

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: P195615

Luminaire Tested: **NAV-AF-03-D-UNV-SL2-7050**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195615
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24257)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-AF-03-D-UNV-SL2-7050
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 70 CRI, 5000K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II
SPILL LIGHT ELIMINATOR OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 17758 lumens
Efficiency: N/A
Efficacy: 107.0 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')
IES Classification: Type II - Medium - Semi-Cutoff
BUG Rating: B3 - U0 - G3

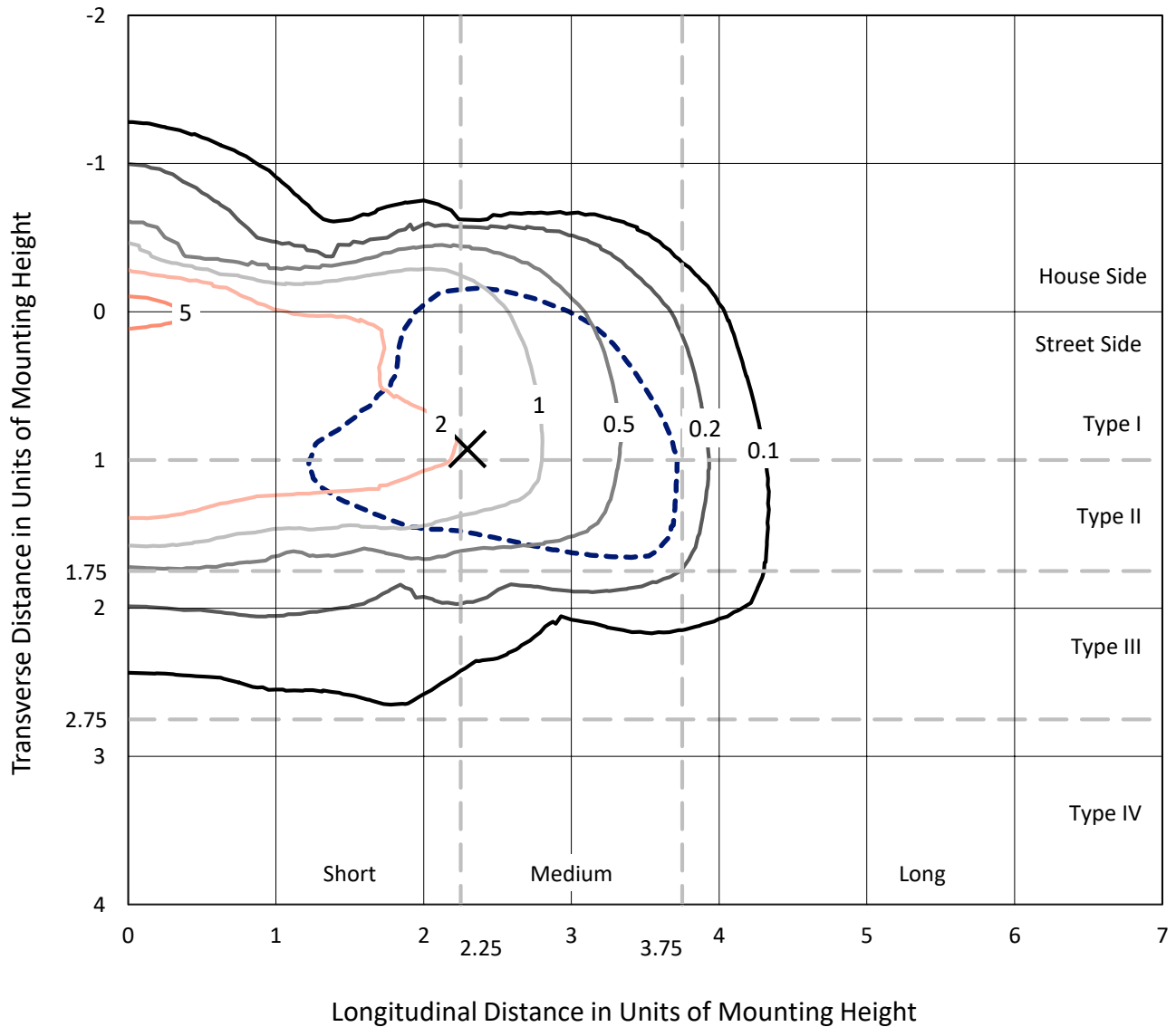
Input Watts (W): 166
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

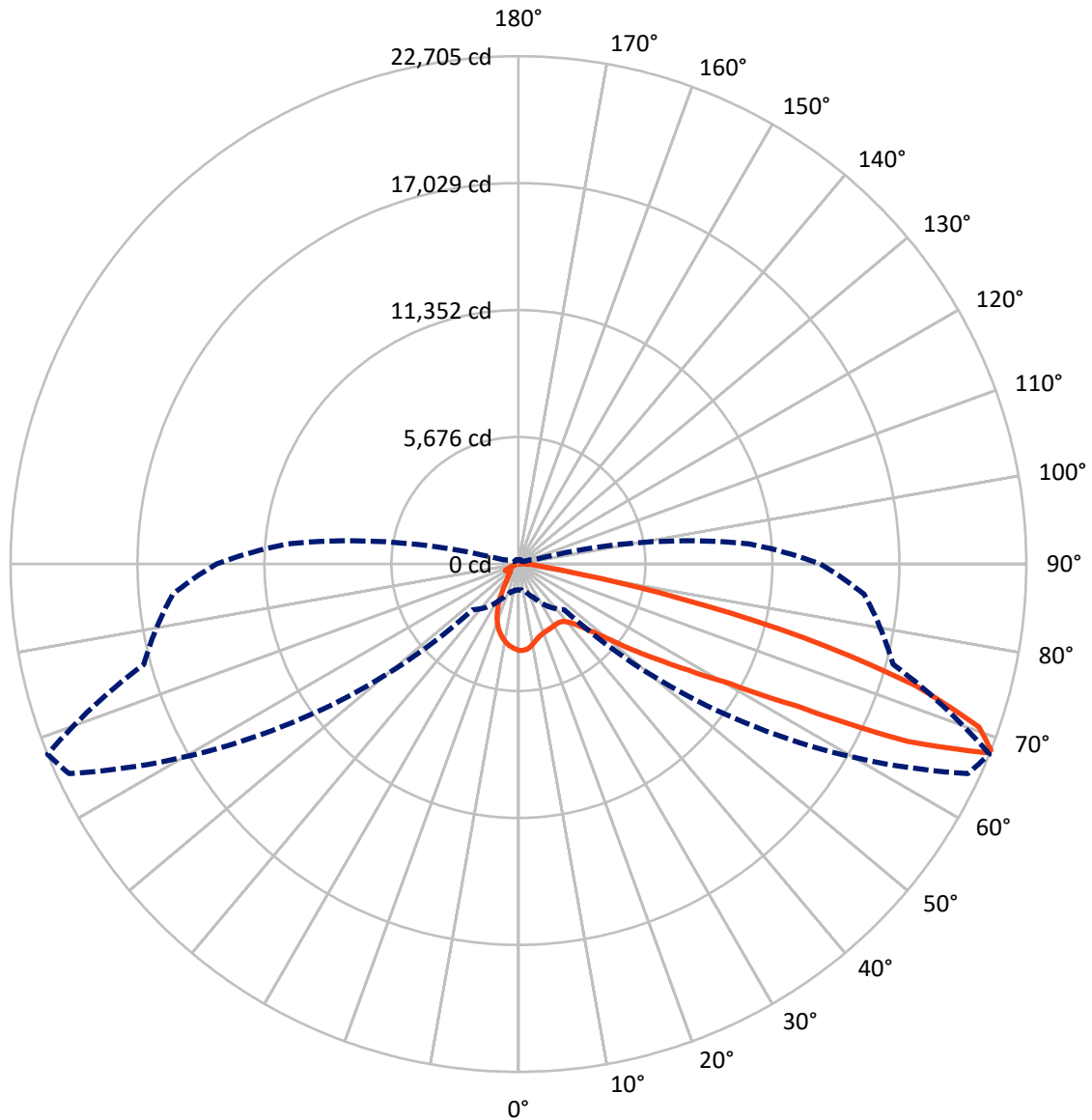
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 6.2 fc
 Type II - Medium - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 68-Deg Lateral - - - Horizontal Cone Through 68-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2905.3	0.0	2905.3
	% Fixture	16.4	0.0	16.4
Street Side	Lumens	14852.7	0.0	14852.7
	% Fixture	83.6	0.0	83.6
Total	Lumens	17758.0	0.0	17758.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	331.1	1.9
10°-20°	767.9	4.3
20°-30°	1038.5	5.8
30°-40°	1464.3	8.2
40°-50°	2407.9	13.6
50°-60°	3732.4	21.0
60°-70°	4839.3	27.3
70°-80°	2777.1	15.6
80°-90°	399.6	2.2
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°	17758.0	100.0
0°-180°	17758.0	100.0



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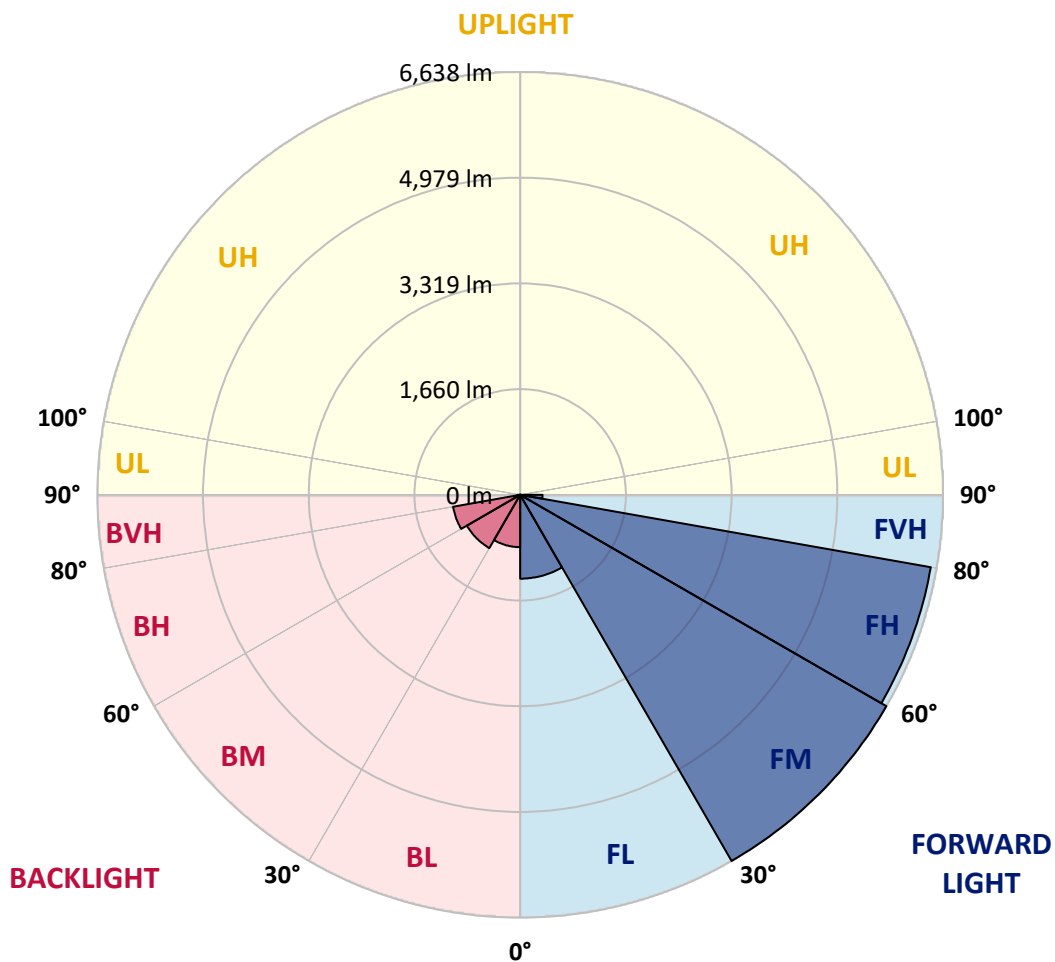
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1316.2	7.4			
FM	(30°-60°)	6638.2	37.4			
FH	(60°-80°)	6546.4	36.9			G3/7500
FVH	(80°-90°)	351.9	2.0			G3/500
BL	(0°-30°)	821.3	4.6	B2/1000		
BM	(30°-60°)	966.3	5.4	B1/1000		
BH	(60°-80°)	1070.0	6.0	B3/2500		G3/2500
BVH	(80°-90°)	47.6	0.3			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G3

Type II Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	68°	75°	85°
0°	3864.0	3864.0	3864.0	3864.0	3864.0	3864.0	3864.0	3864.0	3864.0	3864.0	3864.0
2.5°	3760.7	3790.9	3790.9	3812.9	3832.7	3848.9	3862.8	3862.8	3862.8	3853.5	3845.4
5°	3365.2	3405.8	3411.6	3467.3	3540.3	3629.7	3729.4	3817.6	3835.0	3867.5	3880.2
7.5°	3090.3	3103.0	3125.1	3163.3	3237.6	3347.8	3504.4	3701.6	3749.1	3851.2	3904.6
10°	2895.4	2905.8	2924.4	2962.7	3029.9	3129.7	3284.0	3540.3	3619.2	3800.2	3905.7
12.5°	2752.7	2760.8	2778.2	2813.0	2881.5	2970.8	3128.5	3395.3	3492.8	3749.1	3922.0
15°	2641.3	2655.3	2669.2	2702.8	2772.4	2858.3	3018.3	3289.8	3395.3	3708.5	3952.1
17.5°	2597.3	2604.2	2606.5	2623.9	2686.6	2773.6	2933.7	3215.5	3324.6	3676.1	3975.3
20°	2625.1	2626.3	2603.1	2591.5	2627.4	2707.5	2862.9	3159.9	3271.2	3647.1	3984.6
22.5°	2746.9	2746.9	2686.6	2635.5	2611.2	2661.1	2815.3	3121.6	3242.2	3625.0	3984.6
25°	2978.9	2968.5	2874.5	2773.6	2665.7	2644.8	2785.2	3097.2	3220.2	3613.4	3969.5
27.5°	3284.0	3274.7	3155.2	3005.6	2810.7	2679.6	2774.7	3077.5	3198.1	3596.0	3937.1
30°	3655.2	3647.1	3511.3	3315.3	3027.6	2789.8	2799.1	3063.6	3180.7	3567.0	3882.5
32.5°	4025.2	4020.6	3912.7	3712.0	3326.9	2976.6	2862.9	3061.3	3171.5	3532.2	3816.4
35°	4397.6	4397.6	4331.5	4162.1	3729.4	3257.3	2996.3	3104.2	3188.9	3513.7	3759.6
37.5°	4947.4	4925.4	4802.4	4627.3	4236.3	3621.5	3212.1	3194.7	3256.1	3545.0	3741.0
40°	5798.9	5735.1	5427.7	5133.0	4789.7	4087.9	3527.6	3369.8	3406.9	3651.7	3785.1
42.5°	6689.8	6588.8	6181.7	5710.7	5361.6	4663.2	3941.7	3654.0	3652.9	3858.2	3925.5
45°	7454.2	7402.0	6961.2	6363.8	6014.6	5310.5	4464.9	4076.3	4034.5	4178.3	4195.7
47.5°	7898.5	7863.7	7598.0	7055.2	6789.5	6075.0	5128.4	4662.1	4583.2	4669.0	4642.3
50°	7775.5	7809.2	7732.6	7455.4	7622.4	7149.1	5974.0	5464.8	5315.2	5401.0	5336.0
52.5°	7128.2	7218.7	7287.2	7340.5	8101.5	8586.4	7036.6	6467.0	6342.9	6327.8	6265.2
55°	5962.4	6106.3	6322.0	6714.1	7972.7	9740.6	8892.6	7679.2	7498.3	7403.2	7427.5
57.5°	4057.7	4275.8	4740.9	5486.8	7303.4	10232.4	11637.2	9245.3	8939.0	8600.3	8679.2
60°	2235.3	2417.5	2970.8	3722.5	5775.7	10159.3	14069.7	11790.3	10826.3	9928.5	10090.9
62.5°	1446.5	1486.0	1897.8	2542.7	3545.0	8969.2	15421.1	16044.1	14001.3	11680.1	11908.6
65°	1162.3	1190.2	1392.0	2050.9	2469.7	5769.9	15481.4	20456.7	19110.0	14060.4	14067.4
67.5°	1135.6	1148.4	1265.6	1724.9	2316.5	3141.3	13381.8	22196.7	22508.8	16870.0	15511.6
68°	1151.9	1167.0	1285.3	1671.6	2315.4	2895.4	12368.0	22170.0	22704.8	17339.8	15511.6
70°	1016.2	1034.7	1310.8	1729.6	2216.8	2489.4	8469.2	20992.6	21853.4	18419.7	14718.2
72.5°	531.3	516.2	648.4	1365.3	2495.2	2593.8	4474.1	17538.1	18542.7	17059.1	12716.0
75°	414.1	377.0	363.1	539.4	2194.7	2690.1	2598.4	12465.4	13224.1	12297.2	8499.4
77.5°	389.8	344.5	317.8	319.0	966.3	2799.1	2101.9	7335.9	7335.9	5866.2	2712.1
80°	313.2	271.4	254.0	290.0	466.3	2579.9	2193.6	3343.1	2851.3	1516.1	747.0
82.5°	206.5	184.4	185.6	235.5	353.8	1722.6	2540.4	1650.7	1240.0	671.6	439.6
85°	131.1	112.5	125.3	164.7	264.5	767.9	2514.9	1147.2	821.3	377.0	219.2
87.5°	66.1	51.0	62.6	85.8	161.2	220.4	2070.6	1024.3	609.0	156.6	119.5
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°	3864.0	3864.0	3864.0	3864.0	3864.0	3864.0	3864.0	3864.0	3864.0	3864.0	3864.0
2.5°	3845.4	3819.9	3807.1	3786.3	3760.7	3735.2	3717.8	3709.7	3705.1	3707.4	3706.2
5°	3873.3	3839.6	3785.1	3707.4	3627.3	3542.7	3477.7	3427.8	3396.5	3387.2	3384.9
7.5°	3894.1	3845.4	3743.3	3601.8	3464.9	3316.5	3190.0	3089.1	3020.7	2989.3	2988.2
10°	3890.7	3828.0	3666.8	3458.0	3257.3	3039.2	2840.9	2671.5	2548.5	2489.4	2487.1
12.5°	3894.1	3808.3	3572.8	3289.8	3002.1	2690.1	2395.4	2132.1	1948.8	1861.8	1858.3
15°	3908.1	3787.4	3476.5	3101.9	2704.0	2263.2	1842.1	1511.5	1344.4	1287.6	1287.6
17.5°	3906.9	3752.6	3365.2	2883.8	2350.2	1759.7	1257.4	1053.3	1037.0	1089.2	1097.4
20°	3883.7	3696.9	3221.3	2625.1	1934.9	1218.0	852.6	823.6	953.5	1097.4	1113.6
22.5°	3847.7	3625.0	3055.5	2324.7	1451.2	793.4	657.7	701.8	878.1	1056.8	1082.3
25°	3797.9	3538.0	2865.2	1975.5	965.1	570.7	548.7	603.2	727.3	846.8	865.4
27.5°	3724.8	3427.8	2657.6	1597.3	616.0	469.8	477.9	516.2	569.6	620.6	631.0
30°	3633.1	3299.1	2431.4	1178.6	467.5	419.9	433.8	457.0	480.2	512.7	519.7
32.5°	3540.3	3168.0	2195.9	809.7	408.3	393.2	407.2	419.9	439.6	461.7	466.3
35°	3456.8	3046.2	1953.5	564.9	382.8	375.8	382.8	390.9	410.6	432.7	435.0
37.5°	3396.5	2946.4	1700.6	446.6	367.7	360.8	364.2	367.7	390.9	423.4	426.9
40°	3388.4	2880.3	1444.2	401.4	356.1	346.8	344.5	346.8	377.0	414.1	417.6
42.5°	3467.3	2883.8	1193.6	382.8	346.8	336.4	327.1	331.8	358.4	387.4	389.8
45°	3654.0	2965.0	976.7	374.7	338.7	330.6	316.7	319.0	331.8	346.8	349.2
47.5°	3983.5	3142.5	810.8	370.0	331.8	324.8	307.4	300.4	301.6	309.7	309.7
50°	4510.1	3439.4	709.9	365.4	326.0	313.2	293.5	279.6	276.1	280.7	281.9
52.5°	5295.4	3948.7	661.2	356.1	315.5	298.1	276.1	262.2	256.4	261.0	261.0
55°	6356.8	4761.8	638.0	343.4	302.8	279.6	259.8	248.2	243.6	247.1	247.1
57.5°	7566.7	5818.6	677.4	326.0	286.5	259.8	245.9	237.8	234.3	237.8	239.0
60°	9004.0	7201.3	948.9	303.9	269.1	242.4	234.3	229.7	227.4	230.8	230.8
62.5°	10914.5	9041.1	1468.6	286.5	250.6	226.2	223.9	221.6	219.2	222.7	222.7
65°	12977.0	10715.0	1511.5	276.1	234.3	212.3	213.4	213.4	211.1	214.6	214.6
67.5°	13633.6	10570.0	844.5	263.3	214.6	198.4	203.0	203.0	201.8	205.3	204.2
68°	13494.4	10340.3	735.4	259.8	211.1	194.9	199.5	200.7	199.5	203.0	201.8
70°	12457.3	9078.2	483.7	240.1	196.0	183.3	190.2	191.4	190.2	194.9	193.7
72.5°	10283.5	6809.2	357.3	210.0	177.5	168.2	175.2	176.3	177.5	182.1	181.0
75°	6530.8	3760.7	281.9	178.6	158.9	150.8	157.8	161.2	163.6	170.5	167.0
77.5°	1788.7	1141.4	228.5	152.0	136.9	133.4	138.0	142.7	145.0	153.1	147.3
80°	626.4	504.6	190.2	128.8	113.7	112.5	117.2	121.8	124.1	131.1	124.1
82.5°	380.5	329.4	152.0	100.9	89.3	88.2	94.0	98.6	100.9	100.9	96.3
85°	198.4	174.0	111.4	70.8	61.5	58.0	68.4	74.2	75.4	74.2	70.8
87.5°	111.4	98.6	59.2	33.6	27.8	29.0	36.0	44.1	47.6	46.4	44.1
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)