

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: P197147

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P197147
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-05-D-UNV-SL4-8030-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 80 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: 18912 lumens
Efficiency: N/A
Efficacy: 90.1 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): 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

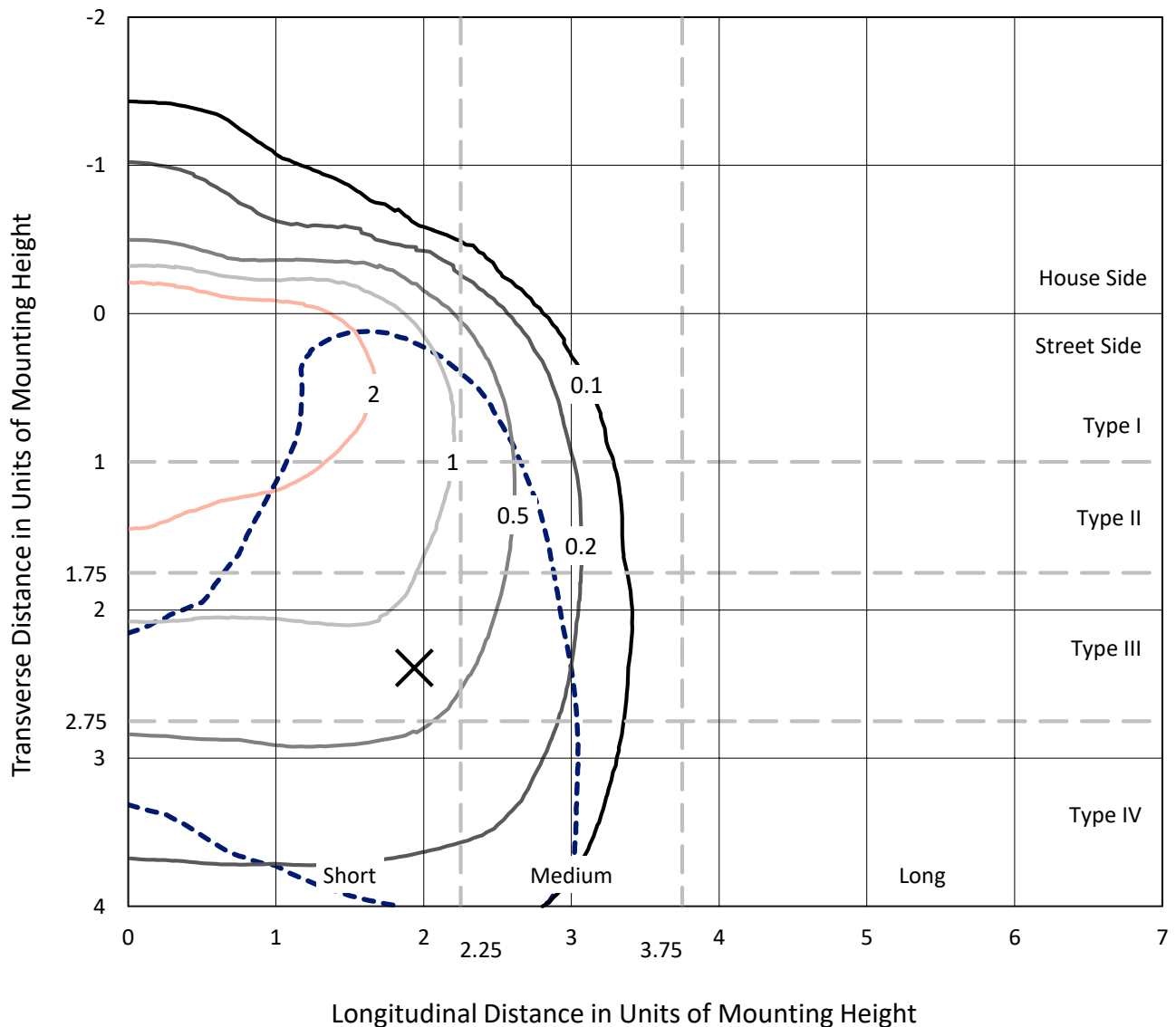


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Iso-Footcandle Lines of Horizontal Illumination

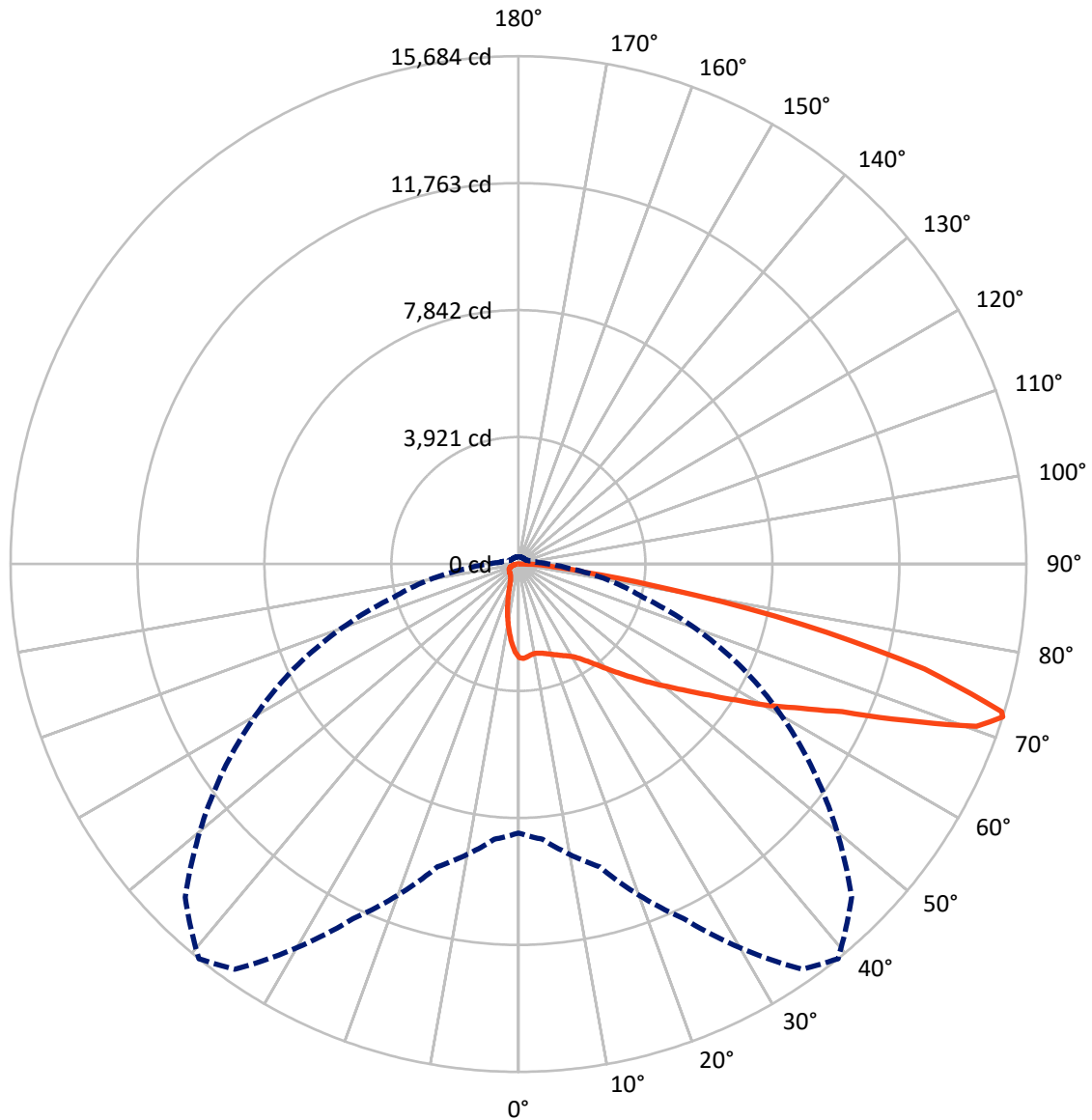
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.6 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	2168.5	0.0	2168.5
	% Fixture	11.5	0.0	11.5
Street Side	Lumens	16743.5	0.0	16743.5
	% Fixture	88.5	0.0	88.5
Total	Lumens	18912.0	0.0	18912.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	248.2	1.3
10°-20°	623.7	3.3
20°-30°	971.9	5.1
30°-40°	1496.5	7.9
40°-50°	2439.6	12.9
50°-60°	3790.8	20.0
60°-70°	5073.9	26.8
70°-80°	3648.9	19.3
80°-90°	618.6	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°	18912.0	100.0
0°-180°	18912.0	100.0

Coefficient of Utilization



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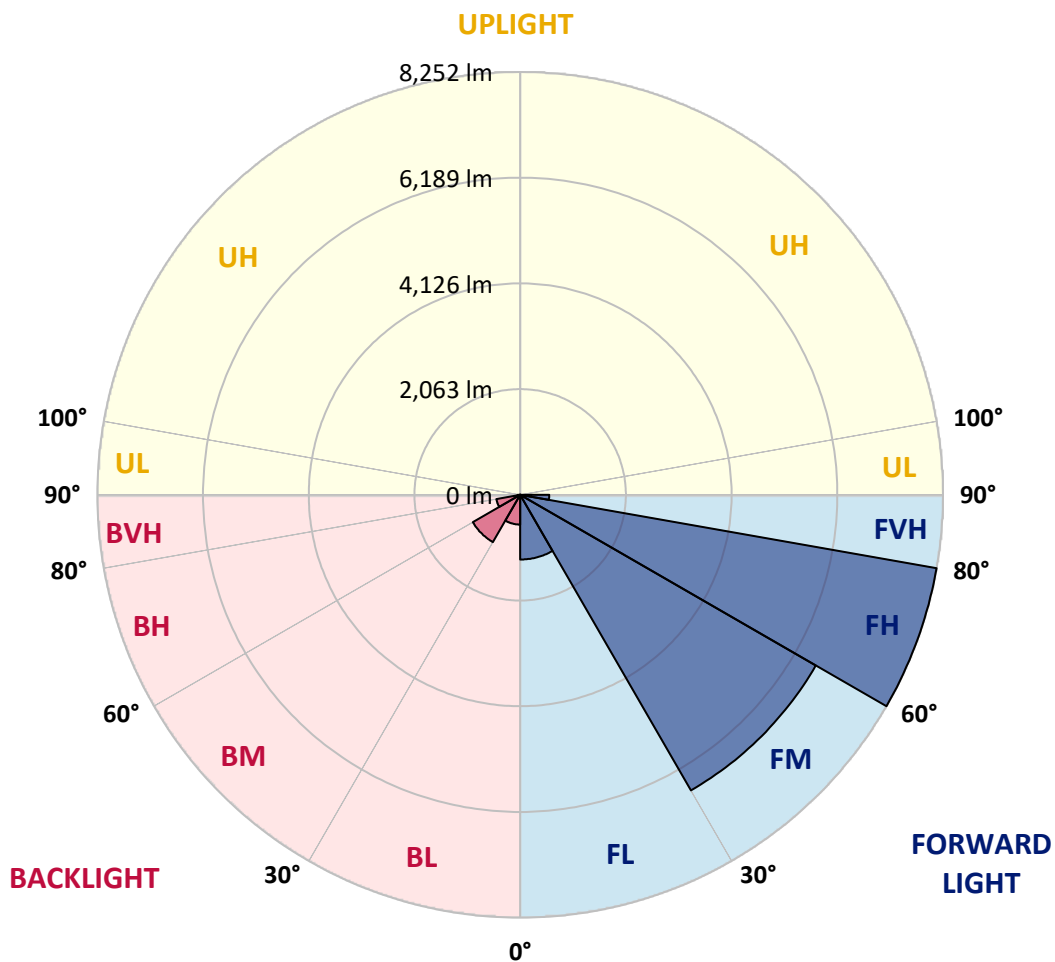
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1263.3	6.7			
FM	(30°-60°)	6661.2	35.2			
FH	(60°-80°)	8251.6	43.6			G4/12000
FVH	(80°-90°)	567.4	3.0			G4/750
BL	(0°-30°)	580.5	3.1	B2/1000		
BM	(30°-60°)	1065.7	5.6	B2/2500		
BH	(60°-80°)	471.1	2.5	B1/500		G1/500
BVH	(80°-90°)	51.1	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°	2888.2	2888.2	2888.2	2888.2	2888.2	2888.2	2888.2	2888.2	2888.2	2888.2	2888.2
2.5°	2950.4	2951.7	2947.9	2936.4	2926.3	2921.2	2912.3	2897.1	2876.8	2862.8	2851.4
5°	2922.5	2926.3	2923.7	2904.7	2886.9	2876.8	2862.8	2841.2	2814.6	2803.1	2776.5
7.5°	2900.9	2903.4	2895.8	2874.2	2840.0	2827.3	2801.9	2773.9	2749.8	2733.3	2701.6
10°	2885.7	2888.2	2881.9	2860.3	2822.2	2807.0	2776.5	2746.0	2714.3	2694.0	2658.4
12.5°	2864.1	2869.2	2869.2	2859.0	2833.6	2823.5	2793.0	2760.0	2730.8	2709.2	2664.8
15°	2860.3	2866.6	2878.0	2876.8	2869.2	2861.5	2837.4	2804.4	2779.0	2753.6	2699.0
17.5°	2892.0	2906.0	2928.8	2936.4	2931.4	2914.9	2886.9	2856.5	2828.5	2804.4	2737.1
20°	2972.0	2979.6	3013.9	3029.1	3003.7	2979.6	2942.8	2903.4	2878.0	2859.0	2772.7
22.5°	3092.6	3102.8	3130.7	3132.0	3078.6	3049.4	3002.5	2954.2	2930.1	2922.5	2820.9
25°	3285.6	3283.0	3290.6	3258.9	3162.4	3128.1	3071.0	3015.2	2998.7	3013.9	2892.0
27.5°	3516.6	3510.3	3486.2	3403.6	3257.6	3213.2	3144.6	3095.1	3095.1	3130.7	2988.5
30°	3783.2	3776.9	3698.2	3559.8	3370.6	3319.8	3247.5	3195.4	3222.1	3290.6	3119.3
32.5°	4065.1	4042.2	3931.8	3746.4	3531.9	3476.0	3406.2	3352.9	3403.6	3520.4	3307.1
35°	4330.4	4317.7	4181.9	3962.2	3740.1	3693.1	3644.8	3578.8	3660.1	3841.6	3572.5
37.5°	4604.6	4594.5	4428.2	4194.6	3994.0	3962.2	3921.6	3875.9	4006.7	4245.3	3931.8
40°	4910.6	4890.3	4680.8	4447.2	4289.8	4274.5	4253.0	4240.3	4451.0	4806.5	4386.3
42.5°	5257.2	5217.8	4947.4	4725.2	4612.2	4624.9	4613.5	4664.3	4986.8	5453.9	4927.1
45°	5653.3	5574.5	5212.7	5021.0	4969.0	5019.8	5043.9	5173.4	5620.3	6201.7	5531.4
47.5°	6024.0	5922.4	5503.5	5342.2	5371.4	5459.0	5527.6	5756.1	6314.7	6940.6	6148.4
50°	6365.5	6251.2	5814.5	5674.8	5817.0	5941.4	6083.6	6406.1	7053.6	7701.0	6714.6
52.5°	6618.1	6535.6	6125.5	6037.9	6328.7	6493.7	6720.9	7128.5	7800.0	8425.9	7219.9
55°	6813.6	6769.2	6428.9	6454.3	6907.6	7143.7	7419.2	7887.6	8589.7	9075.9	7626.1
57.5°	7039.6	7006.6	6775.5	6957.1	7626.1	7923.2	8248.2	8768.7	9341.3	9648.5	7944.8
60°	7278.3	7278.3	7161.5	7562.6	8525.0	8865.2	9188.9	9593.9	10090.3	10163.9	8074.3
62.5°	7458.5	7505.5	7547.4	8207.6	9378.1	9800.8	10156.3	10544.8	10866.0	10417.8	7769.6
65°	7720.1	7820.4	8056.5	8952.8	10434.3	10987.9	11467.7	11794.0	11494.4	10216.0	6775.5
67.5°	8169.5	8318.0	8820.8	10062.4	12051.7	12880.7	13346.7	12783.0	11371.3	8945.2	5189.9
70°	8574.5	8783.9	9643.4	11470.3	14154.1	15014.8	14800.3	12553.2	9903.7	6557.2	3192.9
72°	8305.3	8533.8	9681.5	12083.5	15277.6	15683.9	14552.7	11125.0	7652.8	4001.6	1574.2
72.5°	8128.9	8366.3	9558.4	12068.2	15308.1	15598.8	14208.7	10557.5	6946.9	3501.4	1273.3
75°	6790.8	6993.9	8219.0	10695.9	13490.1	12956.9	11088.2	6832.7	3192.9	1131.2	655.1
77.5°	4434.5	4589.4	5667.2	7410.3	9449.2	8936.3	6748.9	3199.2	1197.2	686.8	492.6
80°	2228.0	2338.5	3032.9	3896.2	5099.7	4692.2	3115.4	1547.6	801.1	496.4	387.2
82.5°	1550.1	1651.7	2088.4	1989.4	2131.6	2063.0	1465.0	1291.1	599.2	313.6	203.1
85°	1300.0	1405.4	1727.8	1418.1	1160.4	1057.5	1049.9	1220.0	396.1	154.9	171.4
87.5°	1133.7	1293.7	1425.7	1035.9	796.0	702.1	773.1	1118.5	125.7	85.1	52.1
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°	2888.2	2888.2	2888.2	2888.2	2888.2	2888.2	2888.2	2888.2	2888.2	2888.2	2888.2
2.5°	2832.3	2828.5	2809.5	2780.3	2758.7	2744.7	2718.1	2716.8	2719.4	2696.5	2705.4
5°	2752.4	2737.1	2687.6	2620.3	2565.7	2513.7	2456.6	2437.5	2421.0	2386.7	2390.5
7.5°	2668.6	2641.9	2555.6	2445.1	2339.8	2243.3	2148.1	2101.1	2065.5	2021.1	2021.1
10°	2619.1	2577.2	2445.1	2283.9	2116.3	1975.4	1833.2	1748.2	1685.9	1628.8	1625.0
12.5°	2616.5	2553.0	2369.0	2146.8	1917.0	1719.0	1524.7	1394.0	1301.3	1234.0	1227.6
15°	2636.8	2548.0	2305.5	2018.6	1729.1	1471.4	1231.5	1065.1	947.1	872.2	864.6
17.5°	2654.6	2541.6	2236.9	1884.0	1546.3	1232.7	966.1	793.5	681.7	620.8	614.5
20°	2671.1	2527.7	2149.3	1741.8	1344.4	1009.3	755.4	615.7	542.1	507.8	504.0
22.5°	2695.2	2515.0	2057.9	1581.8	1146.4	821.4	623.3	523.1	483.7	467.2	464.7
25°	2734.6	2516.2	1969.1	1418.1	964.8	684.3	539.6	477.3	455.8	444.3	444.3
27.5°	2791.7	2531.5	1881.5	1251.8	811.2	590.3	490.0	453.2	439.3	430.4	427.8
30°	2875.5	2559.4	1788.8	1094.3	689.4	525.6	460.8	438.0	426.6	418.9	417.7
32.5°	2997.4	2608.9	1691.0	950.9	596.7	479.9	439.3	425.3	416.4	410.1	408.8
35°	3178.9	2696.5	1595.8	829.0	530.7	446.9	421.5	410.1	405.0	402.4	401.2
37.5°	3445.5	2837.4	1505.7	733.8	487.5	425.3	403.7	397.4	394.8	394.8	394.8
40°	3780.7	3022.8	1424.4	666.5	463.4	408.8	391.0	385.9	385.9	387.2	387.2
42.5°	4188.2	3255.1	1354.6	620.8	449.4	397.4	382.1	379.6	378.3	378.3	379.6
45°	4661.7	3529.3	1311.4	585.3	439.3	391.0	375.8	374.5	369.4	366.9	366.9
47.5°	5137.8	3822.6	1308.9	564.9	426.6	383.4	369.4	369.4	359.3	354.2	355.5
50°	5582.2	4085.4	1336.8	559.9	418.9	372.0	363.1	364.4	350.4	344.0	342.8
52.5°	5940.2	4286.0	1371.1	566.2	418.9	361.8	351.7	358.0	342.8	335.2	333.9
55°	6216.9	4425.6	1383.8	580.2	424.0	352.9	341.5	351.7	340.2	330.1	330.1
57.5°	6415.0	4470.0	1329.2	586.5	431.6	351.7	331.3	350.4	344.0	331.3	331.3
60°	6342.6	4212.3	1126.1	562.4	430.4	349.1	323.7	352.9	356.7	342.8	342.8
62.5°	5777.7	3524.2	903.9	507.8	408.8	340.2	314.8	350.4	365.6	360.5	358.0
65°	4703.6	2584.8	700.8	443.1	372.0	321.2	295.8	327.5	345.3	350.4	351.7
67.5°	3314.8	1636.4	544.6	377.1	326.3	293.3	274.2	289.5	295.8	298.3	303.4
70°	1812.9	886.1	432.9	317.4	279.3	265.3	251.4	252.6	250.1	247.6	250.1
72°	910.3	578.9	365.6	275.5	247.6	238.7	232.3	228.5	228.5	224.7	226.0
72.5°	783.3	538.3	352.9	265.3	239.9	232.3	227.2	223.4	222.2	219.6	220.9
75°	521.8	426.6	294.5	222.2	204.4	199.3	201.9	198.0	199.3	196.8	198.0
77.5°	421.5	366.9	250.1	187.9	175.2	167.6	172.7	173.9	176.5	173.9	172.7
80°	352.9	312.3	209.5	154.9	146.0	139.6	142.2	151.1	152.3	144.7	143.5
82.5°	228.5	251.4	165.0	120.6	111.7	109.2	115.5	124.4	127.0	116.8	114.3
85°	191.7	201.9	119.3	82.5	73.6	71.1	83.8	92.7	99.0	88.9	86.3
87.5°	53.3	99.0	58.4	39.4	33.0	33.0	40.6	48.2	57.1	58.4	58.4
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)