792.0	2784.7	2763.9	2730.9	2718.8	2694.4	2667.4	2644.3	2628.4	2597.8
10°	2774.9	2777.4	2771.3	2750.5	2713.9	2699.2	2670.0	2640.6	2610.1	2590.5	2556.3
12.5°	2754.2	2759.1	2759.1	2749.3	2724.8	2715.1	2685.8	2654.0	2625.9	2605.2	2562.4
15°	2750.5	2756.6	2767.6	2766.3	2759.1	2751.7	2728.5	2696.7	2672.4	2648.0	2595.5
17.5°	2780.9	2794.5	2816.3	2823.7	2818.9	2803.0	2776.2	2746.9	2720.0	2696.7	2632.0
20°	2857.9	2865.3	2898.2	2912.9	2888.5	2865.3	2829.9	2792.0	2767.6	2749.3	2666.3
22.5°	2973.9	2983.7	3010.5	3011.7	2960.5	2932.4	2887.2	2840.8	2817.7	2810.3	2712.7
25°	3159.4	3157.0	3164.3	3133.9	3041.0	3008.1	2953.2	2899.4	2883.6	2898.2	2780.9
27.5°	3381.7	3375.6	3352.4	3273.0	3132.6	3089.9	3024.0	2976.3	2976.3	3010.5	2873.8
30°	3638.0	3631.9	3556.3	3423.2	3241.2	3192.4	3122.8	3072.8	3098.5	3164.3	2999.5
32.5°	3909.1	3887.1	3780.9	3602.6	3396.4	3342.6	3275.5	3224.1	3273.0	3385.3	3180.2
35°	4164.2	4152.0	4021.4	3810.2	3596.5	3551.4	3504.9	3441.4	3519.6	3694.2	3435.3
37.5°	4427.9	4418.1	4258.2	4033.7	3840.7	3810.2	3771.1	3727.2	3852.9	4082.4	3780.9
40°	4722.0	4702.6	4501.2	4276.5	4125.2	4110.5	4089.8	4077.5	4280.2	4622.0	4218.0
42.5°	5055.4	5017.5	4757.4	4543.9	4435.3	4447.4	4436.5	4485.3	4795.4	5244.7	4738.0
45°	5436.3	5360.6	5012.7	4828.3	4778.2	4827.1	4850.3	4974.8	5404.5	5963.7	5319.1
47.5°	5792.8	5695.1	5292.2	5137.2	5165.2	5249.5	5315.5	5535.2	6072.3	6674.2	5912.4
50°	6121.1	6011.3	5591.4	5457.1	5593.7	5713.3	5850.2	6160.2	6782.9	7405.5	6456.9
52.5°	6364.2	6284.8	5890.5	5806.2	6085.7	6244.5	6463.0	6854.9	7500.7	8102.5	6942.8
55°	6552.2	6509.4	6182.2	6206.7	6642.4	6869.5	7134.4	7584.9	8260.0	8727.6	7333.5
57.5°	6769.4	6737.7	6515.4	6690.1	7333.5	7619.0	7931.6	8432.2	8982.8	9278.2	7639.9
60°	6998.9	6998.9	6886.6	7272.4	8197.8	8525.0	8836.3	9225.8	9703.1	9773.9	7764.4
62.5°	7172.4	7217.4	7257.8	7892.6	9018.1	9424.7	9766.5	10140.2	10449.0	10018.0	7471.3
65°	7423.8	7520.2	7747.3	8609.2	10034.0	10566.1	11027.6	11341.4	11053.3	9823.9	6515.4
67.5°	7856.0	7998.8	8482.3	9676.2	11589.2	12386.4	12834.4	12292.4	10934.8	8601.9	4990.8
70°	8245.4	8446.9	9273.4	11030.0	13610.9	14438.6	14232.3	12071.4	9523.6	6305.6	3070.4
72°	7986.7	8206.4	9310.0	11619.7	14691.3	15081.9	13994.3	10698.0	7359.0	3848.0	1513.8
72.5°	7816.9	8045.2	9191.6	11605.1	14720.6	15000.2	13663.4	10152.4	6680.3	3367.1	1224.5
75°	6530.2	6725.5	7903.6	10285.3	12972.5	12459.7	10662.6	6570.5	3070.4	1087.7	630.0
77.5°	4264.3	4413.3	5449.8	7125.9	9086.5	8593.4	6489.9	3076.4	1151.3	660.5	473.6
80°	2142.6	2248.8	2916.5	3746.7	4904.0	4512.2	2995.9	1488.2	770.4	477.4	372.3
82.5°	1490.7	1588.3	2008.3	1913.0	2049.7	1983.8	1408.8	1241.6	576.3	301.5	195.3
85°	1250.2	1351.4	1661.5	1363.7	1115.9	1016.9	1009.7	1173.2	380.9	148.9	164.8
87.5°	1090.2	1244.0	1370.9	996.2	765.5	675.1	743.5	1075.5	120.8	81.8	50.0
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°	2777.4	2777.4	2777.4	2777.4	2777.4	2777.4	2777.4	2777.4	2777.4	2777.4	2777.4
2.5°	2723.7	2720.0	2701.7	2673.6	2652.9	2639.3	2613.8	2612.5	2615.0	2593.0	2601.6
5°	2646.7	2632.0	2584.4	2519.7	2467.3	2417.3	2362.3	2343.9	2328.1	2295.1	2298.9
7.5°	2566.2	2540.5	2457.5	2351.3	2249.9	2157.3	2065.6	2020.4	1986.3	1943.5	1943.5
10°	2518.5	2478.2	2351.3	2196.2	2035.1	1899.6	1762.9	1681.1	1621.3	1566.3	1562.6
12.5°	2516.1	2455.0	2278.0	2064.5	1843.4	1653.0	1466.1	1340.5	1251.3	1186.7	1180.5
15°	2535.7	2450.1	2217.0	1941.1	1662.7	1414.9	1184.2	1024.3	910.6	838.7	831.4
17.5°	2552.8	2444.1	2151.1	1811.7	1486.9	1185.5	929.0	762.9	655.5	597.0	590.9
20°	2568.5	2430.7	2066.8	1675.0	1292.9	970.6	726.3	592.0	521.2	488.3	484.7
22.5°	2591.8	2418.5	1978.9	1521.1	1102.4	789.8	599.4	503.0	465.1	449.3	446.9
25°	2629.7	2419.6	1893.5	1363.7	927.8	658.1	518.9	459.0	438.2	427.3	427.3
27.5°	2684.6	2434.3	1809.3	1203.7	780.1	567.7	471.2	435.8	422.4	413.9	411.4
30°	2765.2	2461.2	1720.2	1052.3	662.8	505.5	443.1	421.2	410.2	402.8	401.6
32.5°	2882.4	2508.8	1626.1	914.4	573.8	461.5	422.4	408.9	400.4	394.3	393.2
35°	3057.0	2593.0	1534.5	797.1	510.4	429.7	405.4	394.3	389.4	387.0	385.8
37.5°	3313.3	2728.5	1447.9	705.6	468.8	408.9	388.2	382.1	379.6	379.6	379.6
40°	3635.6	2906.8	1369.8	641.0	445.6	393.2	376.0	371.2	371.2	372.3	372.3
42.5°	4027.6	3130.2	1302.6	597.0	432.1	382.1	367.4	365.0	363.9	363.9	365.0
45°	4482.8	3393.9	1261.1	562.8	422.4	376.0	361.3	360.1	355.3	352.8	352.8
47.5°	4940.6	3675.9	1258.6	543.2	410.2	368.6	355.3	355.3	345.5	340.6	341.9
50°	5367.9	3928.6	1285.6	538.4	402.8	357.8	349.2	350.4	336.9	330.8	329.6
52.5°	5712.2	4121.5	1318.4	544.4	402.8	347.9	338.1	344.2	329.6	322.4	321.1
55°	5978.3	4255.7	1330.7	557.9	407.7	339.4	328.5	338.1	327.2	317.4	317.4
57.5°	6168.8	4298.5	1278.3	564.0	415.0	338.1	318.6	336.9	330.8	318.6	318.6
60°	6099.2	4050.7	1082.9	540.9	413.9	335.8	311.3	339.4	343.1	329.6	329.6
62.5°	5556.0	3389.0	869.2	488.3	393.2	327.2	302.7	336.9	351.6	346.7	344.2
65°	4523.2	2485.5	673.9	426.1	357.8	308.8	284.4	315.0	332.0	336.9	338.1
67.5°	3187.5	1573.7	523.7	362.6	313.8	282.0	263.7	278.4	284.4	287.0	291.7
70°	1743.3	852.1	416.3	305.2	268.6	255.1	241.7	243.0	240.5	238.0	240.5
72°	875.2	556.6	351.6	265.0	238.0	229.6	223.4	219.7	219.7	216.2	217.3
72.5°	753.3	517.7	339.4	255.1	230.7	223.4	218.5	214.9	213.6	211.2	212.4
75°	501.7	410.2	283.2	213.6	196.5	191.6	194.2	190.4	191.6	189.2	190.4
77.5°	405.4	352.8	240.5	180.8	168.5	161.1	166.1	167.2	169.7	167.2	166.1
80°	339.4	300.4	201.5	148.9	140.4	134.3	136.7	145.4	146.5	139.2	138.0
82.5°	219.7	241.7	158.8	116.0	107.4	105.0	111.1	119.6	122.1	112.3	110.0
85°	184.3	194.2	114.7	79.3	70.8	68.4	80.6	89.1	95.3	85.4	83.0
87.5°	51.3	95.3	56.2	37.8	31.8	31.8	39.2	46.4	54.9	56.2	56.2
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)