

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: P196170

Luminaire Tested: **NAV-AF-06-D-UNV-SL4-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196170
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24285)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-AF-06-D-UNV-SL4-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(6) 70 CRI, 4000K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV
SPILL LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 30018.5 lumens
Efficiency: N/A
Efficacy: 90.1 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B2 - U0 - G5

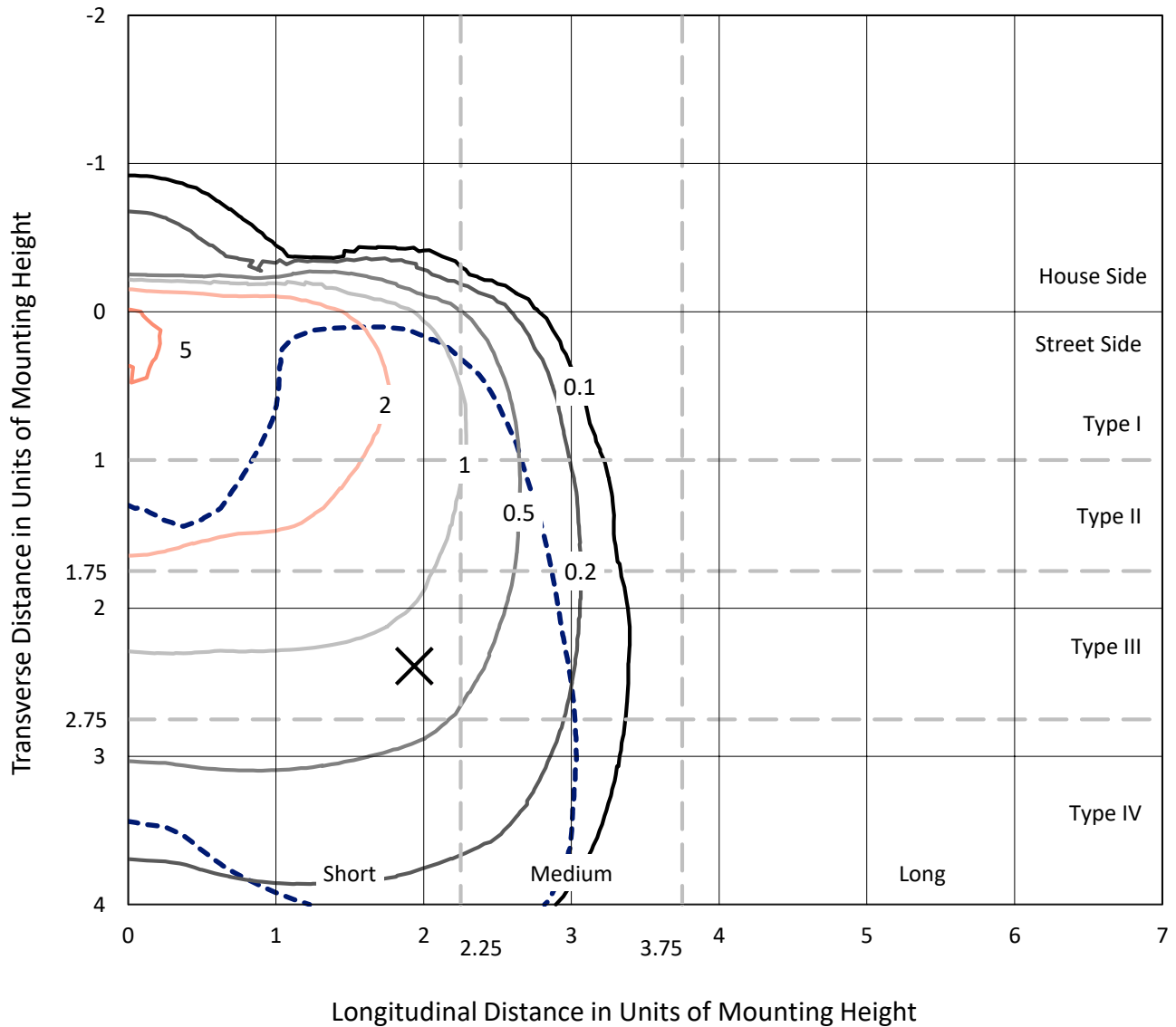
Input Watts (W): 333
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

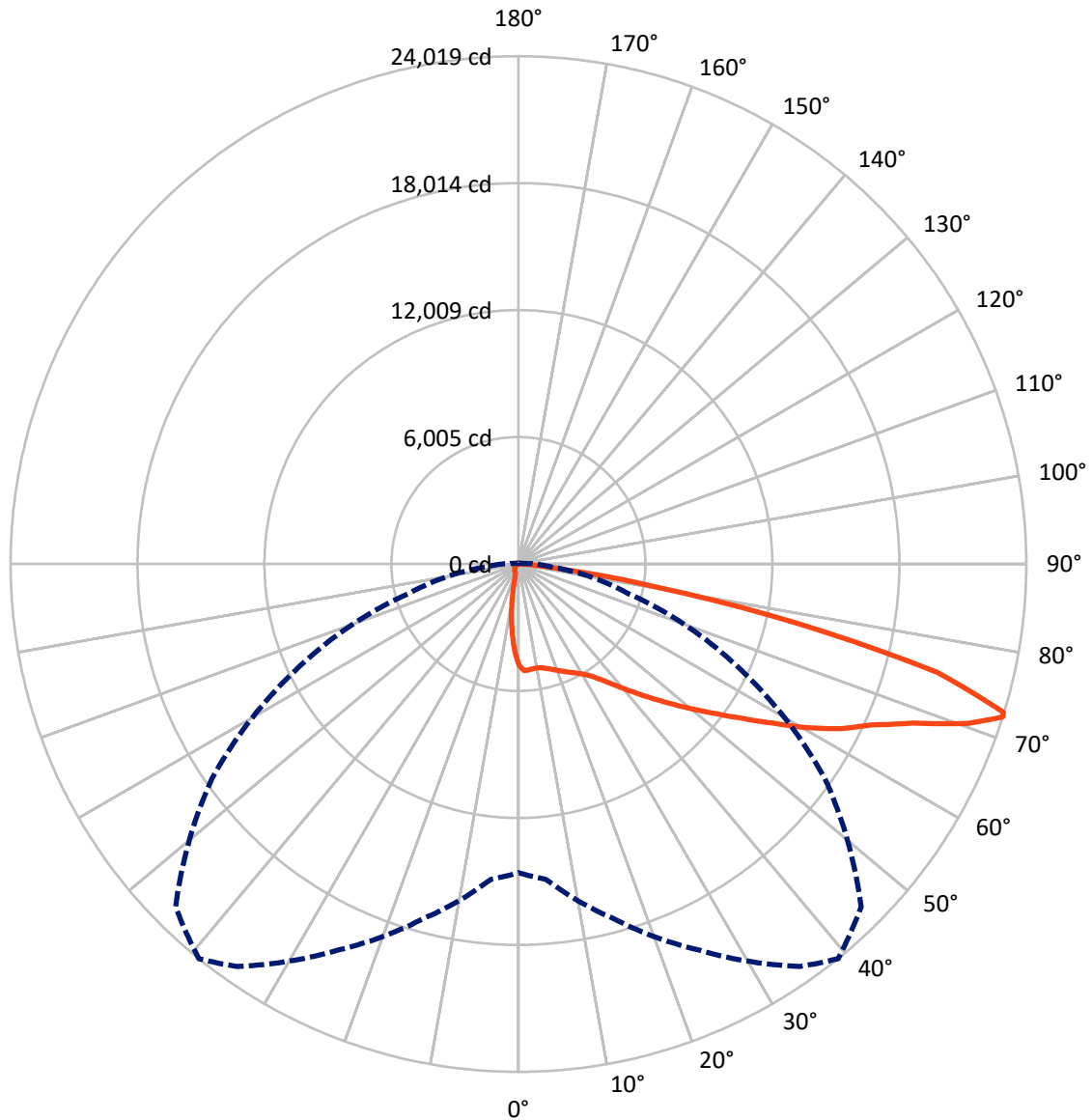
× Max cd
 - - - 1/2 Max cd



Based on 30 foot mounting height. Maximum calculated value = 5.6 fc
 Type IV - Short - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 39-Deg Lateral - - - Horizontal Cone Through 72-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1967.3	0.0	1967.3
	% Fixture	6.6	0.0	6.6
Street Side	Lumens	28051.1	0.0	28051.1
	% Fixture	93.4	0.0	93.4
Total	Lumens	30018.5	0.0	30018.5
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	390.8	1.3
10°-20°	946.1	3.2
20°-30°	1571.3	5.2
30°-40°	2504.4	8.3
40°-50°	4133.8	13.8
50°-60°	6242.8	20.8
60°-70°	8132.3	27.1
70°-80°	5495.1	18.3
80°-90°	601.8	2.0
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°	30018.5	100.0
0°-180°	30018.5	100.0



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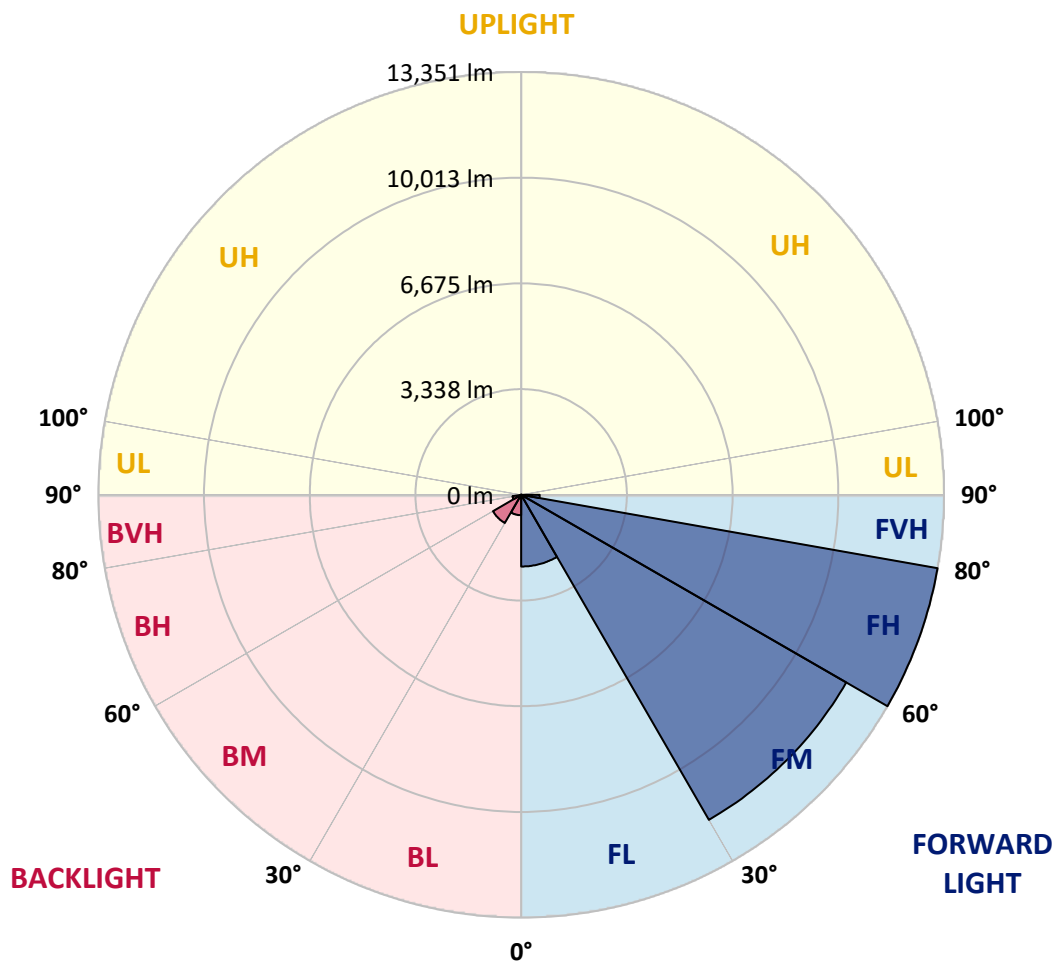
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	2264.1	7.5			
FM	(30°-60°)	11851.7	39.5			
FH	(60°-80°)	13350.9	44.5			G5
FVH	(80°-90°)	584.5	1.9			G4/750
BL	(0°-30°)	644.2	2.1	B2/1000		
BM	(30°-60°)	1029.3	3.4	B2/2500		
BH	(60°-80°)	276.5	0.9	B1/500		G1/500
BVH	(80°-90°)	17.3	0.1			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G5

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	39°	45°	55°	65°	75°	85°
0°	4804.7	4804.7	4804.7	4804.7	4804.7	4804.7	4804.7	4804.7	4804.7	4804.7	4804.7
2.5°	5116.2	5125.6	5113.8	5092.6	5061.9	5043.0	5017.1	4960.4	4889.6	4828.2	4757.4
5°	5156.3	5161.0	5146.9	5106.7	5059.5	5033.5	5000.5	4939.2	4866.0	4781.1	4653.6
7.5°	5168.0	5165.7	5149.2	5099.6	5026.5	4993.4	4936.8	4861.3	4785.8	4707.9	4564.0
10°	5163.3	5163.3	5151.6	5104.3	5021.8	4991.1	4927.3	4847.2	4752.7	4674.9	4521.4
12.5°	5146.9	5156.3	5149.2	5123.2	5061.9	5038.2	4981.7	4901.4	4811.8	4731.5	4568.7
15°	5168.0	5182.3	5196.4	5187.0	5151.6	5130.3	5078.4	4995.8	4922.6	4837.7	4663.0
17.5°	5253.1	5283.7	5316.8	5319.1	5281.4	5243.5	5184.6	5099.6	5028.8	4951.0	4762.1
20°	5413.5	5437.1	5498.5	5510.2	5434.7	5380.4	5297.9	5198.7	5128.0	5061.9	4854.2
22.5°	5651.8	5677.8	5727.4	5710.8	5583.4	5519.6	5415.8	5302.6	5229.4	5191.7	4960.4
25°	6012.9	6020.0	6031.7	5958.6	5748.6	5677.8	5550.3	5423.0	5363.9	5359.2	5111.5
27.5°	6437.6	6447.1	6395.2	6232.3	5932.7	5840.6	5696.7	5581.0	5552.7	5588.1	5302.6
30°	6923.8	6926.2	6782.2	6517.9	6145.1	6043.6	5894.9	5767.5	5793.4	5880.7	5548.0
32.5°	7421.7	7398.1	7199.9	6855.4	6435.3	6312.6	6185.2	6057.7	6133.2	6310.3	5906.7
35°	7877.1	7867.7	7634.1	7233.0	6812.9	6704.3	6612.3	6477.8	6600.5	6888.4	6395.2
37.5°	8332.7	8325.6	8058.9	7641.2	7277.8	7199.9	7131.5	7027.7	7228.2	7650.6	7048.8
40°	8835.2	8823.5	8495.5	8094.3	7818.2	7775.7	7735.6	7690.7	8032.9	8620.5	7863.0
42.5°	9456.0	9404.0	8958.0	8587.5	8412.8	8424.6	8427.1	8471.9	9007.6	9774.5	8823.5
45°	10168.6	10052.9	9422.9	9116.1	9066.5	9137.3	9208.1	9394.6	10142.7	11103.1	9885.4
47.5°	10860.1	10673.6	9958.5	9684.8	9786.3	9932.6	10102.6	10465.9	11416.9	12493.1	10848.2
50°	11454.7	11263.6	10489.5	10263.0	10586.3	10803.4	11105.5	11655.3	12762.0	13668.3	11454.7
52.5°	11922.0	11770.9	11051.1	10900.2	11473.6	11770.9	12245.2	12967.3	14031.7	14442.3	11879.5
55°	12266.5	12191.0	11589.2	11610.5	12460.1	12889.5	13479.4	14295.9	15103.1	15044.0	12198.1
57.5°	12655.8	12596.9	12153.3	12448.2	13647.0	14201.5	14883.5	15539.6	15881.8	15527.8	12509.6
60°	13054.7	13073.5	12837.6	13463.0	15114.8	15728.4	16323.1	16485.9	16549.6	16018.7	12837.6
62.5°	13356.8	13437.0	13458.2	14557.9	16620.4	17144.3	17401.5	17285.9	17271.7	16677.1	12811.6
65°	13703.7	13913.7	14262.9	15759.1	17989.1	18333.6	18517.8	18685.3	18331.3	16873.0	11551.5
67.5°	14303.0	14633.4	15419.2	17231.6	19570.3	20079.9	20601.5	20424.5	18489.4	14883.5	8799.8
70°	15110.1	15513.7	16901.2	19154.9	21715.3	22569.6	23006.2	20285.2	15697.7	10284.2	4641.8
72°	14600.4	14966.2	17359.1	20136.6	23235.1	24018.6	22926.0	17694.2	11379.2	5330.9	1555.1
72.5°	14104.9	14482.4	17212.8	20124.8	23386.1	23985.5	22404.4	16672.4	10069.5	4148.6	1071.3
75°	9786.3	10263.0	14756.2	18090.6	21118.3	20459.9	17142.0	10095.4	3648.4	712.7	353.9
77.5°	5059.5	5427.7	8950.9	12783.3	14718.4	13479.4	10130.8	4379.9	1010.1	377.6	233.6
80°	3136.3	3317.9	4186.3	6298.4	7645.9	6687.8	4469.6	1769.9	646.6	224.2	186.4
82.5°	1623.6	1762.9	2635.9	2541.5	2824.8	2348.1	1649.5	1481.9	398.8	139.2	191.2
85°	533.4	566.4	1618.8	1689.6	1208.2	811.8	731.5	1413.5	115.6	89.7	162.9
87.5°	70.8	82.6	568.8	967.5	594.6	368.2	438.9	498.0	40.1	49.5	44.8
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°	4804.7	4804.7	4804.7	4804.7	4804.7	4804.7	4804.7	4804.7	4804.7	4804.7	4804.7
2.5°	4710.3	4679.6	4582.8	4486.0	4375.2	4273.7	4193.5	4141.5	4165.1	4087.3	4099.1
5°	4575.8	4497.9	4285.4	4056.6	3808.8	3577.6	3393.4	3256.6	3230.7	3112.6	3117.3
7.5°	4445.9	4318.5	3974.0	3596.4	3185.8	2853.0	2551.0	2286.7	2192.3	2095.5	2038.9
10°	4375.2	4200.5	3712.1	3162.2	2584.1	2095.5	1670.8	1338.0	1198.8	1097.3	1047.8
12.5°	4396.4	4165.1	3516.2	2768.1	2008.3	1387.6	944.0	700.9	615.9	568.8	552.2
15°	4467.2	4172.2	3339.2	2383.5	1460.8	840.1	554.5	474.3	467.3	464.9	462.6
17.5°	4533.3	4179.3	3152.7	1982.3	977.0	535.7	446.0	438.9	438.9	438.9	438.9
20°	4601.7	4181.6	2947.4	1562.3	641.9	438.9	420.0	415.3	420.0	420.0	420.0
22.5°	4681.9	4198.2	2749.2	1154.0	474.3	413.0	401.2	398.8	401.2	401.2	398.8
25°	4781.1	4233.6	2534.5	825.9	429.5	396.5	384.6	382.3	384.6	382.3	382.3
27.5°	4913.2	4280.7	2284.4	592.3	410.6	379.9	368.2	368.2	368.2	365.8	365.8
30°	5083.1	4337.4	1949.2	467.3	391.7	363.5	353.9	353.9	351.6	349.2	349.2
32.5°	5326.2	4429.5	1583.4	422.4	370.5	342.2	332.8	335.1	332.8	330.4	328.1
35°	5670.7	4573.4	1222.4	398.8	349.2	320.9	311.5	311.5	311.5	306.8	306.8
37.5°	6159.2	4792.8	915.6	375.2	328.1	299.7	287.9	287.9	285.5	280.8	283.2
40°	6763.3	5068.9	663.1	353.9	306.8	276.1	266.7	262.0	257.3	252.5	252.5
42.5°	7490.1	5338.0	498.0	332.8	285.5	257.3	245.4	240.7	231.3	226.6	224.2
45°	8304.3	5623.6	413.0	306.8	262.0	236.0	226.6	217.1	205.3	198.2	195.9
47.5°	8991.0	5798.2	368.2	280.8	238.3	214.7	205.3	191.2	177.0	172.3	172.3
50°	9404.0	5724.9	330.4	254.8	214.7	193.5	181.7	162.9	153.3	148.6	146.3
52.5°	9635.3	5507.9	299.7	233.6	193.5	169.9	153.3	136.9	132.2	127.5	127.5
55°	9793.4	5194.0	266.7	212.4	174.6	148.6	129.8	117.9	113.2	110.9	108.5
57.5°	9944.4	4811.8	236.0	193.5	155.8	132.2	110.9	106.2	96.8	94.4	94.4
60°	9989.2	4285.4	207.7	172.3	139.2	115.6	96.8	89.7	80.2	77.8	77.8
62.5°	9418.2	3410.0	184.0	146.3	122.8	99.1	84.9	75.5	66.1	66.1	66.1
65°	7870.1	2315.0	158.1	127.5	108.5	84.9	73.1	61.4	56.7	56.7	56.7
67.5°	5481.9	1290.9	134.5	108.5	92.1	70.8	61.4	52.0	49.5	52.0	52.0
70°	2470.7	512.1	113.2	89.7	75.5	59.0	52.0	44.8	49.5	49.5	49.5
72°	741.0	273.7	94.4	73.1	61.4	52.0	44.8	42.5	47.2	49.5	49.5
72.5°	549.8	245.4	89.7	70.8	61.4	49.5	42.5	42.5	47.2	49.5	49.5
75°	283.2	167.6	68.4	52.0	44.8	40.1	35.4	40.1	47.2	47.2	47.2
77.5°	221.8	136.9	56.7	40.1	37.7	35.4	33.0	37.7	42.5	42.5	42.5
80°	207.7	89.7	44.8	37.7	33.0	30.7	30.7	33.0	37.7	40.1	40.1
82.5°	210.0	73.1	40.1	35.4	30.7	28.3	28.3	30.7	35.4	37.7	37.7
85°	134.5	49.5	35.4	30.7	28.3	26.0	26.0	28.3	33.0	35.4	35.4
87.5°	44.8	37.7	30.7	28.3	23.6	23.6	23.6	23.6	28.3	30.7	33.0
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)