

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: P270510

Luminaire Tested: **NAV-AF-04-D-UNV-SL2-7027-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P270510
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-04-D-UNV-SL2-7027-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 2700K, 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: 22795.9 lumens
Efficiency: N/A
Efficacy: 88.4 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type II - Medium - Semi-Cutoff
BUG Rating: B3 - U0 - G4

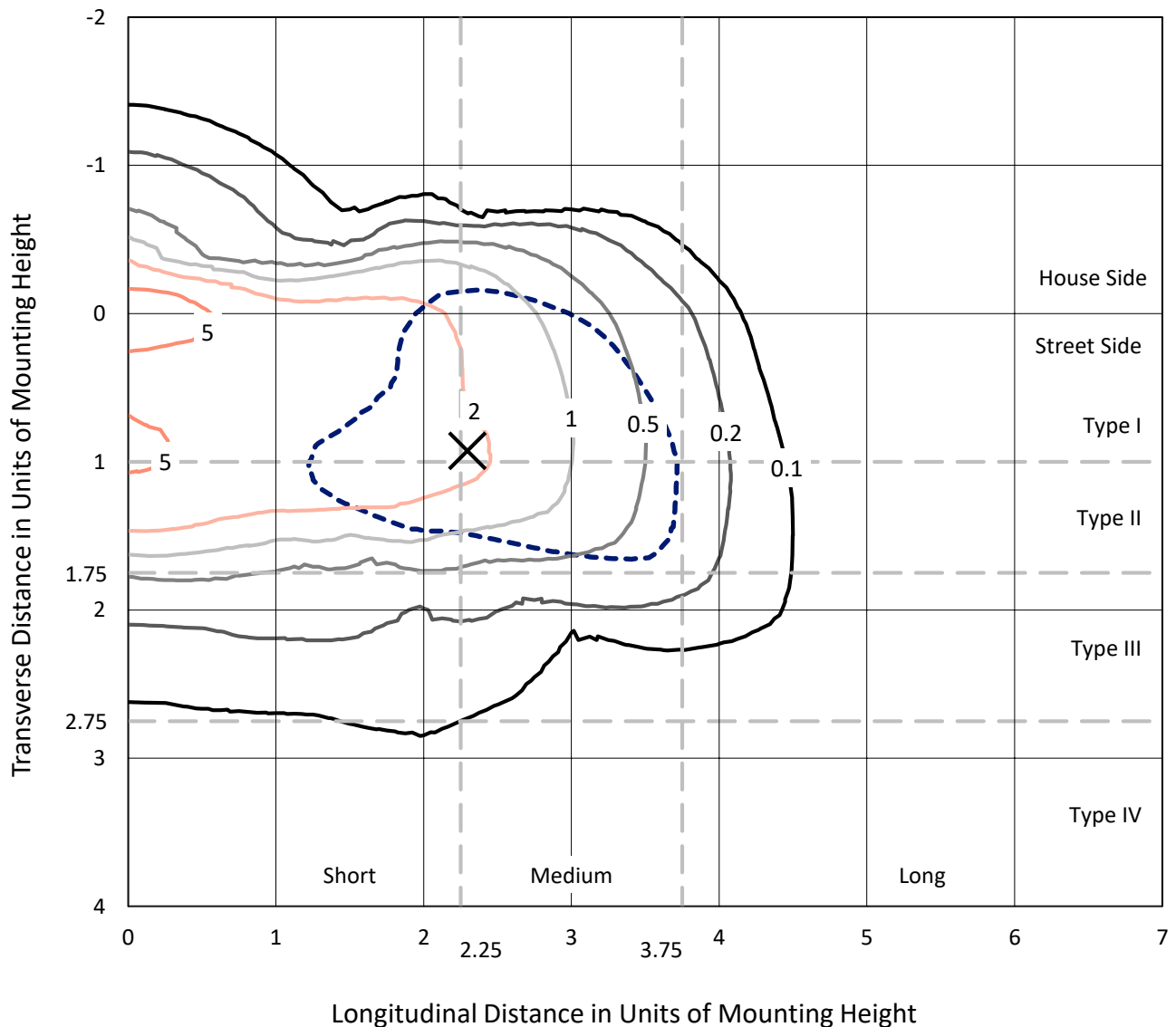
Input Watts (W): 258
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

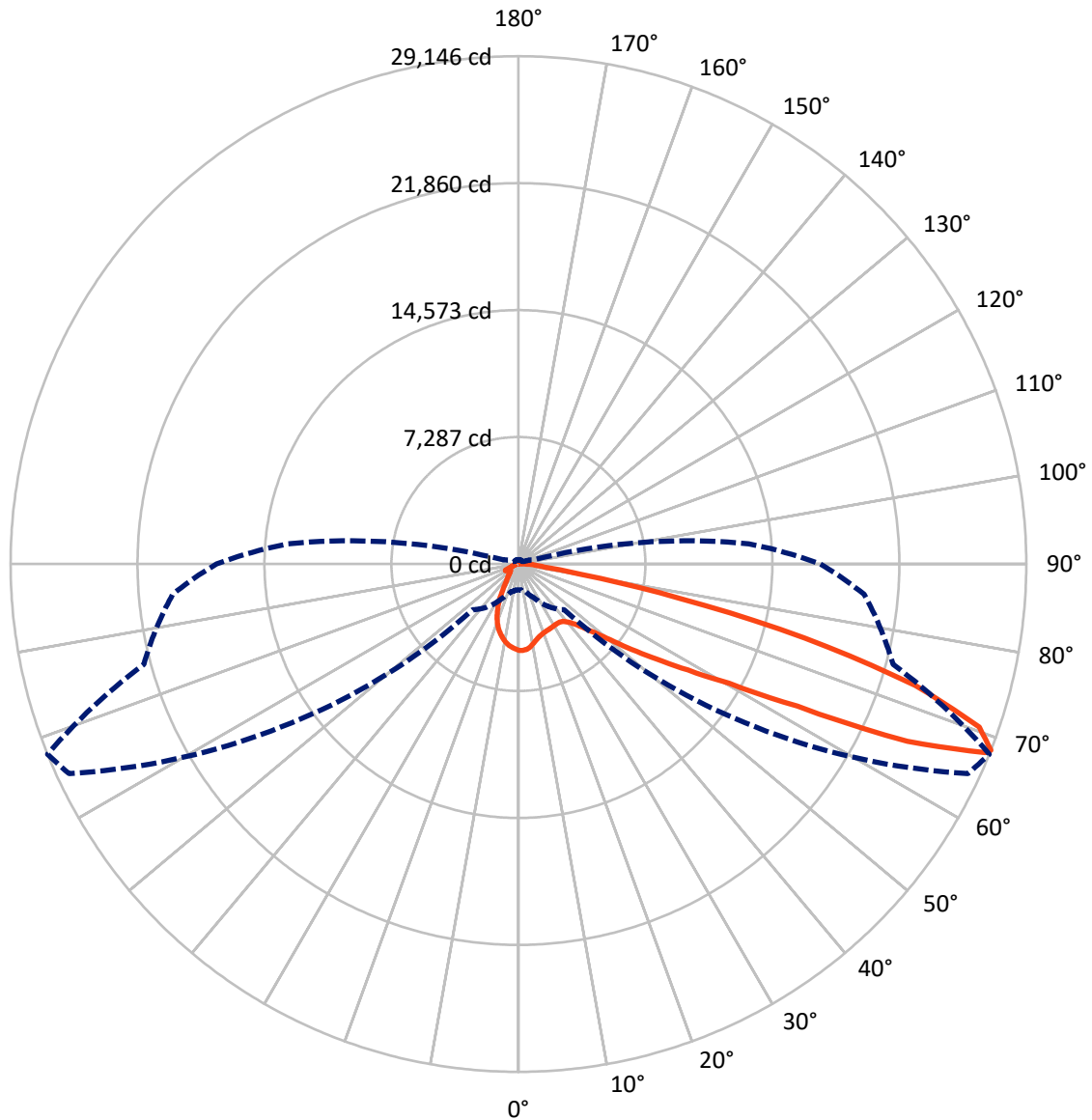
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 7.9 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	3729.5	0.0	3729.5
	% Fixture	16.4	0.0	16.4
Street Side	Lumens	19066.4	0.0	19066.4
	% Fixture	83.6	0.0	83.6
Total	Lumens	22795.9	0.0	22795.9
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	425.0	1.9
10°-20°	985.7	4.3
20°-30°	1333.2	5.8
30°-40°	1879.7	8.2
40°-50°	3091.0	13.6
50°-60°	4791.3	21.0
60°-70°	6212.2	27.3
70°-80°	3564.9	15.6
80°-90°	512.9	2.3
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°	22795.9	100.0
0°-180°	22795.9	100.0



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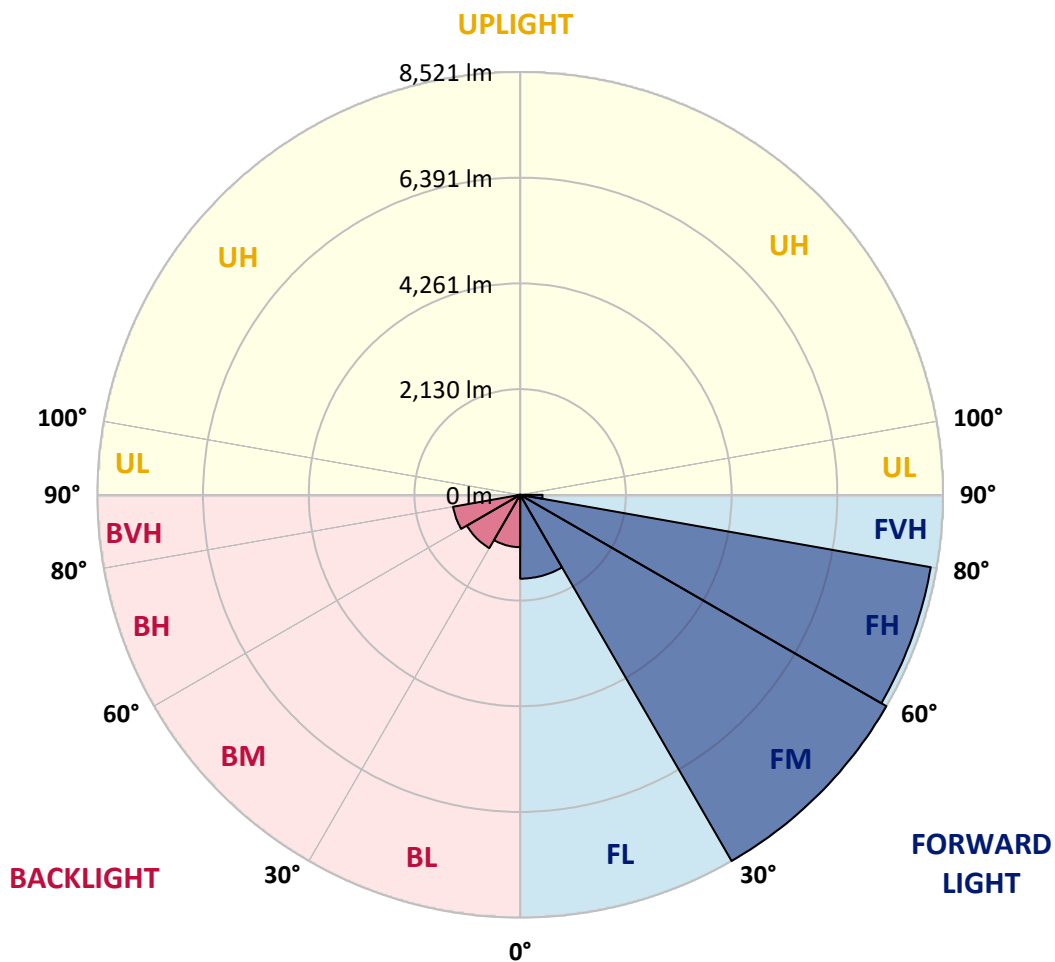
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1689.5	7.4			
FM (30°-60°)	8521.5	37.4			
FH (60°-80°)	8403.6	36.9			G4/12000
FVH (80°-90°)	451.8	2.0			G3/500
BL (0°-30°)	1054.4	4.6	B3/2500		
BM (30°-60°)	1240.5	5.4	B2/2500		
BH (60°-80°)	1373.5	6.0	B3/2500		G3/2500
BVH (80°-90°)	61.1	0.3			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G4

Type II Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	68°	75°	85°
0°	4960.3	4960.3	4960.3	4960.3	4960.3	4960.3	4960.3	4960.3	4960.3	4960.3	4960.3
2.5°	4827.6	4866.4	4866.4	4894.7	4919.9	4940.8	4958.7	4958.7	4958.7	4946.7	4936.4
5°	4319.9	4372.1	4379.4	4450.9	4544.7	4659.4	4787.4	4900.7	4922.9	4964.7	4981.0
7.5°	3966.9	3983.4	4011.7	4060.8	4156.1	4297.5	4498.5	4751.8	4812.8	4943.8	5012.4
10°	3716.7	3730.2	3753.9	3803.2	3889.5	4017.6	4215.7	4544.7	4645.9	4878.2	5013.8
12.5°	3533.7	3544.1	3566.5	3611.0	3699.0	3813.6	4016.1	4358.5	4483.7	4812.8	5034.6
15°	3390.7	3408.6	3426.4	3469.7	3558.9	3669.1	3874.6	4223.1	4358.5	4760.7	5073.4
17.5°	3334.1	3343.0	3345.9	3368.4	3448.8	3560.4	3766.0	4127.8	4267.8	4718.9	5103.1
20°	3369.8	3371.2	3341.5	3326.7	3372.7	3475.5	3675.1	4056.2	4199.2	4681.7	5115.0
22.5°	3526.1	3526.1	3448.8	3383.2	3351.9	3416.0	3614.1	4007.2	4162.0	4653.4	5115.0
25°	3824.1	3810.6	3690.0	3560.4	3422.0	3395.1	3575.3	3975.9	4133.7	4638.6	5095.6
27.5°	4215.7	4203.7	4050.4	3858.2	3608.1	3439.8	3561.9	3950.6	4105.4	4616.2	5054.0
30°	4692.1	4681.7	4507.4	4255.8	3886.5	3581.3	3593.2	3932.7	4083.1	4579.0	4983.9
32.5°	5167.2	5161.2	5022.8	4765.1	4270.7	3821.0	3675.1	3929.7	4071.2	4534.4	4899.1
35°	5645.2	5645.2	5560.2	5342.8	4787.4	4181.4	3846.4	3984.8	4093.5	4510.5	4826.1
37.5°	6350.9	6322.7	6164.9	5940.0	5438.2	4649.0	4123.3	4100.9	4180.0	4550.6	4802.2
40°	7444.0	7362.1	6967.4	6589.2	6148.4	5247.5	4528.4	4325.8	4373.5	4687.6	4858.9
42.5°	8587.6	8458.1	7935.4	7330.8	6882.6	5986.1	5060.0	4690.7	4689.2	4952.7	5039.1
45°	9568.9	9501.9	8936.1	8169.1	7720.9	6817.1	5731.5	5232.6	5179.1	5363.7	5386.1
47.5°	10139.3	10094.7	9753.5	9056.7	8715.6	7798.4	6583.3	5984.7	5883.4	5993.6	5959.4
50°	9981.3	10024.5	9926.4	9570.5	9784.9	9177.4	7668.8	7015.1	6823.0	6933.3	6849.8
52.5°	9150.6	9266.6	9354.5	9423.0	10399.9	11022.4	9032.8	8301.7	8142.3	8123.1	8042.6
55°	7654.0	7838.6	8115.6	8618.9	10234.6	12504.0	11415.4	9857.8	9625.5	9503.3	9534.7
57.5°	5208.8	5488.9	6085.9	7043.4	9375.3	13135.3	14938.6	11868.0	11474.9	11040.2	11141.4
60°	2869.5	3103.3	3813.6	4778.5	7414.3	13041.6	18061.2	15135.3	13897.8	12745.2	12953.6
62.5°	1856.8	1907.6	2436.2	3264.1	4550.6	11513.7	19796.0	20595.7	17973.4	14993.7	15287.0
65°	1492.1	1527.7	1786.9	2632.8	3170.3	7406.7	19873.6	26260.2	24531.4	18049.4	18058.3
67.5°	1457.8	1474.2	1624.7	2214.3	2973.7	4032.5	17178.2	28493.9	28894.4	21655.9	19912.2
68°	1478.7	1498.1	1649.9	2145.8	2972.2	3716.7	15876.7	28459.7	29146.0	22259.0	19912.2
70°	1304.5	1328.2	1682.6	2220.3	2845.7	3195.6	10871.8	26948.2	28053.1	23645.4	18893.6
72.5°	682.1	662.7	832.4	1752.7	3203.0	3329.6	5743.5	22513.6	23803.2	21898.6	16323.6
75°	531.5	483.9	466.1	692.5	2817.4	3453.3	3335.5	16001.9	16975.7	15785.9	10910.6
77.5°	500.4	442.2	408.0	409.4	1240.4	3593.2	2698.2	9417.0	9417.0	7530.3	3481.6
80°	402.0	348.5	326.2	372.3	598.6	3311.7	2815.8	4291.7	3660.2	1946.3	959.0
82.5°	265.1	236.8	238.3	302.3	454.2	2211.3	3261.1	2119.0	1591.8	862.3	564.3
85°	168.3	144.4	160.8	211.5	339.5	985.8	3228.4	1472.7	1054.3	483.9	281.3
87.5°	84.9	65.5	80.4	110.2	207.0	283.0	2658.1	1314.8	781.7	201.0	153.4
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°	4960.3	4960.3	4960.3	4960.3	4960.3	4960.3	4960.3	4960.3	4960.3	4960.3	4960.3
2.5°	4936.4	4903.6	4887.1	4860.4	4827.6	4795.0	4772.5	4762.2	4756.2	4759.1	4757.7
5°	4972.1	4928.9	4858.9	4759.1	4656.5	4547.7	4464.2	4400.3	4360.1	4348.2	4345.2
7.5°	4998.9	4936.4	4805.4	4623.7	4448.0	4257.3	4095.1	3965.5	3877.7	3837.4	3835.9
10°	4994.4	4914.0	4706.9	4439.1	4181.4	3901.3	3646.8	3429.4	3271.5	3195.6	3192.7
12.5°	4998.9	4888.7	4586.4	4223.1	3853.8	3453.3	3075.0	2737.0	2501.7	2390.0	2385.4
15°	5016.8	4861.8	4462.8	3981.8	3471.1	2905.2	2364.7	1940.2	1725.9	1652.9	1652.9
17.5°	5015.2	4817.3	4319.9	3701.8	3016.9	2259.0	1614.2	1352.0	1331.3	1398.2	1408.7
20°	4985.6	4745.7	4135.2	3369.8	2483.9	1563.6	1094.5	1057.2	1224.0	1408.7	1429.6
22.5°	4939.3	4653.4	3922.3	2984.2	1862.8	1018.6	844.2	900.9	1127.3	1356.6	1389.3
25°	4875.3	4541.7	3678.1	2535.9	1238.9	732.7	704.4	774.2	933.7	1087.0	1110.8
27.5°	4781.5	4400.3	3411.6	2050.6	790.7	603.1	613.5	662.7	731.1	796.6	810.1
30°	4663.8	4235.0	3121.2	1512.9	600.1	539.1	556.9	586.8	616.4	658.2	667.1
32.5°	4544.7	4066.7	2818.8	1039.3	524.3	504.8	522.6	539.1	564.3	592.6	598.6
35°	4437.4	3910.3	2507.7	725.2	491.5	482.5	491.5	501.9	527.1	555.4	558.3
37.5°	4360.1	3782.4	2183.1	573.3	472.1	463.0	467.6	472.1	501.9	543.6	548.0
40°	4349.7	3697.5	1853.9	515.2	457.1	445.2	442.2	445.2	483.9	531.5	536.1
42.5°	4450.9	3701.8	1532.2	491.5	445.2	431.8	419.9	425.8	460.1	497.3	500.4
45°	4690.7	3806.1	1253.9	481.0	434.8	424.4	406.6	409.4	425.8	445.2	448.3
47.5°	5113.5	4034.0	1040.9	475.1	425.8	417.0	394.6	385.7	387.2	397.6	397.6
50°	5789.5	4415.2	911.3	469.0	418.4	402.0	376.7	358.9	354.4	360.4	361.8
52.5°	6797.7	5068.9	848.8	457.1	405.0	382.7	354.4	336.5	329.0	335.1	335.1
55°	8160.3	6112.7	819.1	440.8	388.6	358.9	333.6	318.7	312.7	317.2	317.2
57.5°	9713.5	7469.2	869.6	418.4	367.8	333.6	315.7	305.2	300.8	305.2	306.7
60°	11558.4	9244.3	1218.1	390.1	345.5	311.3	300.8	294.9	291.9	296.4	296.4
62.5°	14011.0	11606.0	1885.3	367.8	321.7	290.4	287.4	284.5	281.3	285.9	285.9
65°	16658.4	13754.8	1940.2	354.4	300.8	272.5	274.1	274.1	271.0	275.5	275.5
67.5°	17501.4	13568.7	1084.1	338.0	275.5	254.6	260.6	260.6	259.2	263.6	262.0
68°	17322.6	13273.9	944.1	333.6	271.0	250.2	256.1	257.6	256.1	260.6	259.2
70°	15991.4	11653.7	621.0	308.3	251.6	235.3	244.2	245.6	244.2	250.2	248.7
72.5°	13200.9	8741.0	458.7	269.5	227.8	216.0	224.8	226.4	227.8	233.7	232.3
75°	8383.6	4827.6	361.8	229.2	204.1	193.6	202.5	207.0	209.9	218.8	214.4
77.5°	2296.2	1465.2	293.3	195.1	175.7	171.2	177.1	183.2	186.0	196.5	189.2
80°	804.2	647.8	244.2	165.3	146.0	144.4	150.3	156.3	159.3	168.3	159.3
82.5°	488.4	422.9	195.1	129.5	114.7	113.1	120.6	126.7	129.5	129.5	123.5
85°	254.6	223.4	143.0	90.8	79.0	74.5	87.9	95.3	96.7	95.3	90.8
87.5°	143.0	126.7	75.9	43.2	35.8	37.2	46.2	56.7	61.1	59.6	56.7
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)