

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: P195690

Luminaire Tested: **NAV-AF-06-D-UNV-SL4-7050-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195690
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-SL4-7050-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(6) 70 CRI, 5000K, 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: 29345 lumens
Efficiency: N/A
Efficacy: 88.1 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

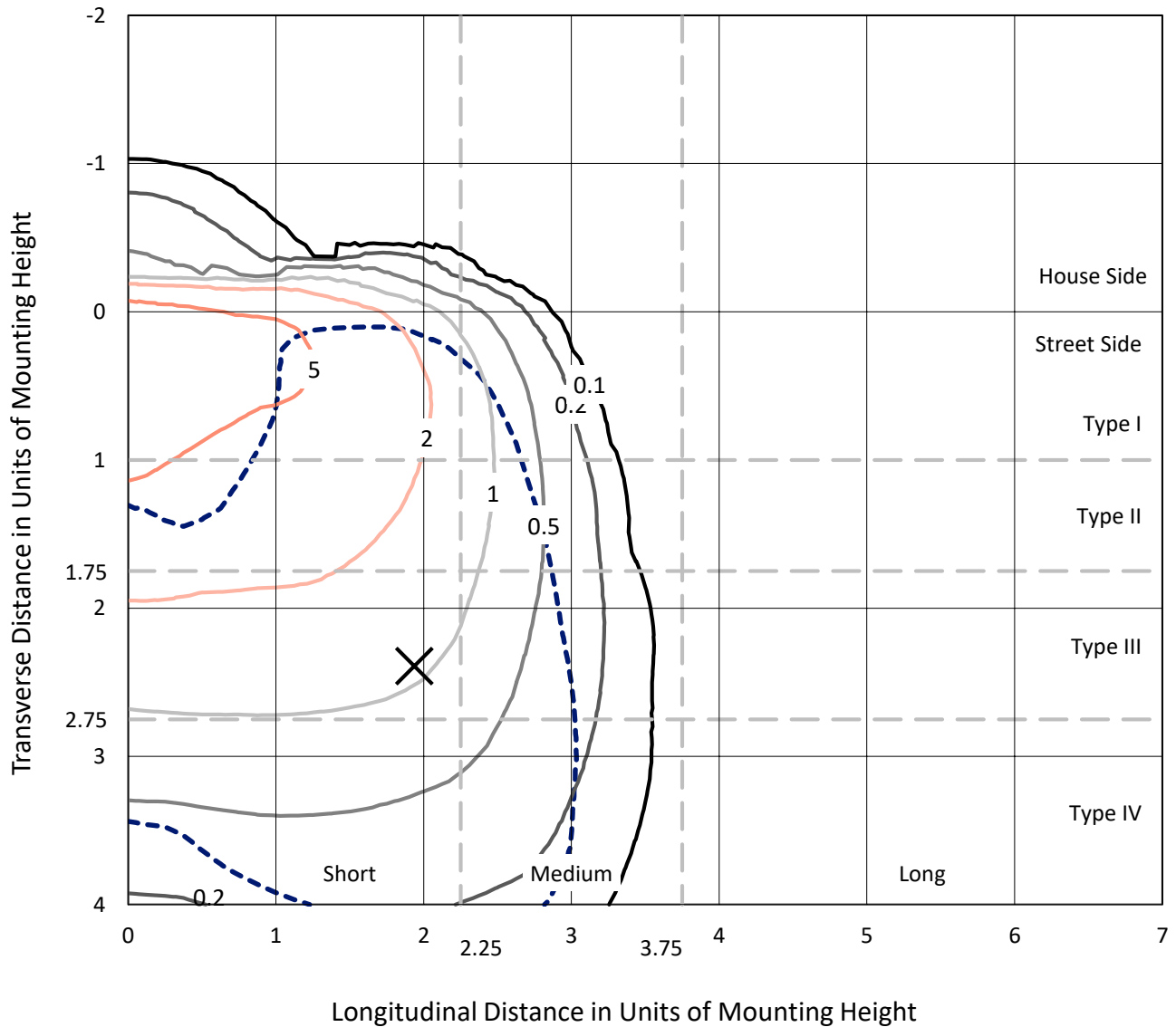


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Iso-Footcandle Lines of Horizontal Illumination

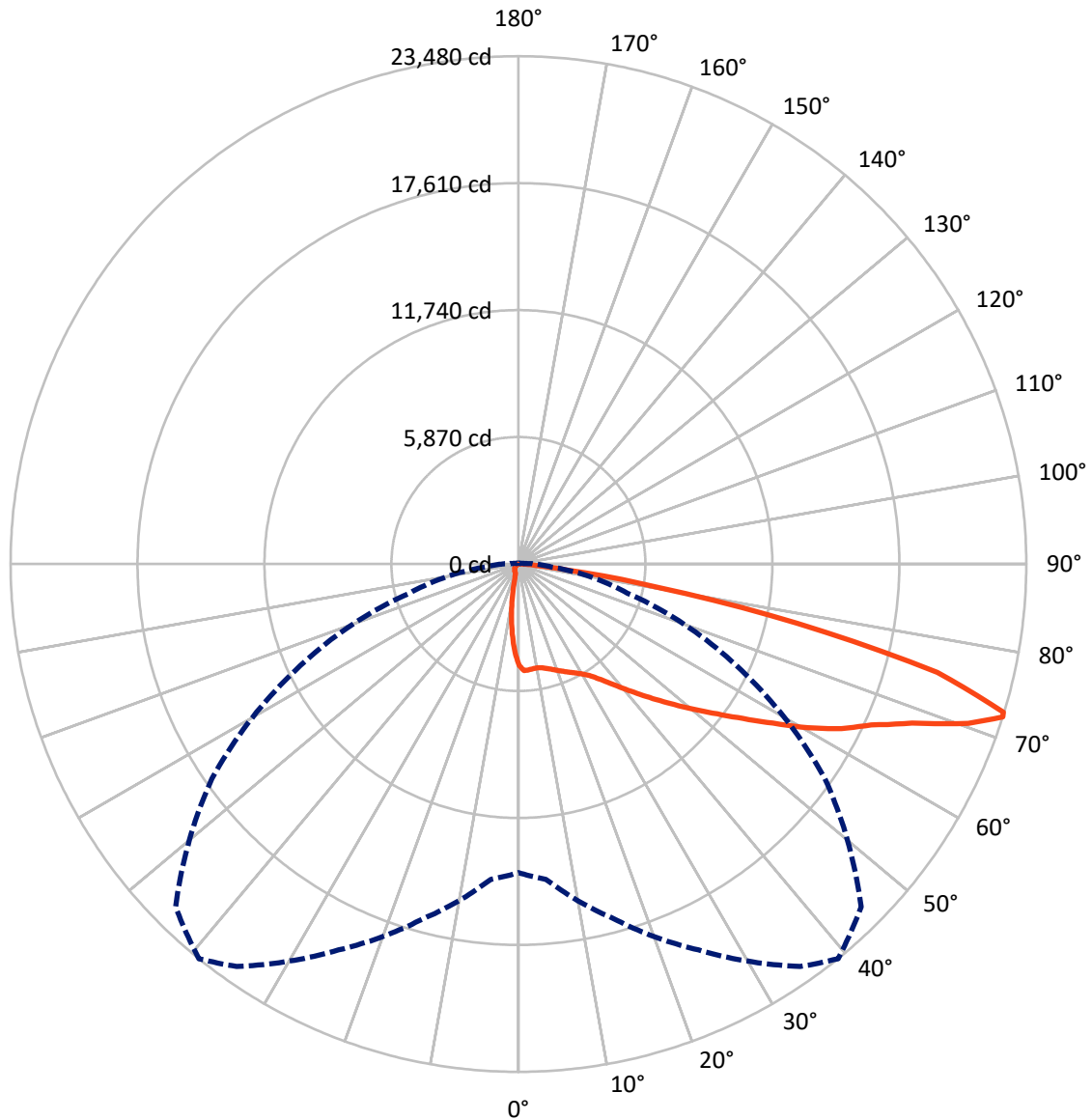
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 7.9 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	1923.2	0.0	1923.2
	% Fixture	6.6	0.0	6.6
Street Side	Lumens	27421.8	0.0	27421.8
	% Fixture	93.4	0.0	93.4
Total	Lumens	29345.0	0.0	29345.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	382.0	1.3
10°-20°	924.9	3.2
20°-30°	1536.1	5.2
30°-40°	2448.2	8.3
40°-50°	4041.1	13.8
50°-60°	6102.8	20.8
60°-70°	7949.8	27.1
70°-80°	5371.8	18.3
80°-90°	588.3	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°	29345.0	100.0
0°-180°	29345.0	100.0

Coefficient of Utilization



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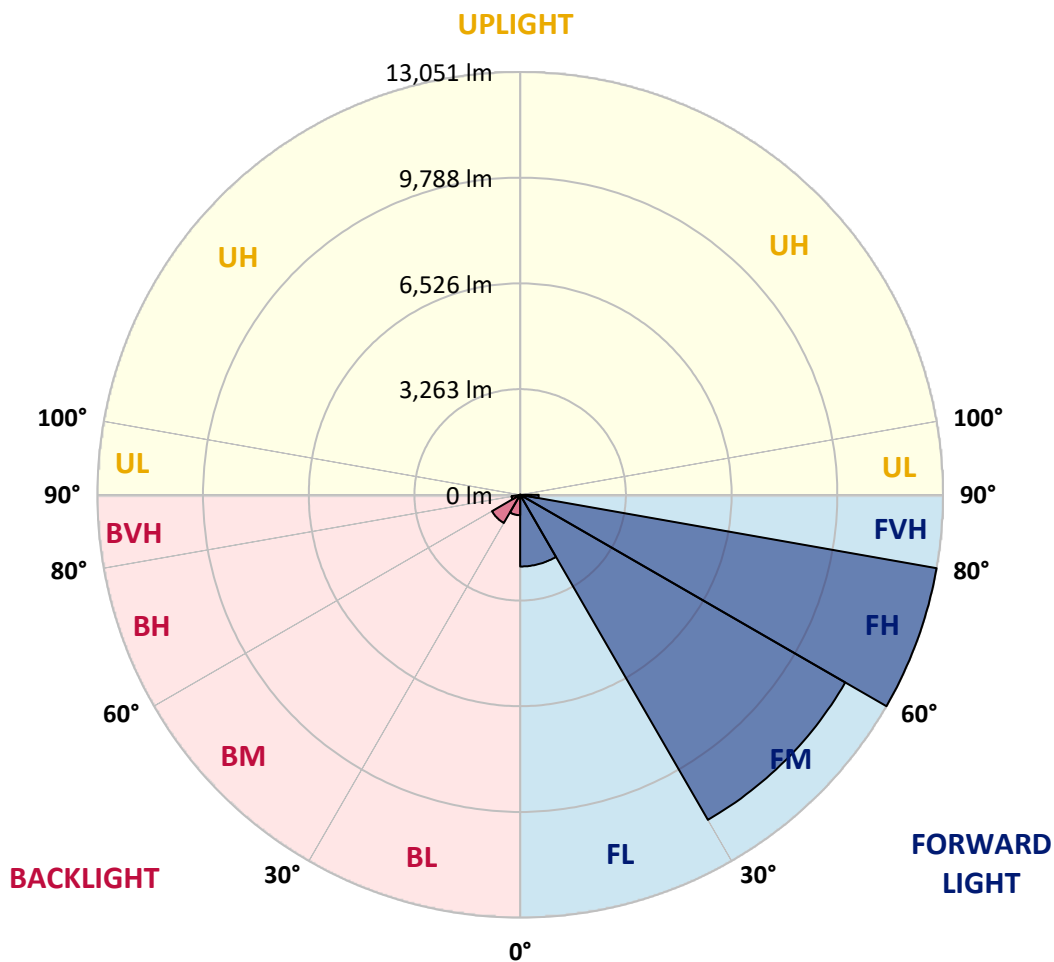
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	2213.3	7.5			
FM	(30°-60°)	11585.8	39.5			
FH	(60°-80°)	13051.3	44.5			G5
FVH	(80°-90°)	571.4	1.9			G4/750
BL	(0°-30°)	629.7	2.1	B2/1000		
BM	(30°-60°)	1006.2	3.4	B2/2500		
BH	(60°-80°)	270.3	0.9	B1/500		G1/500
BVH	(80°-90°)	16.9	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°	4696.9	4696.9	4696.9	4696.9	4696.9	4696.9	4696.9	4696.9	4696.9	4696.9	4696.9
2.5°	5001.4	5010.6	4999.1	4978.3	4948.3	4929.9	4904.5	4849.1	4779.9	4719.9	4650.7
5°	5040.6	5045.2	5031.4	4992.1	4946.0	4920.6	4888.3	4828.4	4756.8	4673.8	4549.2
7.5°	5052.1	5049.8	5033.7	4985.2	4913.7	4881.4	4826.0	4752.2	4678.4	4602.3	4461.6
10°	5047.5	5047.5	5036.0	4989.8	4909.1	4879.1	4816.8	4738.4	4646.1	4570.0	4420.0
12.5°	5031.4	5040.6	5033.7	5008.3	4948.3	4925.2	4869.9	4791.4	4703.8	4625.3	4466.2
15°	5052.1	5066.0	5079.8	5070.6	5036.0	5015.2	4964.5	4883.7	4812.2	4729.2	4558.4
17.5°	5135.2	5165.2	5197.5	5199.8	5162.9	5125.9	5068.3	4985.2	4916.0	4839.9	4655.3
20°	5292.0	5315.1	5375.1	5386.6	5312.8	5259.7	5179.0	5082.1	5012.9	4948.3	4745.3
22.5°	5525.0	5550.4	5598.9	5582.7	5458.1	5395.8	5294.3	5183.6	5112.1	5075.2	4849.1
25°	5878.0	5884.9	5896.4	5824.9	5619.6	5550.4	5425.8	5301.3	5243.6	5239.0	4996.8
27.5°	6293.2	6302.5	6251.7	6092.5	5799.6	5709.6	5568.9	5455.8	5428.1	5462.7	5183.6
30°	6768.5	6770.8	6630.0	6371.7	6007.2	5908.0	5762.6	5638.1	5663.4	5748.8	5423.5
32.5°	7255.2	7232.1	7038.4	6701.6	6290.9	6171.0	6046.4	5921.8	5995.6	6168.7	5774.2
35°	7700.4	7691.2	7462.8	7070.7	6660.0	6553.9	6463.9	6332.5	6452.4	6733.9	6251.7
37.5°	8145.7	8138.8	7878.1	7469.8	7114.5	7038.4	6971.5	6870.0	7066.0	7479.0	6890.7
40°	8637.0	8625.5	8304.9	7912.7	7642.8	7601.2	7562.0	7518.2	7852.7	8427.1	7686.6
42.5°	9243.8	9193.0	8757.0	8394.8	8224.1	8235.6	8238.0	8281.8	8805.5	9555.2	8625.5
45°	9940.5	9827.4	9211.5	8911.6	8863.1	8932.3	9001.5	9183.8	9915.1	10854.0	9663.6
47.5°	10616.4	10434.1	9735.1	9467.5	9566.7	9709.8	9875.9	10231.1	11160.8	12212.8	10604.8
50°	11197.7	11010.9	10254.2	10032.7	10348.8	10561.0	10856.3	11393.8	12475.7	13361.6	11197.7
52.5°	11654.5	11506.8	10803.2	10655.6	11216.2	11506.8	11970.5	12676.4	13716.9	14118.3	11613.0
55°	11991.3	11917.5	11329.2	11350.0	12180.5	12600.3	13177.0	13975.2	14764.2	14706.5	11924.4
57.5°	12371.9	12314.3	11880.6	12168.9	13340.8	13882.9	14549.6	15191.0	15525.5	15179.4	12228.9
60°	12761.8	12780.2	12549.6	13160.9	14775.7	15375.5	15956.9	16116.0	16178.3	15659.3	12549.6
62.5°	13057.1	13135.5	13156.3	14231.3	16247.5	16759.7	17011.1	16898.1	16884.2	16302.9	12524.2
65°	13396.2	13601.5	13942.9	15405.5	17585.5	17922.3	18102.3	18266.1	17920.0	16494.4	11292.3
67.5°	13982.1	14305.1	15073.3	16845.0	19131.2	19629.4	20139.3	19966.3	18074.6	14549.6	8602.4
70°	14771.1	15165.6	16522.0	18725.1	21228.1	22063.2	22490.0	19830.1	15345.5	10053.5	4537.7
72°	14272.8	14630.4	16969.6	19684.8	22713.8	23479.7	22411.6	17297.2	11123.9	5211.3	1520.2
72.5°	13788.4	14157.5	16826.6	19673.3	22861.4	23447.4	21901.7	16298.3	9843.6	4055.5	1047.3
75°	9566.7	10032.7	14425.1	17684.7	20644.5	20000.9	16757.4	9868.9	3566.5	696.7	346.0
77.5°	4946.0	5305.9	8750.1	12496.5	14388.2	13177.0	9903.5	4281.6	987.4	369.1	228.4
80°	3065.9	3243.5	4092.4	6157.1	7474.4	6537.8	4369.3	1730.2	632.1	219.2	182.2
82.5°	1587.2	1723.3	2576.8	2484.5	2761.4	2295.4	1612.5	1448.7	389.9	136.1	186.9
85°	521.4	553.7	1582.5	1651.7	1181.1	793.6	715.1	1381.8	113.0	87.7	159.2
87.5°	69.2	80.7	556.0	945.8	581.3	359.9	429.1	486.8	39.2	48.4	43.8
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°	4696.9	4696.9	4696.9	4696.9	4696.9	4696.9	4696.9	4696.9	4696.9	4696.9	4696.9
2.5°	4604.6	4574.6	4480.0	4385.4	4277.0	4177.8	4099.4	4048.6	4071.7	3995.6	4007.1
5°	4473.1	4397.0	4189.3	3965.6	3723.3	3497.3	3317.3	3183.5	3158.2	3042.8	3047.4
7.5°	4346.2	4221.6	3884.8	3515.7	3114.3	2789.0	2493.8	2235.4	2143.1	2048.5	1993.2
10°	4277.0	4106.3	3628.8	3091.3	2526.1	2048.5	1633.3	1308.0	1171.9	1072.7	1024.3
12.5°	4297.8	4071.7	3437.3	2706.0	1963.2	1356.5	922.8	685.2	602.1	556.0	539.8
15°	4367.0	4078.6	3264.3	2330.0	1428.0	821.3	542.1	463.7	456.8	454.5	452.2
17.5°	4431.6	4085.5	3082.0	1937.8	955.1	523.7	436.0	429.1	429.1	429.1	429.1
20°	4498.5	4087.8	2881.3	1527.2	627.5	429.1	410.6	406.0	410.6	410.6	410.6
22.5°	4576.9	4104.0	2687.5	1128.1	463.7	403.7	392.2	389.9	392.2	392.2	389.9
25°	4673.8	4138.6	2477.6	807.4	419.9	387.6	376.0	373.7	376.0	373.7	373.7
27.5°	4803.0	4184.7	2233.1	579.0	401.4	371.4	359.9	359.9	359.9	357.6	357.6
30°	4969.1	4240.1	1905.5	456.8	382.9	355.3	346.0	346.0	343.7	341.4	341.4
32.5°	5206.7	4330.1	1547.9	412.9	362.2	334.5	325.3	327.6	325.3	323.0	320.7
35°	5543.5	4470.8	1195.0	389.9	341.4	313.7	304.5	304.5	304.5	299.9	299.9
37.5°	6021.0	4685.3	895.1	366.8	320.7	293.0	281.4	281.4	279.1	274.5	276.8
40°	6611.6	4955.2	648.2	346.0	299.9	269.9	260.7	256.1	251.5	246.8	246.8
42.5°	7322.1	5218.2	486.8	325.3	279.1	251.5	239.9	235.3	226.1	221.5	219.2
45°	8118.0	5497.4	403.7	299.9	256.1	230.7	221.5	212.2	200.7	193.8	191.5
47.5°	8789.3	5668.1	359.9	274.5	233.0	209.9	200.7	186.9	173.0	168.4	168.4
50°	9193.0	5596.5	323.0	249.1	209.9	189.2	177.6	159.2	149.9	145.3	143.0
52.5°	9419.1	5384.3	293.0	228.4	189.2	166.1	149.9	133.8	129.2	124.6	124.6
55°	9573.7	5077.5	260.7	207.6	170.7	145.3	126.9	115.3	110.7	108.4	106.1
57.5°	9721.3	4703.8	230.7	189.2	152.3	129.2	108.4	103.8	94.6	92.3	92.3
60°	9765.1	4189.3	203.0	168.4	136.1	113.0	94.6	87.7	78.4	76.1	76.1
62.5°	9206.9	3333.5	179.9	143.0	120.0	96.9	83.0	73.8	64.6	64.6	64.6
65°	7693.5	2263.1	154.6	124.6	106.1	83.0	71.5	60.0	55.4	55.4	55.4
67.5°	5358.9	1261.9	131.5	106.1	90.0	69.2	60.0	50.8	48.4	50.8	50.8
70°	2415.3	500.6	110.7	87.7	73.8	57.7	50.8	43.8	48.4	48.4	48.4
72°	724.4	267.6	92.3	71.5	60.0	50.8	43.8	41.5	46.1	48.4	48.4
72.5°	537.5	239.9	87.7	69.2	60.0	48.4	41.5	41.5	46.1	48.4	48.4
75°	276.8	163.8	66.9	50.8	43.8	39.2	34.6	39.2	46.1	46.1	46.1
77.5°	216.8	133.8	55.4	39.2	36.9	34.6	32.3	36.9	41.5	41.5	41.5
80°	203.0	87.7	43.8	36.9	32.3	30.0	30.0	32.3	36.9	39.2	39.2
82.5°	205.3	71.5	39.2	34.6	30.0	27.7	27.7	30.0	34.6	36.9	36.9
85°	131.5	48.4	34.6	30.0	27.7	25.4	25.4	27.7	32.3	34.6	34.6
87.5°	43.8	36.9	30.0	27.7	23.1	23.1	23.1	23.1	27.7	30.0	32.3
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)