

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: P195621

Luminaire Tested: **NAV-AF-03-D-UNV-SL2-7050-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195621
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-SL2-7050-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 70 CRI, 5000K, 1200mA 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: 19481 lumens
Efficiency: N/A
Efficacy: 102.0 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

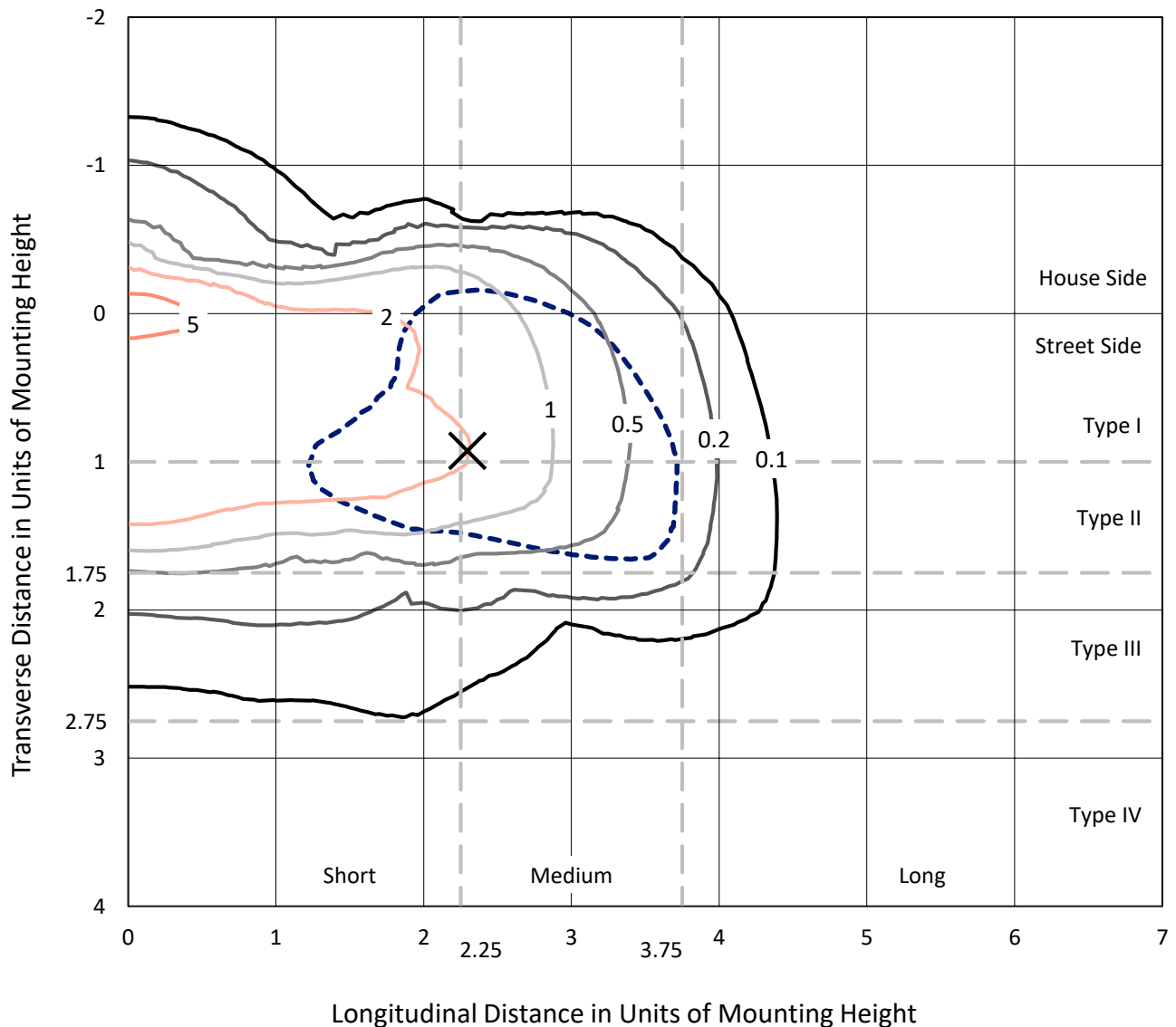
Input Watts (W): 191
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

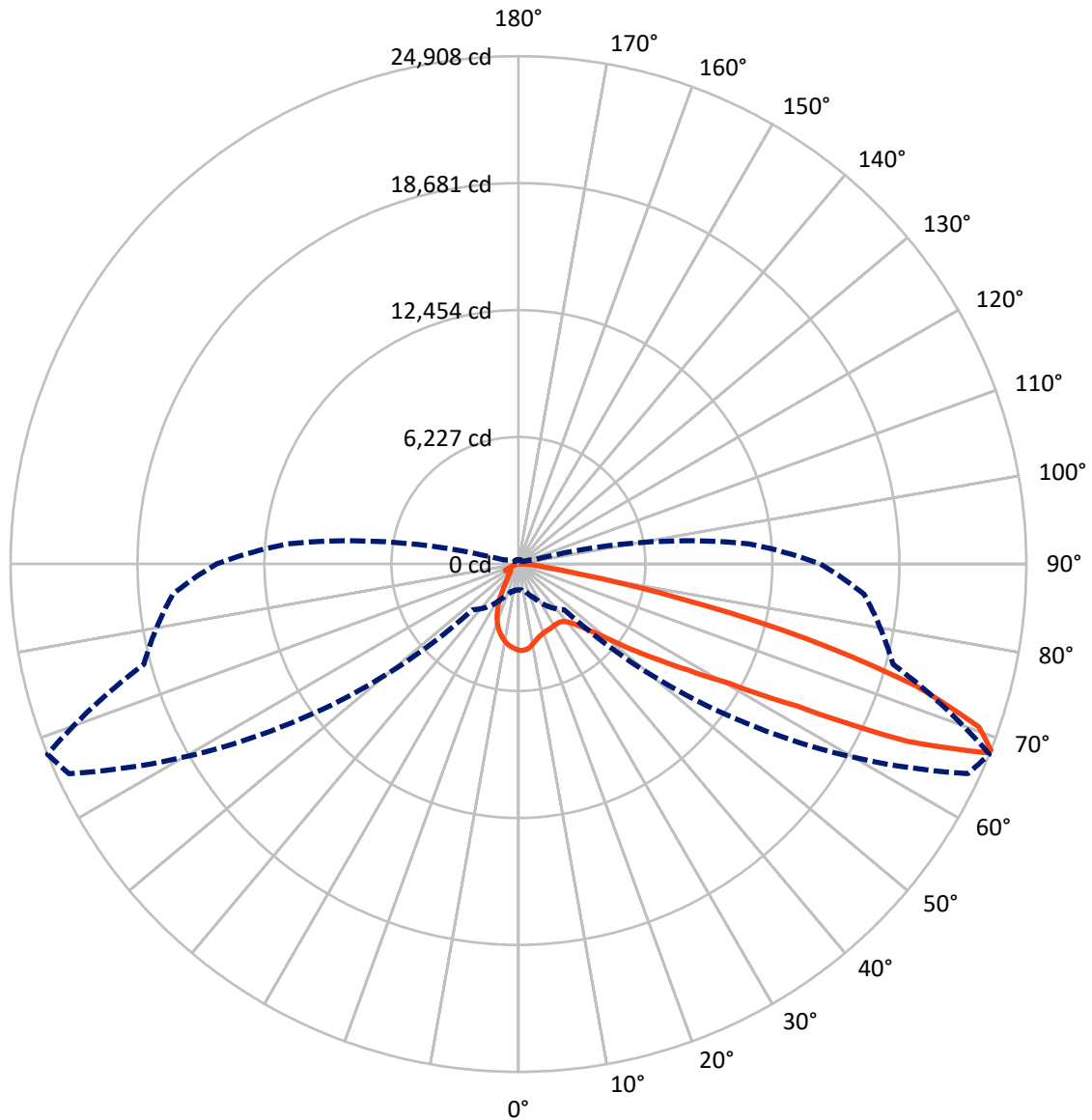
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 6.8 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	3187.2	0.0	3187.2
	% Fixture	16.4	0.0	16.4
Street Side	Lumens	16293.8	0.0	16293.8
	% Fixture	83.6	0.0	83.6
Total	Lumens	19481.0	0.0	19481.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	363.2	1.9
10°-20°	842.4	4.3
20°-30°	1139.3	5.8
30°-40°	1606.4	8.2
40°-50°	2641.5	13.6
50°-60°	4094.5	21.0
60°-70°	5308.9	27.3
70°-80°	3046.5	15.6
80°-90°	438.3	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°	19481.0	100.0
0°-180°	19481.0	100.0

Coefficient of Utilization



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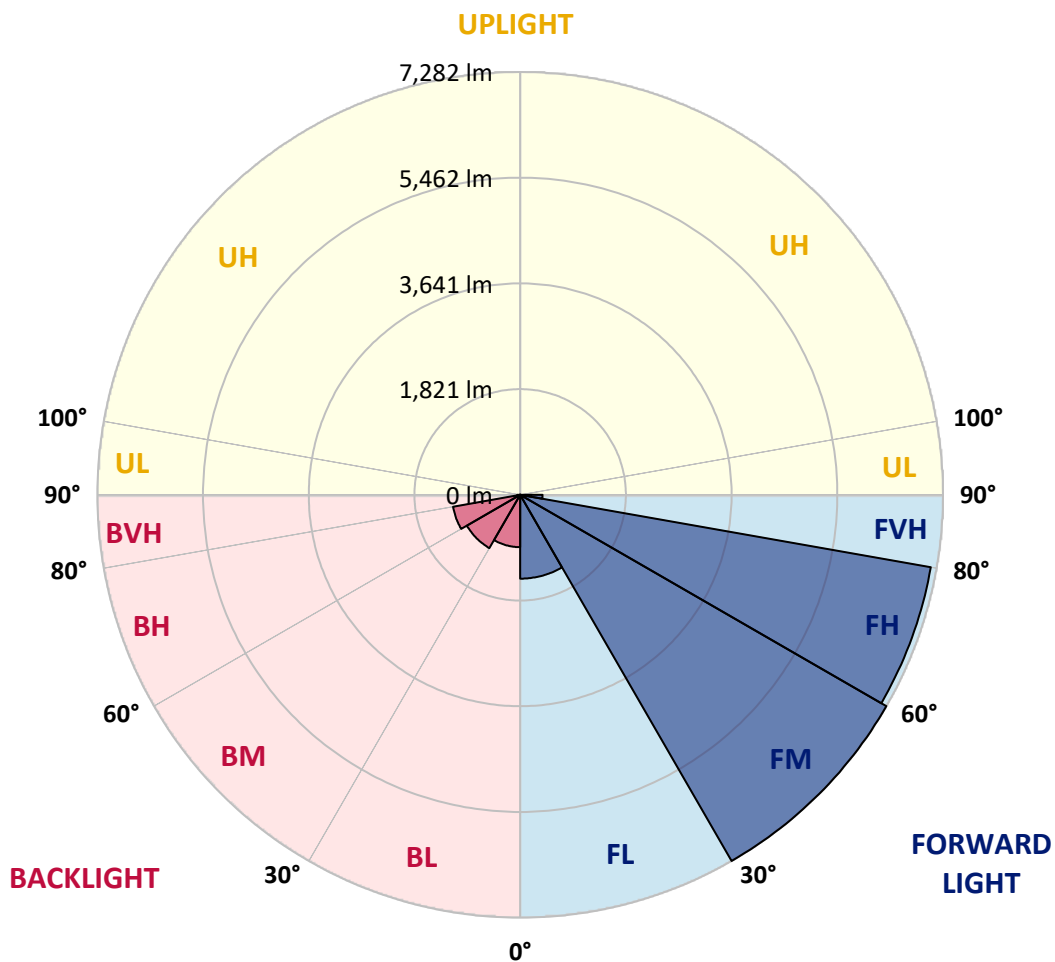
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1443.9	7.4			
FM (30°-60°)	7282.3	37.4			
FH (60°-80°)	7181.6	36.9			G3/7500
FVH (80°-90°)	386.1	2.0			G3/500
BL (0°-30°)	901.0	4.6	B2/1000		
BM (30°-60°)	1060.1	5.4	B2/2500		
BH (60°-80°)	1173.8	6.0	B3/2500		G3/2500
BVH (80°-90°)	52.2	0.3			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: 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°	4238.9	4238.9	4238.9	4238.9	4238.9	4238.9	4238.9	4238.9	4238.9	4238.9	4238.9
2.5°	4125.6	4158.7	4158.7	4182.9	4204.5	4222.3	4237.6	4237.6	4237.6	4227.4	4218.5
5°	3691.7	3736.2	3742.6	3803.7	3883.8	3981.8	4091.3	4188.0	4207.1	4242.7	4256.7
7.5°	3390.1	3404.1	3428.3	3470.3	3551.7	3672.6	3844.4	4060.7	4112.9	4224.9	4283.4
10°	3176.3	3187.8	3208.1	3250.1	3323.9	3433.4	3602.6	3883.8	3970.4	4168.9	4284.7
12.5°	3019.8	3028.7	3047.8	3086.0	3161.0	3259.0	3432.1	3724.8	3831.7	4112.9	4302.5
15°	2897.6	2912.9	2928.2	2965.1	3041.4	3135.6	3311.2	3609.0	3724.8	4068.4	4335.6
17.5°	2849.3	2856.9	2859.4	2878.5	2947.2	3042.7	3218.3	3527.5	3647.2	4032.7	4361.1
20°	2879.8	2881.1	2855.6	2842.9	2882.3	2970.2	3140.7	3466.4	3588.6	4000.9	4371.2
22.5°	3013.4	3013.4	2947.2	2891.3	2864.5	2919.2	3088.5	3424.5	3556.8	3976.7	4371.2
25°	3267.9	3256.5	3153.4	3042.7	2924.3	2901.4	3055.4	3397.7	3532.6	3964.0	4354.7
27.5°	3602.6	3592.4	3461.4	3297.2	3083.4	2939.6	3044.0	3376.1	3508.4	3944.9	4319.1
30°	4009.8	4000.9	3852.0	3637.0	3321.4	3060.5	3070.7	3360.8	3489.4	3913.1	4259.3
32.5°	4415.8	4410.7	4292.3	4072.2	3649.7	3265.4	3140.7	3358.3	3479.2	3874.9	4186.7
35°	4824.3	4824.3	4751.7	4565.9	4091.3	3573.3	3287.0	3405.4	3498.3	3854.6	4124.4
37.5°	5427.5	5403.3	5268.4	5076.2	4647.4	3972.9	3523.7	3504.6	3572.1	3888.9	4104.0
40°	6361.5	6291.5	5954.3	5631.1	5254.4	4484.5	3869.8	3696.8	3737.5	4006.0	4152.4
42.5°	7338.8	7228.1	6781.5	6264.8	5881.8	5115.7	4324.2	4008.6	4007.3	4232.5	4306.3
45°	8177.5	8120.2	7636.6	6981.3	6598.2	5825.8	4898.1	4471.8	4426.0	4583.8	4602.8
47.5°	8664.8	8626.7	8335.3	7739.7	7448.3	6664.4	5626.0	5114.4	5027.9	5122.0	5092.8
50°	8530.0	8566.9	8482.9	8178.7	8362.0	7842.8	6553.7	5995.0	5830.9	5925.0	5853.8
52.5°	7819.9	7919.1	7994.2	8052.7	8887.5	9419.5	7719.3	7094.5	6958.3	6941.8	6873.1
55°	6540.9	6698.7	6935.4	7365.6	8746.3	10685.7	9755.4	8424.3	8225.8	8121.5	8148.2
57.5°	4451.4	4690.7	5200.9	6019.2	8012.0	11225.2	12766.3	10142.3	9806.3	9434.7	9521.3
60°	2452.2	2652.0	3259.0	4083.6	6336.1	11145.1	15434.9	12934.3	11876.8	10891.8	11070.0
62.5°	1586.9	1630.1	2081.9	2789.4	3888.9	9839.4	16917.4	17600.8	15359.8	12813.4	13064.1
65°	1275.1	1305.6	1527.1	2249.9	2709.3	6329.7	16983.6	22441.6	20964.1	15424.7	15432.3
67.5°	1245.8	1259.8	1388.4	1892.3	2541.3	3446.1	14680.2	24350.4	24692.7	18506.8	17016.7
68°	1263.7	1280.2	1410.0	1833.8	2540.0	3176.3	13568.0	24321.1	24907.8	19022.2	17016.7
70°	1114.8	1135.1	1438.0	1897.4	2431.9	2730.9	9290.9	23029.5	23973.7	20207.0	16146.2
72.5°	582.8	566.3	711.4	1497.8	2737.3	2845.4	4908.3	19239.8	20341.8	18714.2	13949.8
75°	454.3	413.6	398.3	591.7	2407.7	2951.1	2850.5	13674.9	14507.2	13490.4	9324.0
77.5°	427.6	377.9	348.7	350.0	1060.0	3070.7	2305.9	8047.7	8047.7	6435.3	2975.2
80°	343.6	297.8	278.7	318.1	511.6	2830.2	2406.4	3667.5	3127.9	1663.2	819.5
82.5°	226.5	202.3	203.6	258.3	388.1	1889.7	2786.9	1810.9	1360.4	736.8	482.3
85°	143.8	123.4	137.4	180.7	290.1	842.4	2758.9	1258.6	901.0	413.6	240.5
87.5°	72.5	56.0	68.7	94.2	176.9	241.8	2271.5	1123.7	668.1	171.8	131.1
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°	4238.9	4238.9	4238.9	4238.9	4238.9	4238.9	4238.9	4238.9	4238.9	4238.9	4238.9
2.5°	4218.5	4190.5	4176.5	4153.6	4125.6	4097.6	4078.5	4069.6	4064.6	4067.1	4065.8
5°	4249.1	4212.2	4152.4	4067.1	3979.3	3886.4	3815.1	3760.4	3726.1	3715.9	3713.3
7.5°	4272.0	4218.5	4106.5	3951.3	3801.1	3638.2	3499.5	3388.8	3313.7	3279.4	3278.1
10°	4268.2	4199.4	4022.6	3793.5	3573.3	3334.1	3116.5	2930.7	2795.8	2730.9	2728.4
12.5°	4272.0	4177.8	3919.5	3609.0	3293.4	2951.1	2627.8	2339.0	2137.9	2042.5	2038.6
15°	4287.2	4154.9	3813.9	3402.8	2966.3	2482.8	2020.8	1658.1	1474.9	1412.5	1412.5
17.5°	4286.0	4116.7	3691.7	3163.6	2578.2	1930.5	1379.5	1155.5	1137.7	1194.9	1203.8
20°	4260.5	4055.6	3533.9	2879.8	2122.6	1336.2	935.3	903.5	1046.0	1203.8	1221.7
22.5°	4221.1	3976.7	3351.9	2550.2	1592.0	870.4	721.5	769.9	963.3	1159.3	1187.3
25°	4166.4	3881.3	3143.2	2167.2	1058.8	626.1	601.9	661.7	797.9	929.0	949.3
27.5°	4086.2	3760.4	2915.4	1752.3	675.7	515.4	524.3	566.3	624.8	680.8	692.3
30°	3985.7	3619.2	2667.3	1292.9	512.8	460.7	475.9	501.4	526.8	562.5	570.1
32.5°	3883.8	3475.4	2409.0	888.2	447.9	431.4	446.7	460.7	482.3	506.5	511.6
35°	3792.2	3341.7	2143.0	619.7	419.9	412.3	419.9	428.9	450.5	474.7	477.2
37.5°	3726.1	3232.3	1865.6	489.9	403.4	395.8	399.6	403.4	428.9	464.5	468.3
40°	3717.1	3159.8	1584.3	440.3	390.7	380.5	377.9	380.5	413.6	454.3	458.1
42.5°	3803.7	3163.6	1309.5	419.9	380.5	369.0	358.9	364.0	393.2	425.0	427.6
45°	4008.6	3252.7	1071.5	411.0	371.6	362.7	347.4	350.0	364.0	380.5	383.0
47.5°	4370.0	3447.4	889.5	405.9	364.0	356.3	337.2	329.6	330.9	339.8	339.8
50°	4947.7	3773.1	778.8	400.9	357.6	343.6	322.0	306.7	302.9	308.0	309.2
52.5°	5809.2	4331.8	725.4	390.7	346.1	327.0	302.9	287.6	281.2	286.3	286.3
55°	6973.6	5223.9	699.9	376.7	332.1	306.7	285.1	272.3	267.2	271.1	271.1
57.5°	8300.9	6383.2	743.2	357.6	314.3	285.1	269.8	260.9	257.1	260.9	262.1
60°	9877.6	7900.0	1041.0	333.4	295.2	266.0	257.1	252.0	249.4	253.2	253.2
62.5°	11973.5	9918.3	1611.1	314.3	274.9	248.1	245.6	243.1	240.5	244.3	244.3
65°	14236.1	11754.6	1658.1	302.9	257.1	232.9	234.2	234.2	231.6	235.4	235.4
67.5°	14956.4	11595.6	926.4	288.9	235.4	217.6	222.7	222.7	221.4	225.2	224.0
68°	14803.7	11343.6	806.8	285.1	231.6	213.8	218.9	220.2	218.9	222.7	221.4
70°	13666.0	9959.0	530.7	263.4	215.1	201.1	208.7	210.0	208.7	213.8	212.5
72.5°	11281.2	7469.9	391.9	230.3	194.7	184.5	192.2	193.4	194.7	199.8	198.5
75°	7164.5	4125.6	309.2	196.0	174.3	165.4	173.1	176.9	179.4	187.1	183.2
77.5°	1962.3	1252.2	250.7	166.7	150.2	146.3	151.4	156.5	159.1	168.0	161.6
80°	687.2	553.6	208.7	141.3	124.7	123.4	128.5	133.6	136.2	143.8	136.2
82.5°	417.4	361.4	166.7	110.7	98.0	96.7	103.1	108.2	110.7	110.7	105.6
85°	217.6	190.9	122.2	77.6	67.4	63.6	75.1	81.4	82.7	81.4	77.6
87.5°	122.2	108.2	64.9	36.9	30.5	31.8	39.4	48.4	52.2	50.9	48.4
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)