

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: P195663

Luminaire Tested: **NAV-AF-03-D-UNV-SL3-7050**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195663
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24262)
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-SL3-7050
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 70 CRI, 5000K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III
SPILL LIGHT ELIMINATOR OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 18090 lumens
Efficiency: N/A
Efficacy: 109.0 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')
IES Classification: Type III - Medium - Non-Cutoff
BUG Rating: B2 - U0 - G3

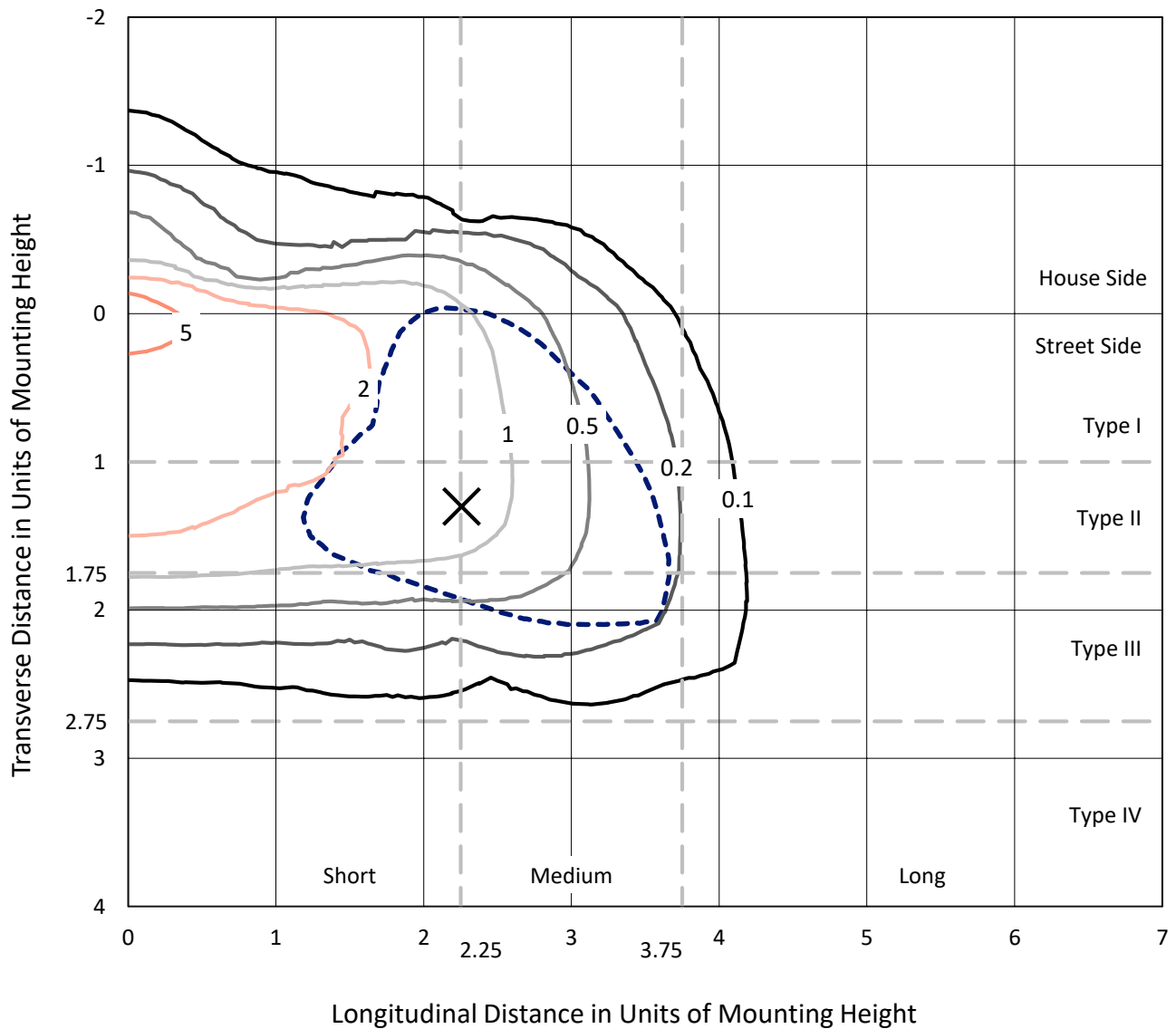
Input Watts (W): 166
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

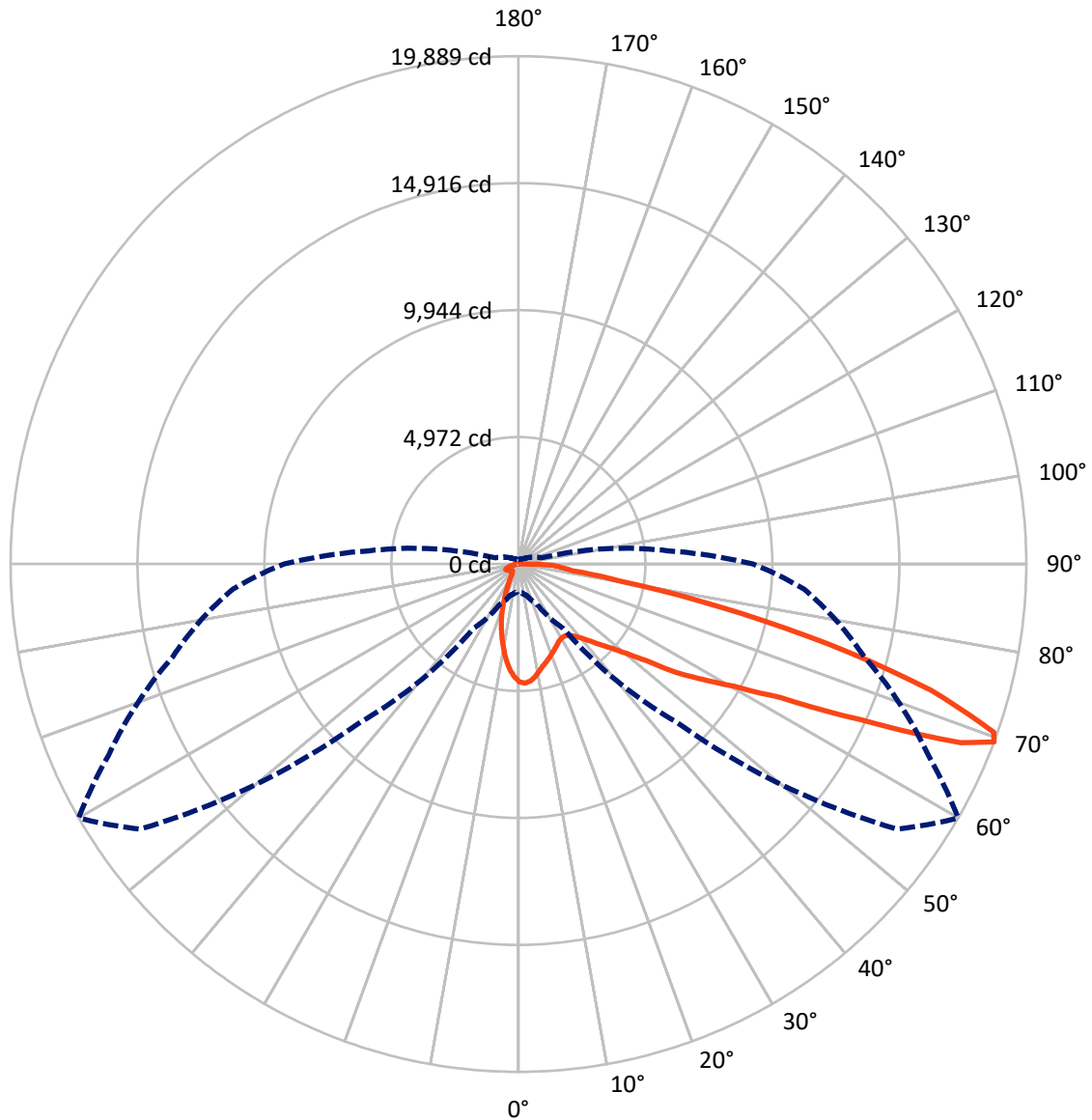
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 7.4 fc
 Type III - Medium - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 60-Deg Lateral - - - Horizontal Cone Through 69-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2580.2	0.0	2580.2
	% Fixture	14.3	0.0	14.3
Street Side	Lumens	15509.8	0.0	15509.8
	% Fixture	85.7	0.0	85.7
Total	Lumens	18090.0	0.0	18090.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	391.6	2.2
10°-20°	838.4	4.6
20°-30°	1069.5	5.9
30°-40°	1471.8	8.1
40°-50°	2384.0	13.2
50°-60°	3741.6	20.7
60°-70°	4988.2	27.6
70°-80°	2774.6	15.3
80°-90°	430.3	2.4
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°	18090.0	100.0
0°-180°	18090.0	100.0



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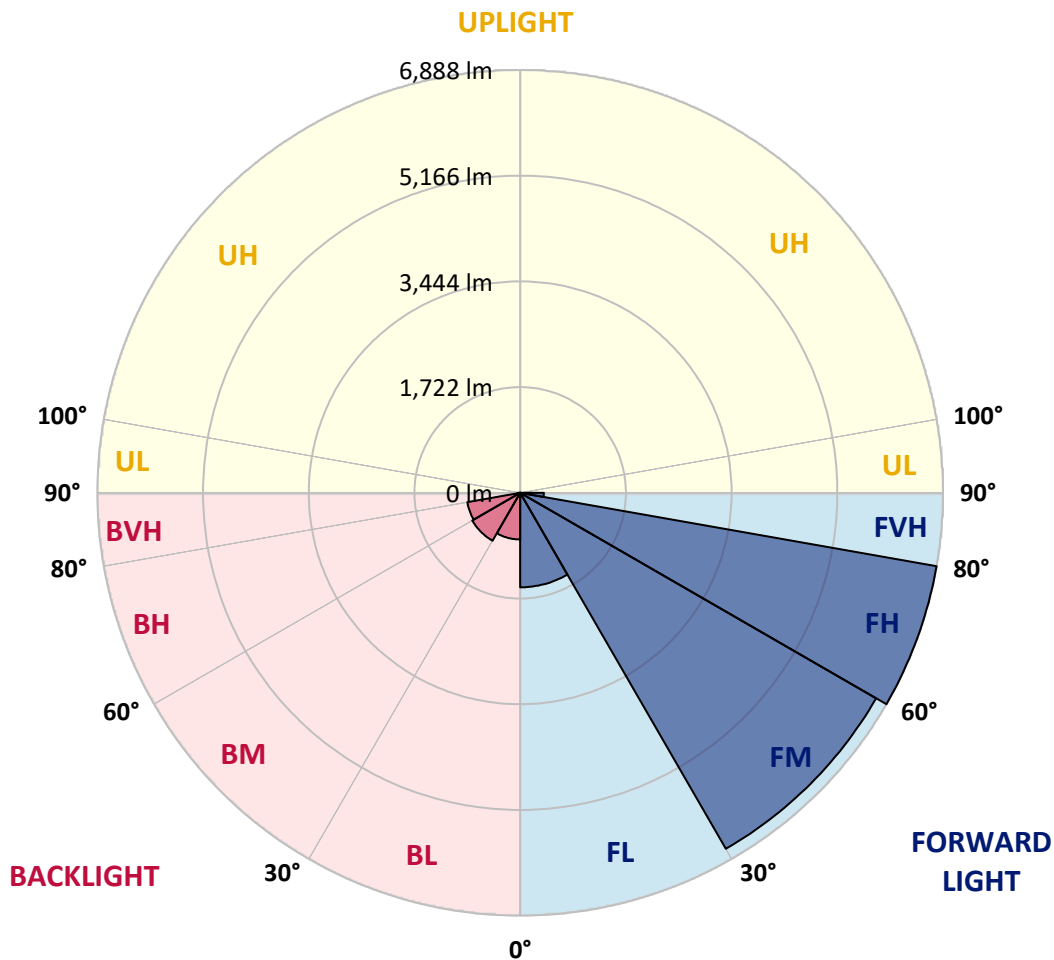
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1539.1	8.5			
FM	(30°-60°)	6696.0	37.0			
FH	(60°-80°)	6888.0	38.1			G3/7500
FVH	(80°-90°)	386.7	2.1			G3/500
BL	(0°-30°)	760.4	4.2	B2/1000		
BM	(30°-60°)	901.4	5.0	B1/1000		
BH	(60°-80°)	874.8	4.8	B2/1000		G2/1000
BVH	(80°-90°)	43.6	0.2			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G3

Type III Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	60°	65°	75°	85°
0°	4615.7	4615.7	4615.7	4615.7	4615.7	4615.7	4615.7	4615.7	4615.7	4615.7	4615.7
2.5°	4738.7	4751.4	4751.4	4741.0	4735.2	4701.6	4681.8	4667.9	4643.6	4598.3	4557.7
5°	4569.3	4593.7	4604.1	4608.8	4638.9	4628.5	4629.6	4620.4	4599.5	4550.8	4484.6
7.5°	4258.4	4263.1	4281.6	4313.0	4386.0	4437.1	4478.8	4487.0	4482.3	4446.4	4353.6
10°	3952.2	3960.3	3982.3	4035.7	4105.3	4178.4	4268.9	4306.0	4333.8	4322.2	4205.1
12.5°	3698.1	3699.3	3723.7	3785.1	3862.9	3954.5	4077.5	4135.5	4201.6	4228.3	4097.2
15°	3453.4	3469.6	3492.8	3567.1	3663.3	3779.3	3920.9	4000.9	4087.9	4164.5	4013.7
17.5°	3267.8	3280.5	3294.5	3355.9	3467.3	3612.3	3787.5	3873.3	3988.1	4105.3	3927.8
20°	3165.7	3170.3	3159.9	3190.1	3284.0	3440.6	3643.6	3746.9	3883.7	4048.5	3839.7
22.5°	3144.8	3144.8	3106.5	3100.7	3142.5	3274.7	3495.1	3621.6	3788.6	4009.0	3760.8
25°	3242.3	3235.3	3163.4	3097.3	3082.2	3149.5	3353.6	3509.1	3707.4	4007.9	3701.6
27.5°	3426.7	3417.4	3328.1	3216.7	3120.5	3091.5	3244.6	3403.5	3643.6	4047.3	3671.5
30°	3656.4	3652.9	3562.4	3423.2	3264.3	3114.7	3201.7	3349.0	3600.7	4120.4	3670.3
32.5°	3908.1	3891.9	3836.2	3697.0	3490.5	3243.4	3227.2	3351.3	3589.1	4227.1	3697.0
35°	4176.1	4164.5	4150.6	4010.2	3778.2	3470.8	3339.7	3431.3	3645.9	4375.6	3772.4
37.5°	4517.1	4504.4	4527.6	4374.4	4120.4	3768.9	3529.9	3591.4	3761.9	4591.4	3912.7
40°	5123.8	5086.7	5021.7	4786.2	4519.4	4134.3	3804.9	3814.1	3960.3	4880.2	4137.8
42.5°	6120.3	6000.8	5679.5	5246.8	4940.5	4558.9	4163.3	4119.2	4234.1	5261.9	4464.9
45°	7119.0	6984.5	6441.6	5749.1	5376.7	5014.8	4606.4	4500.9	4575.1	5706.1	4886.0
47.5°	7764.0	7697.9	7085.4	6251.3	5833.7	5511.3	5113.4	4939.4	4992.7	6209.6	5405.7
50°	7953.1	7896.3	7414.8	6644.6	6265.3	6111.0	5740.9	5510.1	5519.4	6797.7	6028.6
52.5°	7811.6	7788.4	7469.4	6888.2	6662.0	6743.2	6609.8	6288.5	6211.9	7442.7	6703.8
55°	7622.5	7630.6	7507.7	7133.0	7065.7	7332.5	7746.6	7487.9	7163.1	8114.3	7406.7
57.5°	7027.4	7033.2	7355.7	7599.3	7835.9	8158.4	8631.7	8522.7	8144.5	8839.4	8194.4
60°	5658.6	5703.8	6421.9	7503.0	8716.4	9785.9	9901.9	9714.0	9188.5	9674.6	9218.7
62.5°	4042.7	4083.3	4915.0	6513.5	8613.2	11628.0	12247.5	11500.4	10604.9	10923.9	10659.4
65°	2124.0	2117.0	2760.8	4500.9	7254.8	12054.9	15943.3	14671.9	12991.1	12641.9	12051.5
67.5°	1186.7	1225.0	1474.4	2270.2	4728.2	10609.5	18304.0	18678.6	16308.7	14004.9	11991.1
69°	1097.4	1110.1	1277.2	1755.1	3082.2	8753.5	18101.0	19888.5	17707.7	14010.7	11218.6
70°	1066.1	1080.0	1231.9	1617.1	2589.2	7172.4	17362.0	19747.0	18047.6	13699.8	10515.6
72.5°	955.9	974.4	1121.7	1453.5	2182.0	3697.0	13985.2	16901.5	16348.2	11973.7	8153.8
75°	815.5	846.8	1069.5	1443.1	2067.2	2350.2	9326.6	12592.0	12167.5	8563.3	4626.2
77.5°	337.6	341.0	467.5	1056.8	2169.2	2249.3	5012.4	7976.3	7061.0	3755.0	1393.2
80°	235.5	230.8	233.2	308.6	1750.5	2264.4	2571.8	4056.6	3152.9	990.7	651.9
82.5°	198.4	196.0	205.3	193.7	592.8	2569.4	2150.7	2114.7	1484.8	533.6	310.9
85°	131.1	127.6	168.2	176.3	281.9	2040.5	2313.1	1662.3	1106.7	285.4	132.2
87.5°	63.8	65.0	96.3	119.5	149.6	646.1	2215.6	1314.3	854.9	124.1	53.4
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°	4615.7	4615.7	4615.7	4615.7	4615.7	4615.7	4615.7	4615.7	4615.7	4615.7	4615.7
2.5°	4541.5	4506.7	4475.4	4435.9	4405.8	4380.2	4345.4	4344.3	4338.5	4346.6	4348.9
5°	4440.6	4382.6	4294.4	4195.8	4126.2	4034.6	3945.2	3915.1	3881.4	3877.9	3888.4
7.5°	4288.6	4198.1	4047.3	3896.5	3745.7	3591.4	3445.3	3371.0	3299.1	3277.1	3287.5
10°	4119.2	4004.4	3773.5	3527.6	3315.3	3085.7	2862.9	2719.1	2588.0	2532.3	2546.2
12.5°	3987.0	3840.8	3516.0	3197.0	2879.2	2549.7	2256.2	1972.0	1757.4	1661.1	1666.9
15°	3873.3	3686.5	3274.7	2850.2	2452.3	2001.0	1593.9	1264.4	1076.5	1006.9	1004.6
17.5°	3750.3	3524.1	3023.0	2527.7	2011.5	1453.5	1067.2	872.3	798.1	774.9	774.9
20°	3619.3	3357.1	2759.7	2176.2	1547.5	1015.0	802.7	727.3	699.5	692.5	691.4
22.5°	3497.5	3193.5	2495.2	1801.5	1119.4	770.3	683.3	654.3	649.6	655.4	655.4
25°	3401.2	3049.7	2227.2	1407.1	814.3	645.0	607.9	604.4	621.8	642.7	646.1
27.5°	3329.3	2920.9	1962.8	1027.8	640.3	561.4	548.7	563.8	604.4	646.1	654.3
30°	3279.4	2810.7	1646.1	738.9	533.6	491.8	497.6	524.3	585.8	649.6	667.0
32.5°	3257.3	2721.4	1327.1	567.2	455.9	432.7	447.8	482.6	546.4	610.2	631.1
35°	3278.2	2656.4	1032.4	471.0	399.0	381.6	399.0	435.0	476.8	508.1	520.8
37.5°	3353.6	2633.2	777.2	417.6	361.9	344.5	358.4	382.8	401.4	413.0	418.8
40°	3512.5	2657.6	609.0	389.8	341.0	321.3	324.8	336.4	349.2	358.4	359.6
42.5°	3765.4	2737.6	541.7	379.3	328.3	302.8	297.0	305.1	319.0	331.8	334.1
45°	4101.8	2871.1	534.8	382.8	322.5	287.7	276.1	284.2	302.8	323.6	327.1
47.5°	4536.8	3082.2	567.2	401.4	326.0	279.6	262.2	270.3	294.6	322.5	327.1
50°	5051.9	3374.5	627.6	429.2	342.2	279.6	256.4	263.3	288.8	320.2	324.8
52.5°	5658.6	3781.7	690.2	457.0	365.4	290.0	258.7	257.5	280.7	309.7	315.5
55°	6327.9	4287.4	750.5	481.4	378.2	303.9	264.5	250.6	269.1	292.3	297.0
57.5°	7115.6	4980.0	856.1	504.6	385.1	314.4	271.4	243.6	254.0	270.3	273.8
60°	8183.9	5997.3	1061.4	544.0	397.9	319.0	272.6	236.6	235.5	247.1	248.2
62.5°	9577.1	7188.6	1257.5	590.5	423.4	320.2	268.0	232.0	220.4	223.9	223.9
65°	10567.8	7627.1	1200.6	629.9	446.6	319.0	263.3	228.5	208.8	203.0	203.0
67.5°	10004.0	6737.4	1019.7	640.3	448.9	306.2	252.9	220.4	198.4	184.4	184.4
69°	9175.8	5905.7	936.1	621.8	430.4	291.2	241.3	212.3	191.4	175.2	175.2
70°	8500.6	5275.8	885.1	599.7	408.3	278.4	230.8	204.2	184.4	170.5	169.4
72.5°	6346.5	3520.7	756.3	517.4	335.2	235.5	201.8	182.1	165.9	156.6	156.6
75°	3349.0	1764.4	619.5	422.2	258.7	187.9	165.9	153.1	143.8	142.7	141.5
77.5°	1097.4	798.1	445.4	317.8	190.2	146.2	132.2	124.1	123.0	127.6	127.6
80°	592.8	476.8	286.5	214.6	132.2	109.0	102.1	100.9	104.4	111.4	111.4
82.5°	287.7	235.5	170.5	132.2	90.5	80.0	80.0	81.2	85.8	94.0	94.0
85°	124.1	111.4	98.6	74.2	55.7	49.9	56.8	62.6	66.1	71.9	74.2
87.5°	59.2	52.2	45.2	29.0	24.4	25.5	30.2	37.1	44.1	48.7	49.9
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)