

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: P196101

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196101
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-SL2-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 70 CRI, 4000K, 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: 19928.1 lumens
Efficiency: N/A
Efficacy: 104.3 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

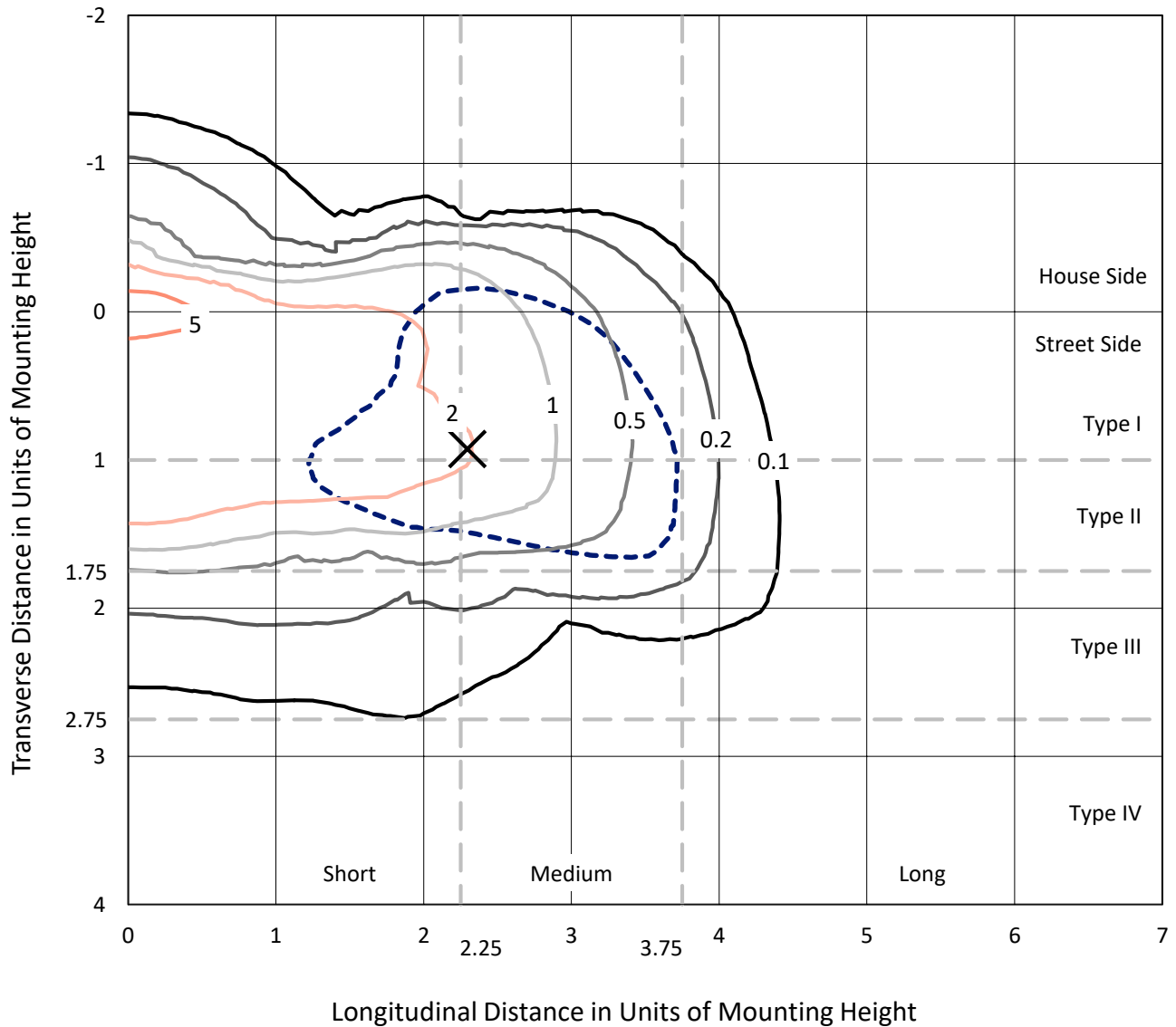
Input Watts (W): 191
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

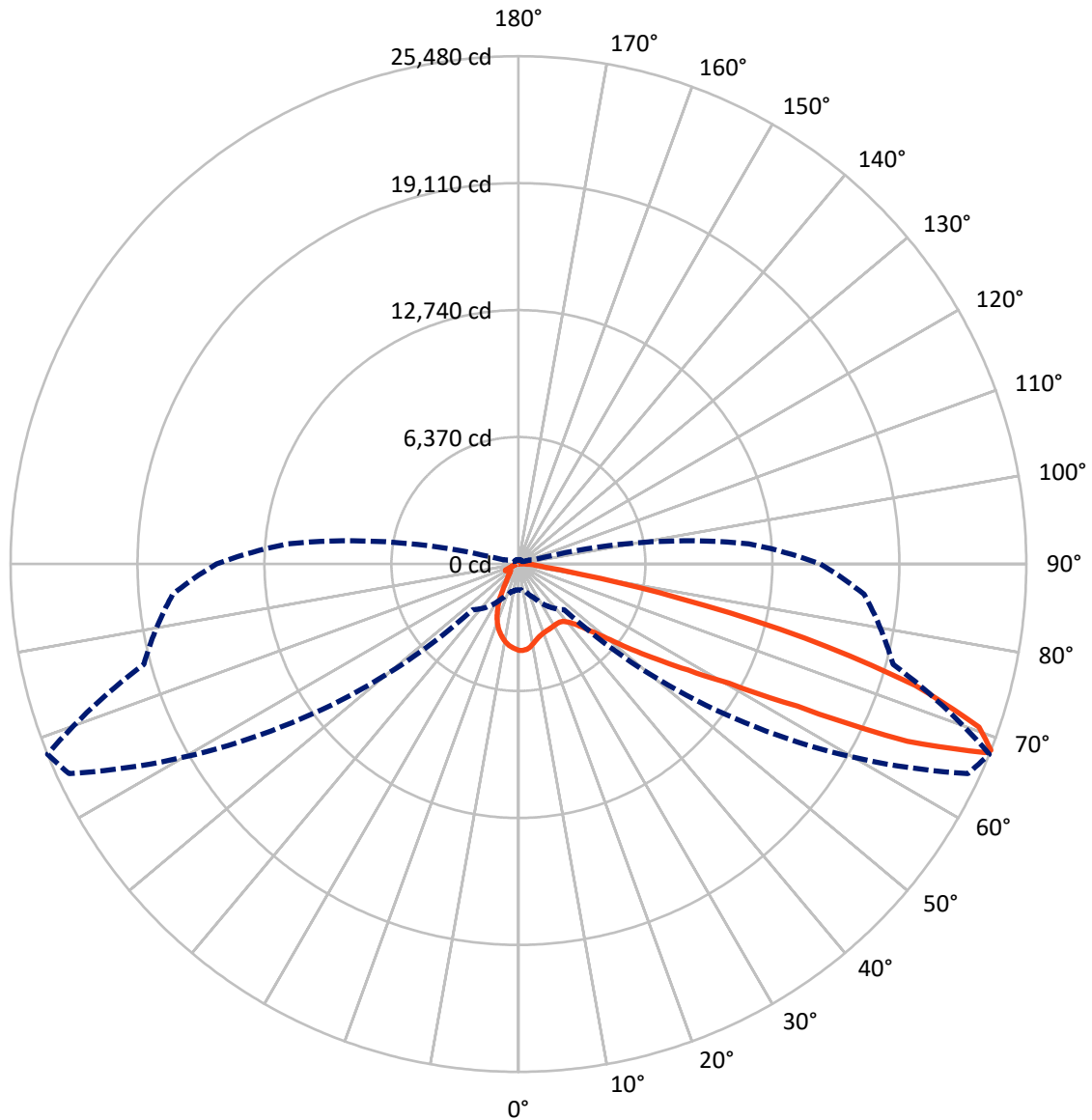
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 6.9 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	3260.3	0.0	3260.3
	% Fixture	16.4	0.0	16.4
Street Side	Lumens	16667.8	0.0	16667.8
	% Fixture	83.6	0.0	83.6
Total	Lumens	19928.1	0.0	19928.1
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	371.5	1.9
10°-20°	861.7	4.3
20°-30°	1165.5	5.8
30°-40°	1643.2	8.2
40°-50°	2702.1	13.6
50°-60°	4188.5	21.0
60°-70°	5430.7	27.3
70°-80°	3116.4	15.6
80°-90°	448.4	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°	19928.1	100.0
0°-180°	19928.1	100.0

Coefficient of Utilization



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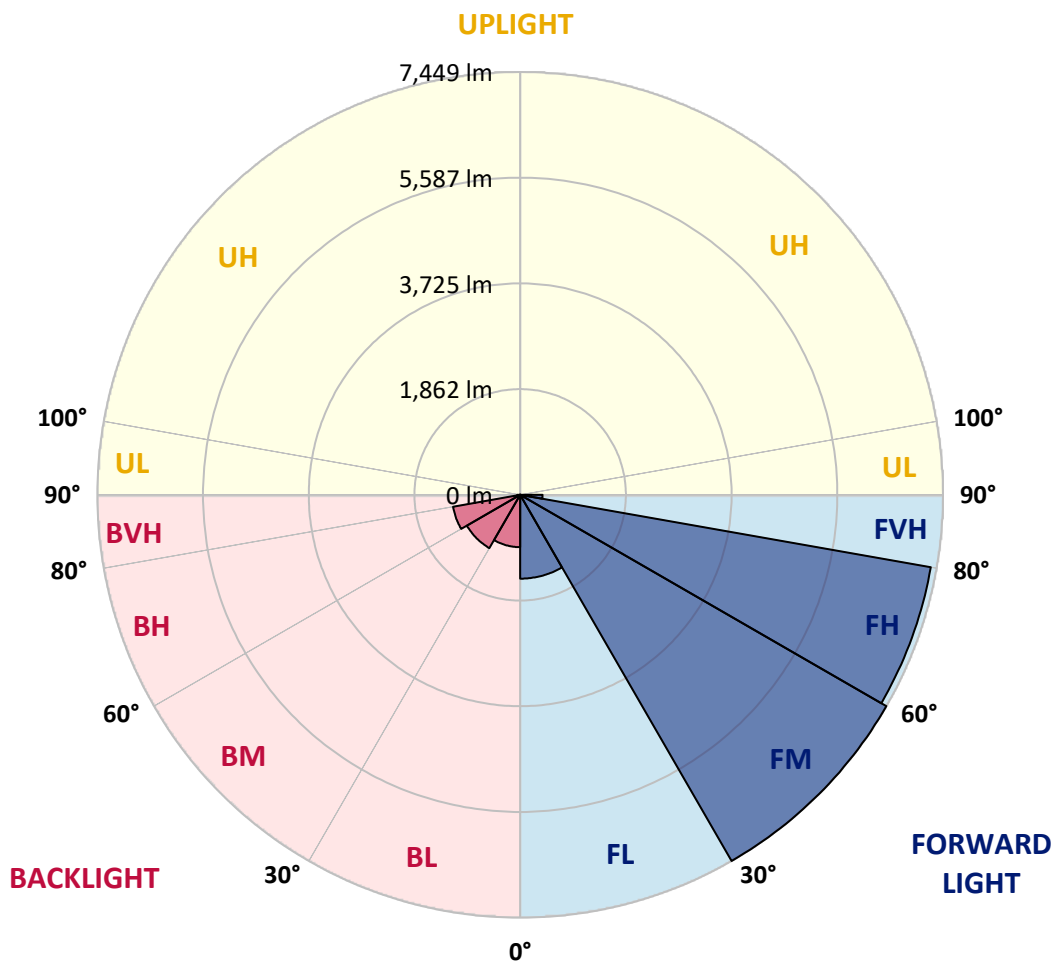
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1477.0	7.4			
FM (30°-60°)	7449.5	37.4			
FH (60°-80°)	7346.4	36.9			G3/7500
FVH (80°-90°)	394.9	2.0			G3/500
BL (0°-30°)	921.7	4.6	B2/1000		
BM (30°-60°)	1084.4	5.4	B2/2500		
BH (60°-80°)	1200.7	6.0	B3/2500		G3/2500
BVH (80°-90°)	53.4	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°	4336.2	4336.2	4336.2	4336.2	4336.2	4336.2	4336.2	4336.2	4336.2	4336.2	4336.2
2.5°	4220.3	4254.1	4254.1	4278.9	4301.0	4319.2	4334.9	4334.9	4334.9	4324.4	4315.3
5°	3776.4	3821.9	3828.5	3891.0	3972.9	4073.2	4185.2	4284.1	4303.7	4340.1	4354.4
7.5°	3467.9	3482.2	3507.0	3549.9	3633.2	3756.9	3932.6	4153.9	4207.3	4321.9	4381.7
10°	3249.2	3261.0	3281.7	3324.7	3400.2	3512.2	3685.3	3972.9	4061.5	4264.6	4383.0
12.5°	3089.1	3098.2	3117.7	3156.8	3233.5	3333.8	3510.9	3810.3	3919.6	4207.3	4401.2
15°	2964.1	2979.8	2995.4	3033.2	3111.2	3207.6	3387.2	3691.8	3810.3	4161.8	4435.1
17.5°	2914.7	2922.5	2925.0	2944.6	3014.8	3112.5	3292.2	3608.5	3730.9	4125.3	4461.2
20°	2945.9	2947.2	2921.1	2908.1	2948.5	3038.4	3212.8	3546.0	3671.0	4092.7	4471.5
22.5°	3082.6	3082.6	3014.8	2957.7	2930.2	2986.2	3159.4	3503.1	3638.4	4068.0	4471.5
25°	3342.9	3331.2	3225.8	3112.5	2991.4	2968.0	3125.5	3475.7	3613.7	4055.0	4454.6
27.5°	3685.3	3674.8	3540.8	3372.9	3154.2	3007.1	3113.9	3453.6	3588.9	4035.4	4418.2
30°	4101.8	4092.7	3940.4	3720.5	3397.6	3130.7	3141.2	3437.9	3569.5	4002.9	4357.1
32.5°	4517.1	4511.9	4390.8	4165.7	3733.5	3340.3	3212.8	3435.4	3559.1	3963.8	4282.8
35°	4935.0	4935.0	4860.8	4670.7	4185.2	3655.3	3362.4	3483.6	3578.6	3943.1	4219.1
37.5°	5552.1	5527.3	5389.3	5192.7	4754.1	4064.1	3604.6	3585.0	3654.1	3978.2	4198.2
40°	6507.5	6435.9	6091.0	5760.3	5375.0	4587.4	3958.6	3781.6	3823.3	4097.9	4247.7
42.5°	7507.2	7394.0	6937.1	6408.6	6016.8	5233.1	4423.4	4100.6	4099.3	4329.6	4405.1
45°	8365.2	8306.6	7811.9	7141.5	6749.6	5959.5	5010.5	4574.4	4527.6	4689.0	4708.4
47.5°	8863.7	8824.7	8526.6	7917.3	7619.2	6817.4	5755.1	5231.8	5143.3	5239.6	5209.7
50°	8725.8	8763.5	8677.6	8366.4	8553.9	8022.8	6704.1	6132.6	5964.7	6061.0	5988.1
52.5°	7999.4	8100.8	8177.7	8237.5	9091.5	9635.7	7896.5	7257.3	7118.0	7101.1	7030.8
55°	6691.0	6852.4	7094.6	7534.6	8947.0	10930.9	9979.3	8617.6	8414.6	8307.9	8335.2
57.5°	4553.6	4798.4	5320.3	6157.3	8195.9	11482.8	13059.3	10375.1	10031.4	9651.2	9739.8
60°	2508.5	2712.9	3333.8	4177.3	6481.5	11400.9	15789.1	13231.2	12149.4	11141.8	11324.1
62.5°	1623.3	1667.5	2129.7	2853.4	3978.2	10065.2	17305.7	18004.8	15712.3	13107.5	13363.9
65°	1304.4	1335.6	1562.1	2301.5	2771.5	6475.0	17373.4	22956.7	21445.2	15778.7	15786.5
67.5°	1274.4	1288.7	1420.3	1935.7	2599.6	3525.2	15017.1	24909.3	25259.4	18931.5	17407.2
68°	1292.7	1309.6	1442.4	1875.9	2598.3	3249.2	13879.4	24879.3	25479.5	19458.8	17407.2
70°	1140.4	1161.2	1471.0	1940.9	2487.7	2793.6	9504.1	23558.0	24523.9	20670.8	16516.8
72.5°	596.2	579.3	727.7	1532.2	2800.1	2910.7	5020.9	19681.4	20808.7	19143.7	14270.0
75°	464.7	423.1	407.4	605.3	2463.0	3018.8	2915.9	13988.8	14840.2	13800.0	9538.0
77.5°	437.4	386.6	356.7	358.0	1084.3	3141.2	2358.8	8232.4	8232.4	6583.0	3043.5
80°	351.5	304.6	285.1	325.4	523.3	2895.2	2461.6	3751.7	3199.7	1701.4	838.3
82.5°	231.7	206.9	208.3	264.2	397.0	1933.1	2850.9	1852.5	1391.6	753.7	493.4
85°	147.1	126.2	140.6	184.8	296.8	861.7	2822.2	1287.5	921.7	423.1	246.0
87.5°	74.2	57.3	70.3	96.4	181.0	247.3	2323.6	1149.5	683.4	175.7	134.1
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°	4336.2	4336.2	4336.2	4336.2	4336.2	4336.2	4336.2	4336.2	4336.2	4336.2	4336.2
2.5°	4315.3	4286.7	4272.4	4248.9	4220.3	4191.6	4172.1	4163.0	4157.9	4160.4	4159.1
5°	4346.6	4308.9	4247.7	4160.4	4070.6	3975.6	3902.7	3846.7	3811.6	3801.2	3798.5
7.5°	4370.0	4315.3	4200.7	4042.0	3888.3	3721.7	3579.8	3466.6	3389.8	3354.7	3353.3
10°	4366.2	4295.8	4114.9	3880.6	3655.3	3410.6	3188.0	2998.0	2860.0	2793.6	2791.0
12.5°	4370.0	4273.7	4009.5	3691.8	3369.0	3018.8	2688.1	2392.7	2187.0	2089.4	2085.4
15°	4385.6	4250.3	3901.4	3480.9	3034.4	2539.8	2067.2	1696.2	1508.8	1444.9	1444.9
17.5°	4384.4	4211.2	3776.4	3236.2	2637.4	1974.8	1411.2	1182.0	1163.8	1222.3	1231.4
20°	4358.3	4148.7	3615.0	2945.9	2171.3	1366.9	956.8	924.2	1070.0	1231.4	1249.7
22.5°	4318.0	4068.0	3428.8	2608.7	1628.5	890.4	738.1	787.6	985.4	1185.9	1214.5
25°	4262.0	3970.4	3215.3	2216.9	1083.1	640.5	615.7	676.9	816.2	950.3	971.1
27.5°	4180.0	3846.7	2982.3	1792.5	691.2	527.2	536.3	579.3	639.1	696.4	708.2
30°	4077.2	3702.3	2728.5	1322.6	524.6	471.3	486.8	512.9	538.9	575.4	583.2
32.5°	3972.9	3555.2	2464.3	908.6	458.2	441.3	457.0	471.3	493.4	518.1	523.3
35°	3879.2	3418.4	2192.2	633.9	429.5	421.8	429.5	438.7	460.8	485.6	488.2
37.5°	3811.6	3306.5	1908.4	501.1	412.7	404.9	408.8	412.7	438.7	475.2	479.0
40°	3802.4	3232.3	1620.7	450.4	399.7	389.2	386.6	389.2	423.1	464.7	468.6
42.5°	3891.0	3236.2	1339.6	429.5	389.2	377.5	367.1	372.4	402.2	434.8	437.4
45°	4100.6	3327.4	1096.1	420.4	380.1	371.0	355.4	358.0	372.4	389.2	391.8
47.5°	4470.3	3526.5	909.9	415.2	372.4	364.5	344.9	337.2	338.5	347.6	347.6
50°	5061.3	3859.7	796.7	410.1	365.8	351.5	329.4	313.7	309.9	315.1	316.3
52.5°	5942.5	4431.2	742.0	399.7	354.0	334.5	309.9	294.2	287.7	292.9	292.9
55°	7133.6	5343.8	716.0	385.3	339.7	313.7	291.6	278.5	273.3	277.3	277.3
57.5°	8491.4	6529.7	760.3	365.8	321.5	291.6	276.0	266.9	263.0	266.9	268.1
60°	10104.3	8081.3	1064.9	341.1	302.0	272.1	263.0	257.8	255.1	259.0	259.0
62.5°	12248.3	10145.9	1648.1	321.5	281.2	253.8	251.2	248.7	246.0	249.9	249.9
65°	14562.8	12024.4	1696.2	309.9	263.0	238.2	239.6	239.6	236.9	240.8	240.8
67.5°	15299.7	11861.7	947.7	295.5	240.8	222.6	227.8	227.8	226.5	230.4	229.1
68°	15143.5	11603.9	825.3	291.6	236.9	218.7	223.9	225.3	223.9	227.8	226.5
70°	13979.6	10187.6	542.9	269.4	220.0	205.7	213.5	214.8	213.5	218.7	217.4
72.5°	11540.1	7641.3	400.9	235.6	199.2	188.7	196.6	197.8	199.2	204.4	203.1
75°	7328.9	4220.3	316.3	200.5	178.3	169.2	177.1	181.0	183.5	191.4	187.4
77.5°	2007.3	1280.9	256.5	170.5	153.6	149.7	154.9	160.1	162.8	171.9	165.3
80°	703.0	566.3	213.5	144.5	127.6	126.2	131.4	136.7	139.3	147.1	139.3
82.5°	427.0	369.7	170.5	113.2	100.2	98.9	105.5	110.7	113.2	113.2	108.0
85°	222.6	195.3	125.0	79.4	68.9	65.1	76.8	83.3	84.6	83.3	79.4
87.5°	125.0	110.7	66.4	37.7	31.2	32.5	40.3	49.5	53.4	52.1	49.5
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)