

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: P196628

Luminaire Tested: **NAV-AF-02-D-UNV-SL3-7030-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196628
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24262)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-AF-02-D-UNV-SL3-7030-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 70 CRI, 3000K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III
SPILL LIGHT ELIMINATOR OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 12906.8 lumens
Efficiency: N/A
Efficacy: 100.1 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type III - Medium - Non-Cutoff
BUG Rating: B2 - U0 - G3

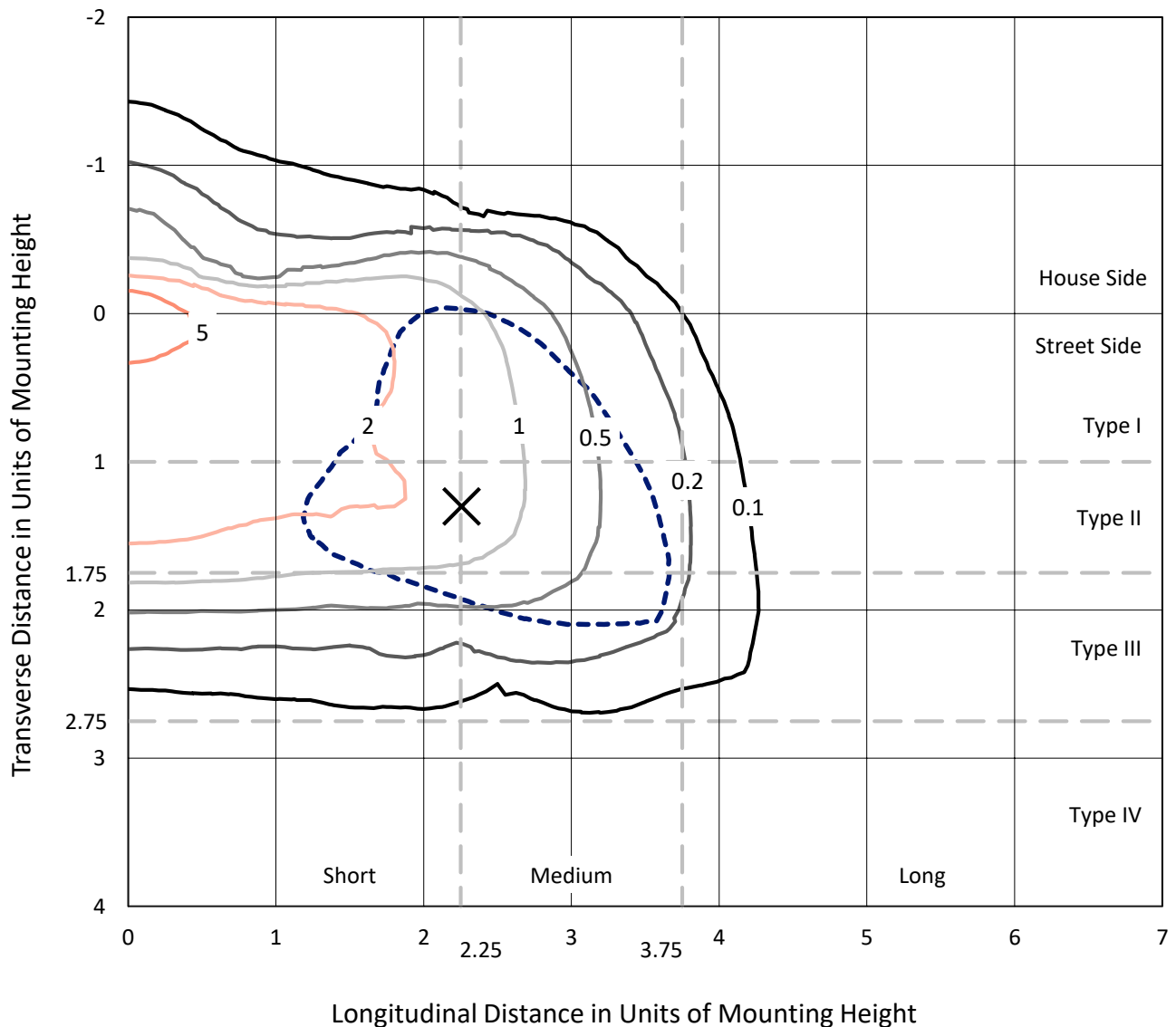
Input Watts (W): 129
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

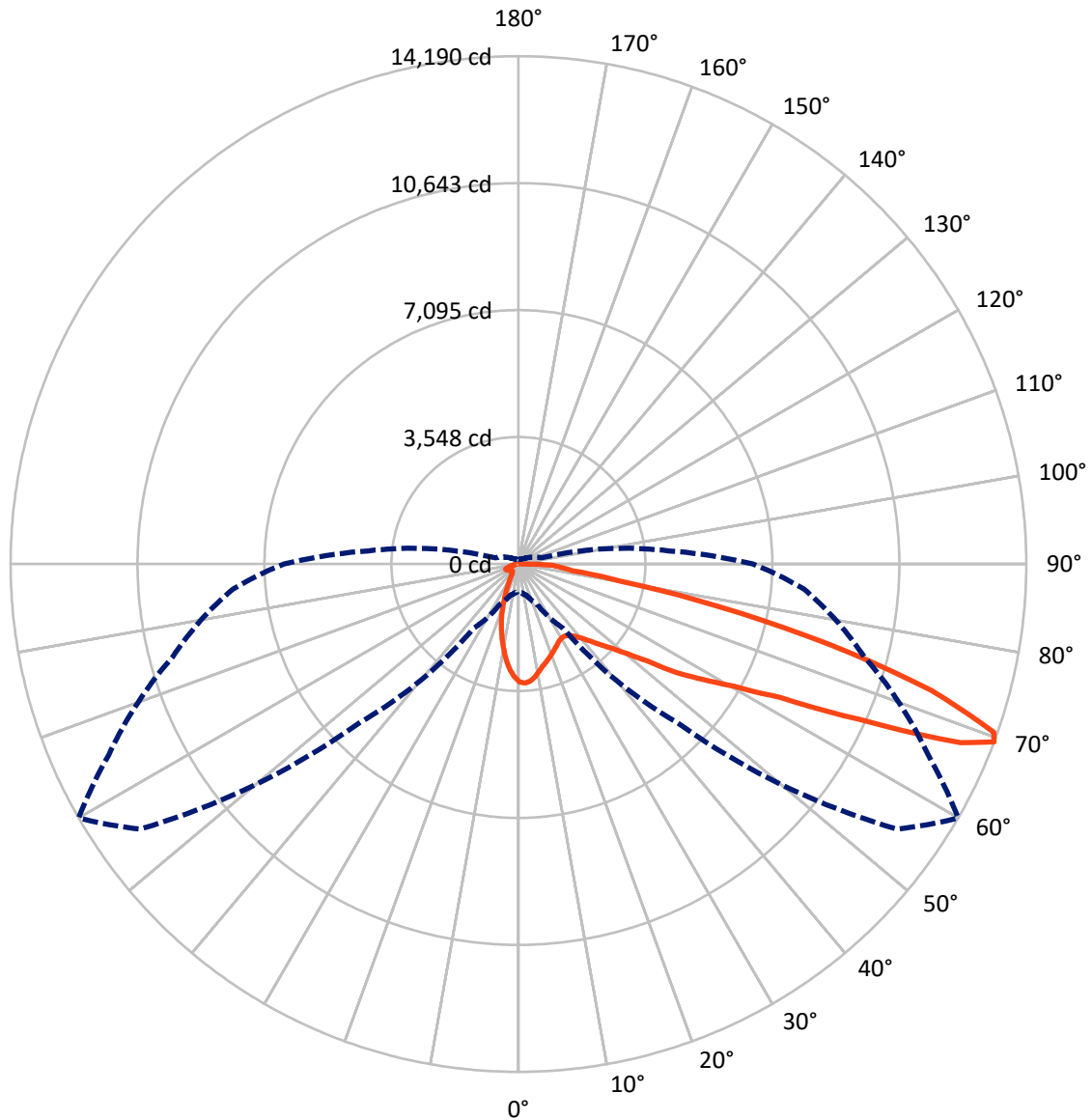
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 8.2 fc
 Type III - Medium - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 60-Deg Lateral - - - Horizontal Cone Through 69-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1840.9	0.0	1840.9
	% Fixture	14.3	0.0	14.3
Street Side	Lumens	11065.9	0.0	11065.9
	% Fixture	85.7	0.0	85.7
Total	Lumens	12906.8	0.0	12906.8
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	279.4	2.2
10°-20°	598.2	4.6
20°-30°	763.1	5.9
30°-40°	1050.1	8.1
40°-50°	1700.9	13.2
50°-60°	2669.5	20.7
60°-70°	3559.0	27.6
70°-80°	1979.6	15.3
80°-90°	307.0	2.4
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°	12906.8	100.0
0°-180°	12906.8	100.0

Coefficient of Utilization



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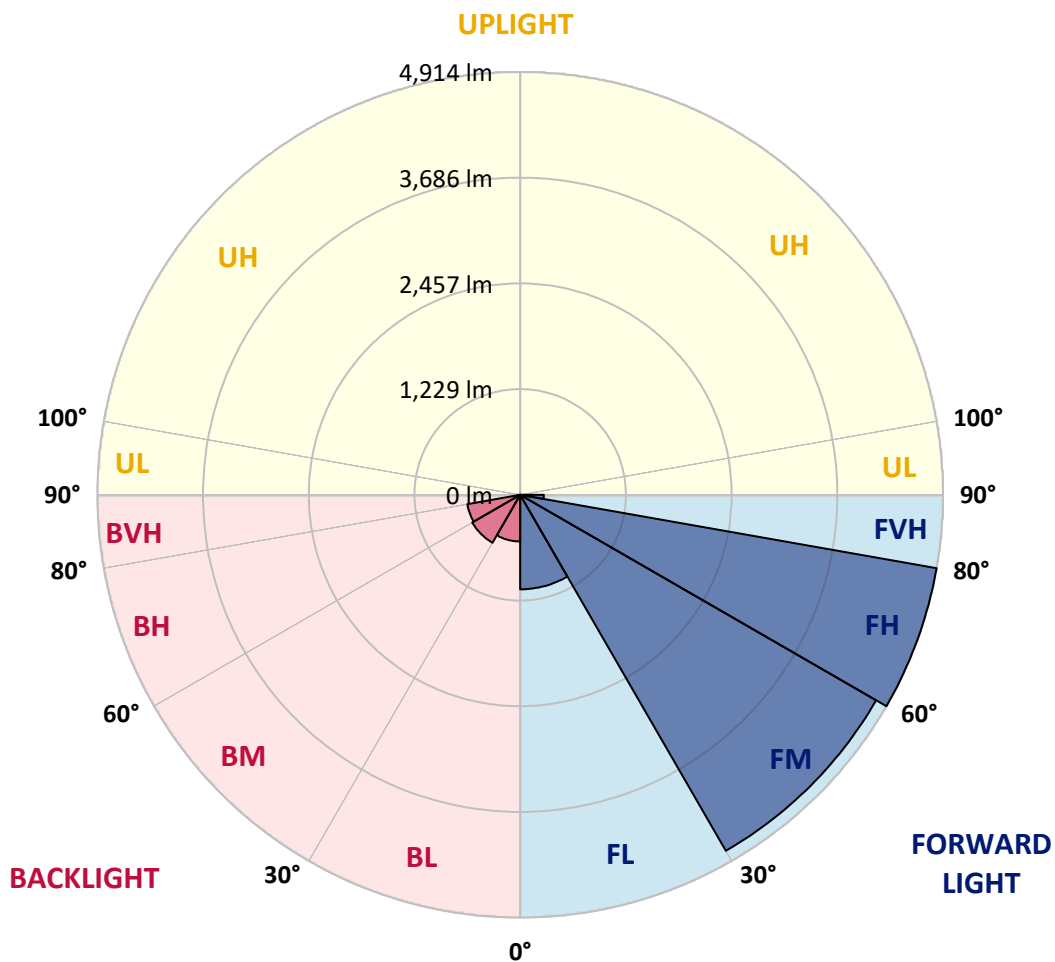
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1098.1	8.5			
FM	(30°-60°)	4777.4	37.0			
FH	(60°-80°)	4914.4	38.1			G2/5000
FVH	(80°-90°)	275.9	2.1			G3/500
BL	(0°-30°)	542.5	4.2	B2/1000		
BM	(30°-60°)	643.1	5.0	B1/1000		
BH	(60°-80°)	624.2	4.8	B2/1000		G2/1000
BVH	(80°-90°)	31.1	0.2			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G3

Type III Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	60°	65°	75°	85°
0°	3293.2	3293.2	3293.2	3293.2	3293.2	3293.2	3293.2	3293.2	3293.2	3293.2	3293.2
2.5°	3380.9	3390.1	3390.1	3382.5	3378.4	3354.5	3340.4	3330.4	3313.1	3280.8	3251.8
5°	3260.1	3277.4	3284.9	3288.2	3309.8	3302.4	3303.1	3296.6	3281.6	3246.8	3199.6
7.5°	3038.3	3041.6	3054.9	3077.2	3129.3	3165.8	3195.5	3201.3	3198.0	3172.4	3106.1
10°	2819.8	2825.6	2841.3	2879.4	2929.0	2981.1	3045.7	3072.3	3092.0	3083.9	3000.3
12.5°	2638.5	2639.3	2656.7	2700.6	2756.1	2821.4	2909.1	2950.5	2997.7	3016.7	2923.2
15°	2463.9	2475.5	2492.1	2544.9	2613.7	2696.5	2797.5	2854.5	2916.6	2971.3	2863.6
17.5°	2331.5	2340.6	2350.5	2394.4	2473.8	2577.3	2702.3	2763.5	2845.4	2929.0	2802.4
20°	2258.6	2262.0	2254.6	2276.0	2343.1	2454.8	2599.6	2673.3	2771.0	2888.5	2739.5
22.5°	2243.7	2243.7	2216.5	2212.3	2242.1	2336.4	2493.8	2583.9	2703.1	2860.3	2683.2
25°	2313.2	2308.3	2257.0	2209.8	2199.1	2247.0	2392.8	2503.6	2645.1	2859.6	2641.1
27.5°	2444.9	2438.2	2374.5	2295.1	2226.3	2205.7	2314.8	2428.3	2599.6	2887.6	2619.5
30°	2608.8	2606.3	2541.7	2442.4	2329.0	2222.3	2284.3	2389.4	2569.0	2939.8	2618.7
32.5°	2788.3	2776.8	2737.1	2637.7	2490.3	2314.1	2302.5	2391.0	2560.7	3016.0	2637.7
35°	2979.5	2971.3	2961.4	2861.2	2695.7	2476.4	2382.8	2448.2	2601.3	3121.9	2691.5
37.5°	3222.8	3213.8	3230.4	3121.1	2939.8	2689.0	2518.5	2562.3	2684.1	3275.8	2791.7
40°	3655.7	3629.3	3582.9	3414.9	3224.6	2949.8	2714.6	2721.3	2825.6	3481.9	2952.1
42.5°	4366.6	4281.5	4052.2	3743.4	3524.9	3252.6	2970.4	2939.0	3020.9	3754.2	3185.6
45°	5079.3	4983.4	4595.9	4101.8	3836.1	3577.9	3286.6	3211.2	3264.2	4071.2	3486.0
47.5°	5539.5	5492.3	5055.3	4460.2	4162.2	3932.1	3648.2	3524.1	3562.2	4430.4	3856.9
50°	5674.4	5633.9	5290.4	4740.8	4470.2	4360.1	4096.0	3931.3	3937.9	4850.0	4301.3
52.5°	5573.5	5556.8	5329.2	4914.6	4753.3	4811.1	4715.9	4486.7	4432.1	5310.2	4783.0
55°	5438.5	5444.3	5356.6	5089.2	5041.2	5231.6	5527.0	5342.4	5110.7	5789.4	5284.6
57.5°	5013.9	5018.1	5248.2	5421.9	5590.8	5820.9	6158.5	6080.8	5811.0	6306.7	5846.5
60°	4037.2	4069.6	4581.9	5353.2	6218.9	6982.0	7064.8	6930.8	6555.8	6902.6	6577.3
62.5°	2884.3	2913.3	3506.7	4647.3	6145.3	8296.4	8738.3	8205.3	7566.3	7794.0	7605.2
65°	1515.4	1510.5	1969.8	3211.2	5176.1	8600.9	11375.2	10468.1	9268.8	9019.7	8598.4
67.5°	846.6	874.0	1051.9	1619.7	3373.5	7569.7	13059.4	13326.8	11635.9	9992.2	8555.4
69°	783.0	792.0	911.2	1252.2	2199.1	6245.5	12914.7	14190.0	12634.0	9996.3	8004.3
70°	760.6	770.5	879.0	1153.8	1847.3	5117.3	12387.4	14089.1	12876.5	9774.6	7502.7
72.5°	682.0	695.2	800.4	1037.1	1556.8	2637.7	9978.1	12058.8	11664.1	8543.0	5817.5
75°	581.8	604.2	763.0	1029.6	1474.9	1676.8	6654.3	8984.1	8681.2	6109.7	3300.6
77.5°	240.8	243.3	333.6	754.0	1547.6	1604.8	3576.3	5690.9	5038.0	2679.1	994.0
80°	168.0	164.7	166.4	220.1	1249.0	1615.6	1834.9	2894.3	2249.5	706.8	465.1
82.5°	141.5	139.9	146.5	138.2	423.0	1833.3	1534.4	1508.8	1059.4	380.8	221.8
85°	93.5	91.0	119.9	125.7	201.1	1455.9	1650.4	1186.0	789.6	203.5	94.4
87.5°	45.6	46.3	68.8	85.2	106.7	461.0	1580.8	937.8	610.0	88.6	38.0
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°	3293.2	3293.2	3293.2	3293.2	3293.2	3293.2	3293.2	3293.2	3293.2	3293.2	3293.2
2.5°	3240.2	3215.4	3193.1	3164.9	3143.4	3125.3	3100.3	3099.5	3095.5	3101.3	3102.9
5°	3168.2	3126.9	3063.9	2993.6	2944.0	2878.6	2814.8	2793.3	2769.2	2766.8	2774.3
7.5°	3059.8	2995.3	2887.6	2780.1	2672.5	2562.3	2458.2	2405.2	2353.9	2338.1	2345.6
10°	2939.0	2857.0	2692.3	2516.9	2365.5	2201.6	2042.6	1940.0	1846.5	1806.7	1816.7
12.5°	2844.7	2740.3	2508.6	2281.0	2054.2	1819.1	1609.8	1407.0	1253.9	1185.3	1189.3
15°	2763.5	2630.3	2336.4	2033.6	1749.7	1427.7	1137.2	902.2	768.1	718.4	716.7
17.5°	2675.8	2514.4	2156.9	1803.5	1435.1	1037.1	761.4	622.3	569.5	552.9	552.9
20°	2582.3	2395.2	1969.0	1552.7	1104.1	724.2	572.7	519.0	499.1	494.1	493.3
22.5°	2495.4	2278.5	1780.3	1285.3	798.6	549.6	487.6	466.7	463.5	467.6	467.6
25°	2426.6	2175.9	1589.0	1004.0	581.0	460.2	433.6	431.2	443.6	458.6	461.0
27.5°	2375.3	2084.0	1400.3	733.3	456.8	400.6	391.4	402.2	431.2	461.0	466.7
30°	2339.8	2005.4	1174.4	527.1	380.8	350.9	355.1	374.1	417.9	463.5	476.0
32.5°	2324.1	1941.6	946.8	404.7	325.3	308.7	319.5	344.2	389.8	435.3	450.2
35°	2338.9	1895.3	736.6	336.0	284.7	272.3	284.7	310.4	340.2	362.5	371.6
37.5°	2392.8	1878.7	554.5	297.9	258.2	245.9	255.7	273.1	286.4	294.7	298.9
40°	2506.1	1896.2	434.6	278.1	243.3	229.2	231.7	240.1	249.1	255.7	256.5
42.5°	2686.5	1953.2	386.6	270.6	234.3	216.0	211.9	217.7	227.6	236.6	238.4
45°	2926.5	2048.4	381.6	273.1	230.1	205.3	197.0	202.7	216.0	230.9	233.4
47.5°	3237.0	2199.1	404.7	286.4	232.6	199.5	187.1	192.9	210.3	230.1	233.4
50°	3604.4	2407.6	447.8	306.3	244.2	199.5	182.9	187.9	206.1	228.5	231.7
52.5°	4037.2	2698.1	492.4	326.1	260.7	206.9	184.5	183.8	200.3	221.0	225.1
55°	4514.8	3058.9	535.5	343.5	269.8	216.9	188.7	178.7	192.0	208.5	211.9
57.5°	5076.8	3553.1	610.8	360.0	274.8	224.3	193.7	173.8	181.3	192.9	195.3
60°	5839.1	4278.9	757.2	388.2	283.8	227.6	194.5	168.8	168.0	176.2	177.1
62.5°	6833.1	5128.9	897.1	421.3	302.1	228.5	191.2	165.5	157.3	159.7	159.7
65°	7539.9	5441.7	856.6	449.4	318.6	227.6	187.9	163.1	149.0	144.9	144.9
67.5°	7137.6	4807.0	727.4	456.8	320.3	218.5	180.4	157.3	141.5	131.5	131.5
69°	6546.7	4213.6	667.9	443.6	307.0	207.7	172.2	151.5	136.6	125.0	125.0
70°	6065.0	3764.1	631.5	427.9	291.2	198.7	164.7	145.7	131.5	121.8	120.8
72.5°	4528.0	2511.9	539.6	369.1	239.2	168.0	144.0	129.9	118.3	111.8	111.8
75°	2389.4	1258.8	442.0	301.2	184.5	134.1	118.3	109.3	102.6	101.8	100.9
77.5°	783.0	569.5	317.8	226.8	135.7	104.3	94.4	88.6	87.7	91.0	91.0
80°	423.0	340.2	204.5	153.1	94.4	77.8	72.8	72.0	74.6	79.4	79.4
82.5°	205.3	168.0	121.8	94.4	64.6	57.2	57.2	57.9	61.3	67.0	67.0
85°	88.6	79.4	70.4	53.0	39.8	35.6	40.5	44.7	47.2	51.4	53.0
87.5°	42.2	37.2	32.2	20.6	17.4	18.2	21.6	26.4	31.4	34.8	35.6
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)