

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: P270682

Luminaire Tested: **NAV-AF-06-D-UNV-SL4-7027-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P270682
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-06-D-UNV-SL4-7027-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(6) 70 CRI, 2700K, 615mA 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: 19671.8 lumens
Efficiency: N/A
Efficacy: 101.9 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B2 - U0 - G4

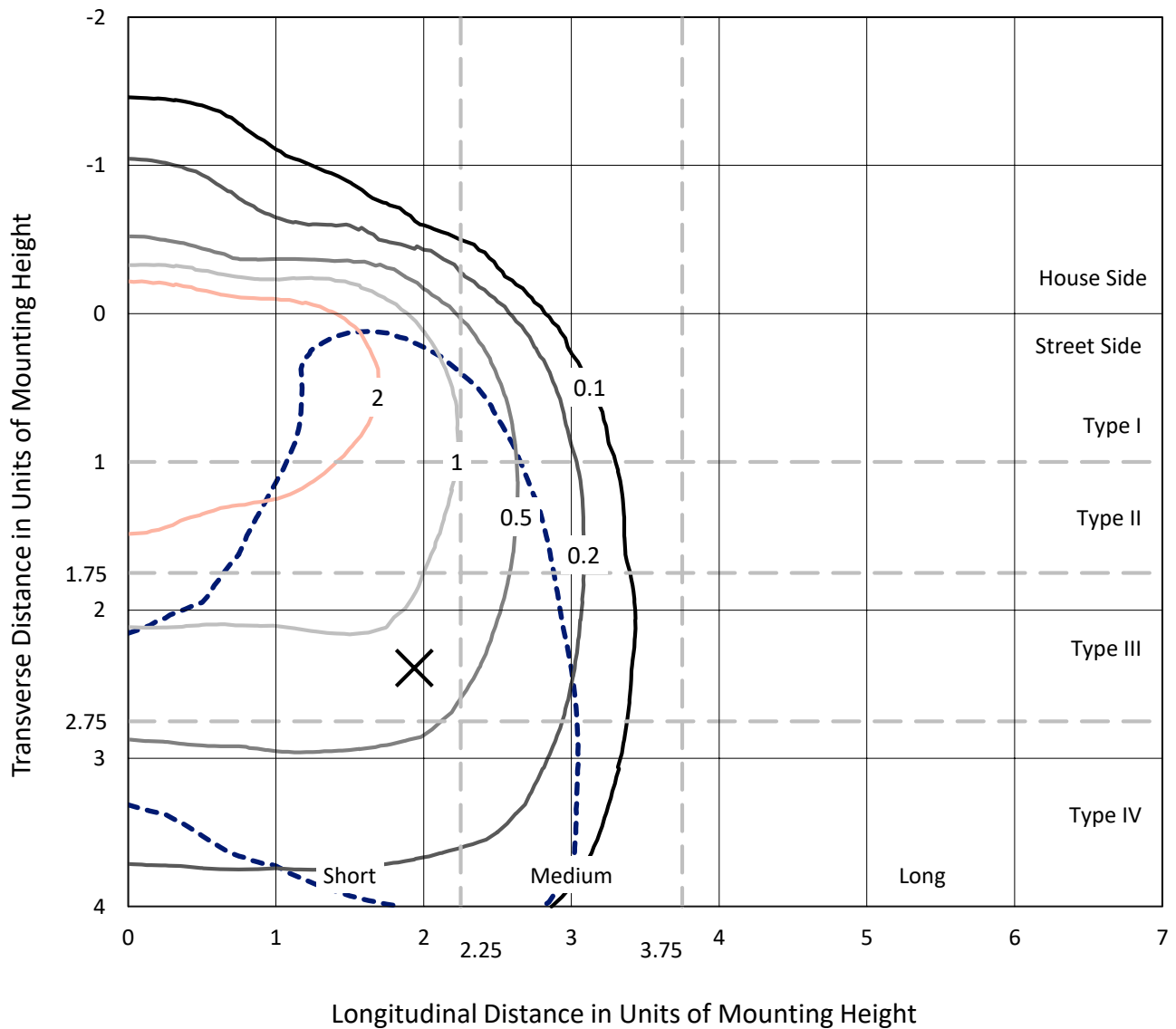
Input Watts (W): 193
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

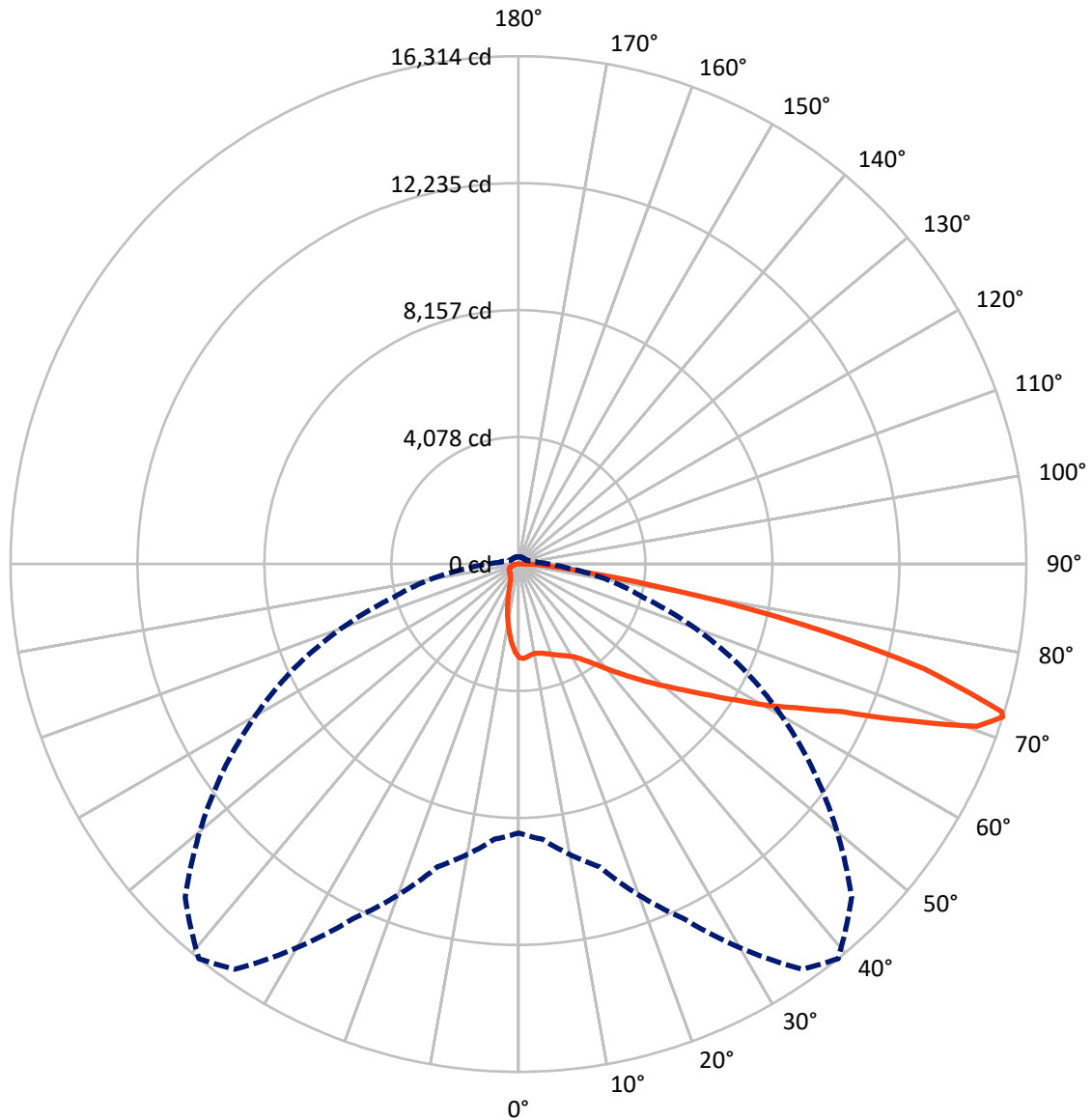
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.8 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	2255.6	0.0	2255.6
	% Fixture	11.5	0.0	11.5
Street Side	Lumens	17416.2	0.0	17416.2
	% Fixture	88.5	0.0	88.5
Total	Lumens	19671.8	0.0	19671.8
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	258.2	1.3
10°-20°	648.7	3.3
20°-30°	1011.0	5.1
30°-40°	1556.6	7.9
40°-50°	2537.6	12.9
50°-60°	3943.1	20.0
60°-70°	5277.7	26.8
70°-80°	3795.5	19.3
80°-90°	643.4	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°	19671.8	100.0
0°-180°	19671.8	100.0



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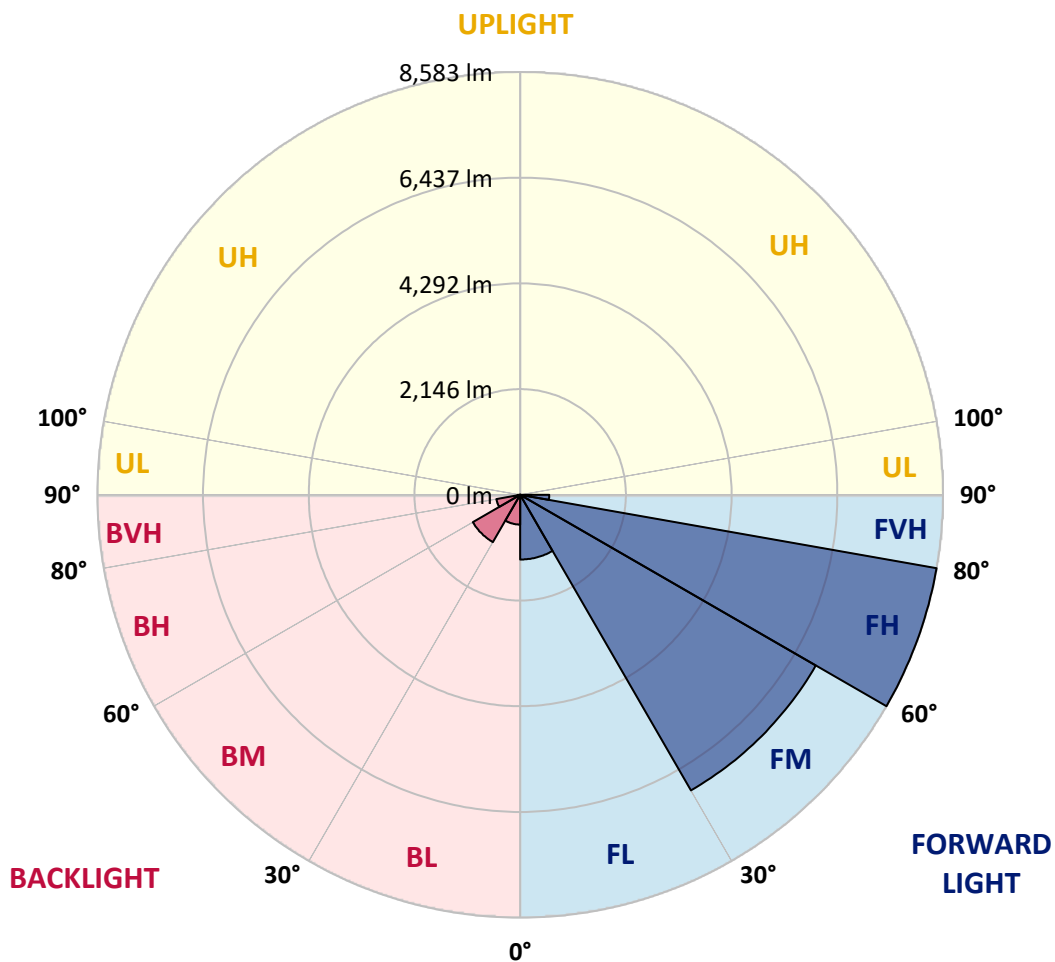
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1314.0	6.7			
FM	(30°-60°)	6928.8	35.2			
FH	(60°-80°)	8583.2	43.6			G4/12000
FVH	(80°-90°)	590.2	3.0			G4/750
BL	(0°-30°)	603.8	3.1	B2/1000		
BM	(30°-60°)	1108.5	5.6	B2/2500		
BH	(60°-80°)	490.1	2.5	B1/500		G1/500
BVH	(80°-90°)	53.2	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°	3004.2	3004.2	3004.2	3004.2	3004.2	3004.2	3004.2	3004.2	3004.2	3004.2	3004.2
2.5°	3069.0	3070.2	3066.4	3054.4	3043.8	3038.5	3029.4	3013.5	2992.3	2977.8	2965.9
5°	3040.0	3043.8	3041.2	3021.4	3002.9	2992.3	2977.8	2955.3	2927.7	2915.8	2888.1
7.5°	3017.4	3020.1	3012.1	2989.6	2954.0	2940.8	2914.5	2885.4	2860.4	2843.1	2810.1
10°	3001.5	3004.2	2997.6	2975.1	2935.7	2919.8	2888.1	2856.3	2823.4	2802.3	2765.3
12.5°	2979.1	2984.3	2984.3	2973.8	2947.5	2936.9	2905.2	2870.9	2840.5	2818.1	2771.8
15°	2975.1	2981.8	2993.7	2992.3	2984.3	2976.5	2951.4	2917.1	2890.7	2864.2	2807.6
17.5°	3008.2	3022.7	3046.5	3054.4	3049.1	3032.0	3002.9	2971.2	2942.2	2917.1	2847.1
20°	3091.3	3099.3	3134.9	3150.9	3124.5	3099.3	3061.1	3020.1	2993.7	2973.8	2884.1
22.5°	3216.8	3227.4	3256.4	3257.9	3202.3	3171.9	3123.0	3072.9	3047.8	3040.0	2934.3
25°	3417.6	3414.9	3422.8	3389.8	3289.5	3253.8	3194.5	3136.3	3119.2	3134.9	3008.2
27.5°	3657.9	3651.3	3626.2	3540.4	3388.5	3342.4	3271.0	3219.4	3219.4	3256.4	3108.6
30°	3935.3	3928.6	3846.7	3702.9	3506.1	3453.3	3377.9	3323.8	3351.5	3422.8	3244.6
32.5°	4228.4	4204.6	4089.8	3896.9	3673.8	3615.7	3543.1	3487.6	3540.4	3661.9	3440.0
35°	4504.5	4491.2	4350.0	4121.5	3890.3	3841.4	3791.2	3722.7	3807.1	3996.0	3716.0
37.5°	4789.7	4779.1	4606.1	4363.1	4154.4	4121.5	4079.2	4031.7	4167.6	4415.9	4089.8
40°	5107.9	5086.7	4868.9	4625.9	4462.2	4446.3	4423.9	4410.6	4629.9	4999.5	4562.5
42.5°	5468.4	5427.4	5146.2	4915.0	4797.6	4810.8	4798.8	4851.7	5187.2	5673.1	5125.0
45°	5880.3	5798.5	5422.2	5222.7	5168.6	5221.5	5246.6	5381.2	5846.1	6450.9	5753.6
47.5°	6265.9	6160.3	5724.5	5556.8	5587.2	5678.4	5749.6	5987.4	6568.3	7219.4	6395.5
50°	6621.1	6502.4	6048.1	5902.9	6050.8	6180.2	6328.1	6663.4	7336.9	8010.5	6984.3
52.5°	6884.0	6798.2	6371.7	6280.5	6582.9	6754.5	6991.0	7414.9	8113.4	8764.5	7509.9
55°	7087.4	7041.2	6687.3	6713.7	7185.2	7430.7	7717.2	8204.6	8934.8	9440.6	7932.6
57.5°	7322.4	7288.0	7047.7	7236.6	7932.6	8241.5	8579.6	9121.0	9716.5	10036.1	8264.0
60°	7570.6	7570.6	7449.3	7866.5	8867.4	9221.5	9558.1	9979.5	10495.6	10572.3	8398.7
62.5°	7758.2	7807.1	7850.6	8537.3	9754.9	10194.7	10564.3	10968.5	11302.6	10836.4	8081.7
65°	8030.3	8134.5	8380.2	9312.5	10853.6	11429.3	11928.6	12267.9	11956.3	10626.4	7047.7
67.5°	8497.6	8652.3	9175.2	10466.6	12535.9	13398.3	13882.9	13296.6	11828.2	9304.6	5398.4
70°	8919.0	9136.9	10030.8	11931.1	14722.9	15618.1	15395.0	13057.6	10301.6	6820.7	3321.2
72°	8639.0	8876.7	10070.4	12568.9	15891.5	16313.9	15137.3	11572.0	7960.2	4162.3	1637.5
72.5°	8455.4	8702.4	9942.4	12553.2	15923.1	16225.5	14779.5	10981.7	7226.1	3642.1	1324.6
75°	7063.6	7275.0	8549.2	11125.6	14032.2	13477.5	11533.7	7107.2	3321.2	1176.6	681.5
77.5°	4612.6	4773.8	5894.9	7708.0	9828.9	9295.3	7020.1	3327.9	1245.3	714.4	512.4
80°	2317.5	2432.4	3154.8	4052.8	5304.6	4880.8	3240.6	1609.8	833.3	516.3	402.8
82.5°	1612.4	1718.0	2172.3	2069.2	2217.1	2146.0	1524.0	1343.0	623.3	326.2	211.3
85°	1352.3	1461.8	1797.2	1475.0	1207.1	1100.1	1092.1	1269.0	412.1	161.1	178.3
87.5°	1179.3	1345.7	1483.0	1077.5	828.0	730.2	804.3	1163.5	130.8	88.5	54.2
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°	3004.2	3004.2	3004.2	3004.2	3004.2	3004.2	3004.2	3004.2	3004.2	3004.2	3004.2
2.5°	2946.1	2942.2	2922.4	2892.1	2869.5	2855.1	2827.2	2826.0	2828.7	2804.9	2814.1
5°	2863.0	2847.1	2795.5	2725.5	2668.9	2614.6	2555.3	2535.5	2518.3	2482.6	2486.6
7.5°	2775.9	2748.1	2658.3	2543.5	2433.8	2333.3	2234.4	2185.4	2148.6	2102.4	2102.4
10°	2724.3	2680.7	2543.5	2375.7	2201.3	2054.8	1906.8	1818.3	1753.8	1694.3	1690.3
12.5°	2721.7	2655.6	2464.1	2233.0	1994.0	1788.0	1586.0	1450.0	1353.6	1283.6	1277.0
15°	2742.7	2650.3	2398.1	2099.7	1798.5	1530.5	1281.0	1107.9	985.1	907.2	899.4
17.5°	2761.3	2643.7	2326.8	1959.7	1608.4	1282.2	1004.9	825.4	709.1	645.7	639.1
20°	2778.5	2629.2	2235.7	1811.8	1398.4	1049.8	785.7	640.4	563.9	528.3	524.3
22.5°	2803.5	2616.0	2140.7	1645.3	1192.5	854.4	648.3	544.1	503.1	486.0	483.3
25°	2844.5	2617.3	2048.1	1475.0	1003.6	711.7	561.3	496.6	474.0	462.2	462.2
27.5°	2904.0	2633.2	1957.0	1302.1	843.9	614.0	509.7	471.4	456.9	447.6	445.0
30°	2991.0	2662.2	1860.7	1138.3	717.0	546.7	479.3	455.6	443.8	435.8	434.5
32.5°	3117.7	2713.7	1759.1	989.2	620.6	499.2	456.9	442.3	433.2	426.5	425.2
35°	3306.7	2804.9	1659.9	862.4	552.0	464.9	438.5	426.5	421.2	418.6	417.4
37.5°	3584.0	2951.4	1566.1	763.3	507.2	442.3	420.0	413.3	410.6	410.6	410.6
40°	3932.6	3144.2	1481.7	693.3	482.0	425.2	406.8	401.5	401.5	402.8	402.8
42.5°	4356.5	3385.9	1409.0	645.7	467.5	413.3	397.5	394.9	393.5	393.5	394.9
45°	4849.1	3671.2	1364.2	608.8	456.9	406.8	390.9	389.5	384.2	381.6	381.6
47.5°	5344.2	3976.2	1361.6	587.6	443.8	398.8	384.2	384.2	373.8	368.5	369.7
50°	5806.5	4249.5	1390.5	582.3	435.8	386.9	377.6	378.9	364.4	357.9	356.5
52.5°	6178.8	4458.2	1426.1	589.0	435.8	376.4	365.8	372.3	356.5	348.6	347.4
55°	6466.7	4603.5	1439.4	603.5	441.1	367.0	355.2	365.8	353.9	343.3	343.3
57.5°	6672.7	4649.6	1382.6	610.0	449.1	365.8	344.7	364.4	357.9	344.7	344.7
60°	6597.4	4381.6	1171.3	584.9	447.6	363.2	336.8	367.0	371.1	356.5	356.5
62.5°	6009.8	3665.9	940.3	528.3	425.2	353.9	327.5	364.4	380.3	375.0	372.3
65°	4892.6	2688.6	729.0	460.9	386.9	334.1	307.7	340.6	359.2	364.4	365.8
67.5°	3448.0	1702.2	566.6	392.2	339.4	305.1	285.2	301.1	307.7	310.4	315.7
70°	1885.7	921.8	450.3	330.1	290.5	276.0	261.4	262.8	260.1	257.5	260.1
72°	946.9	602.1	380.3	286.6	257.5	248.2	241.6	237.7	237.7	233.6	235.0
72.5°	814.9	560.0	367.0	276.0	249.5	241.6	236.3	232.4	231.1	228.4	229.7
75°	542.8	443.8	306.3	231.1	212.5	207.2	209.9	206.0	207.2	204.6	206.0
77.5°	438.5	381.6	260.1	195.4	182.3	174.4	179.7	180.9	183.6	180.9	179.7
80°	367.0	324.8	217.8	161.1	151.9	145.3	148.0	157.2	158.6	150.6	149.2
82.5°	237.7	261.4	171.7	125.5	116.2	113.5	120.2	129.4	132.1	121.5	118.8
85°	199.5	209.9	124.1	85.9	76.5	73.9	87.1	96.4	102.9	92.4	89.8
87.5°	55.4	102.9	60.7	41.0	34.3	34.3	42.3	50.1	59.4	60.7	60.7
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)