

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: P195113

Luminaire Tested: **NAV-AF-05-D-UNV-SL2-7060-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195113
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24258)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-AF-05-D-UNV-SL2-7060-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 5700K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II
SPILL LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 24528 lumens
Efficiency: N/A
Efficacy: 87.9 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type II - Medium - Semi-Cutoff
BUG Rating: B2 - U0 - G4

Input Watts (W): 279
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

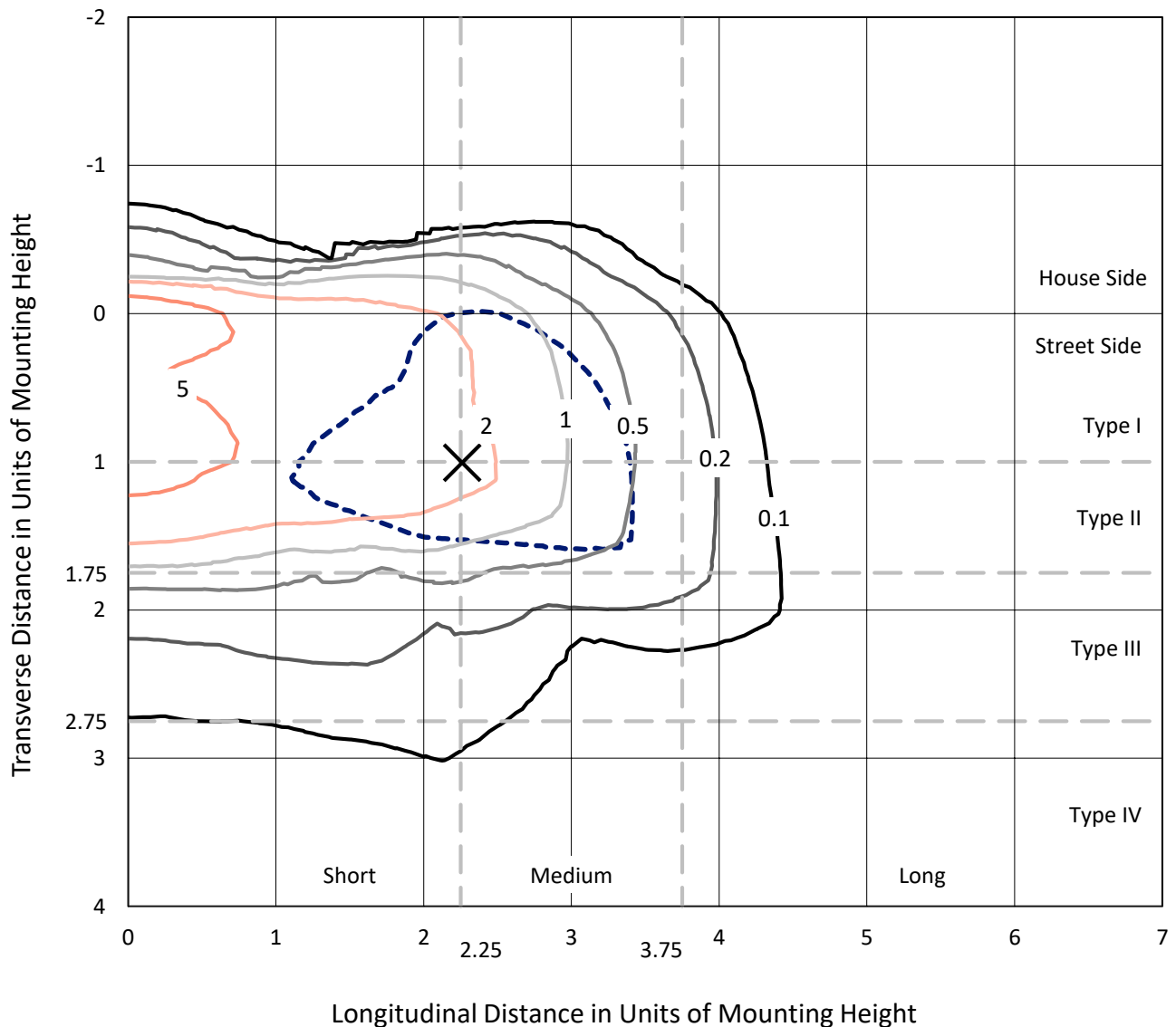


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Iso-Footcandle Lines of Horizontal Illumination

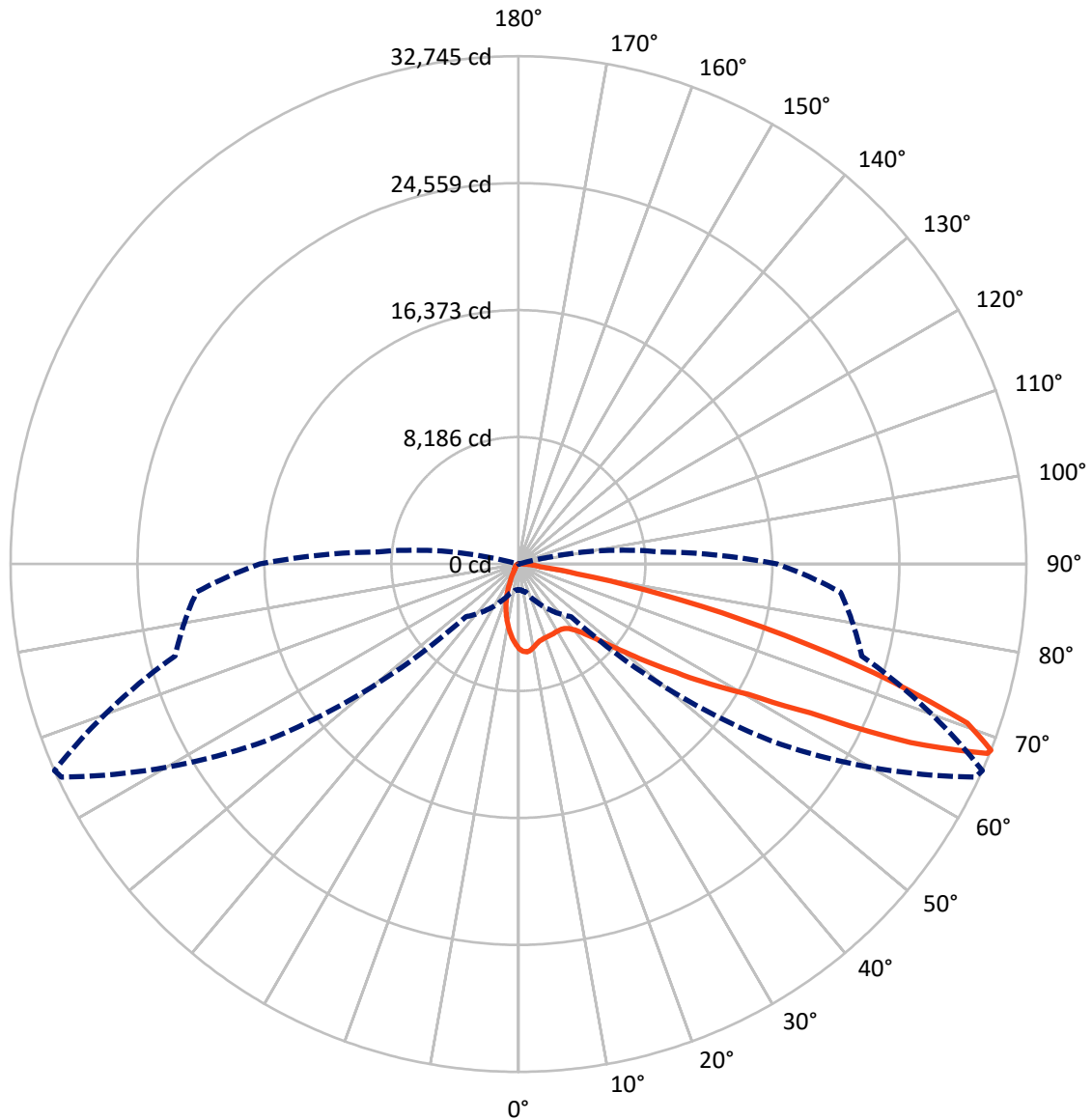
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 8.7 fc
 Type II - Medium - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 66-Deg Lateral - - - Horizontal Cone Through 68-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2484.4	0.0	2484.4
	% Fixture	10.1	0.0	10.1
Street Side	Lumens	22043.6	0.0	22043.6
	% Fixture	89.9	0.0	89.9
Total	Lumens	24528.0	0.0	24528.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	448.0	1.8
10°-20°	963.9	3.9
20°-30°	1396.8	5.7
30°-40°	2138.2	8.7
40°-50°	3657.2	14.9
50°-60°	5720.9	23.3
60°-70°	6587.4	26.9
70°-80°	3296.4	13.4
80°-90°	319.3	1.3
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°	24528.0	100.0
0°-180°	24528.0	100.0



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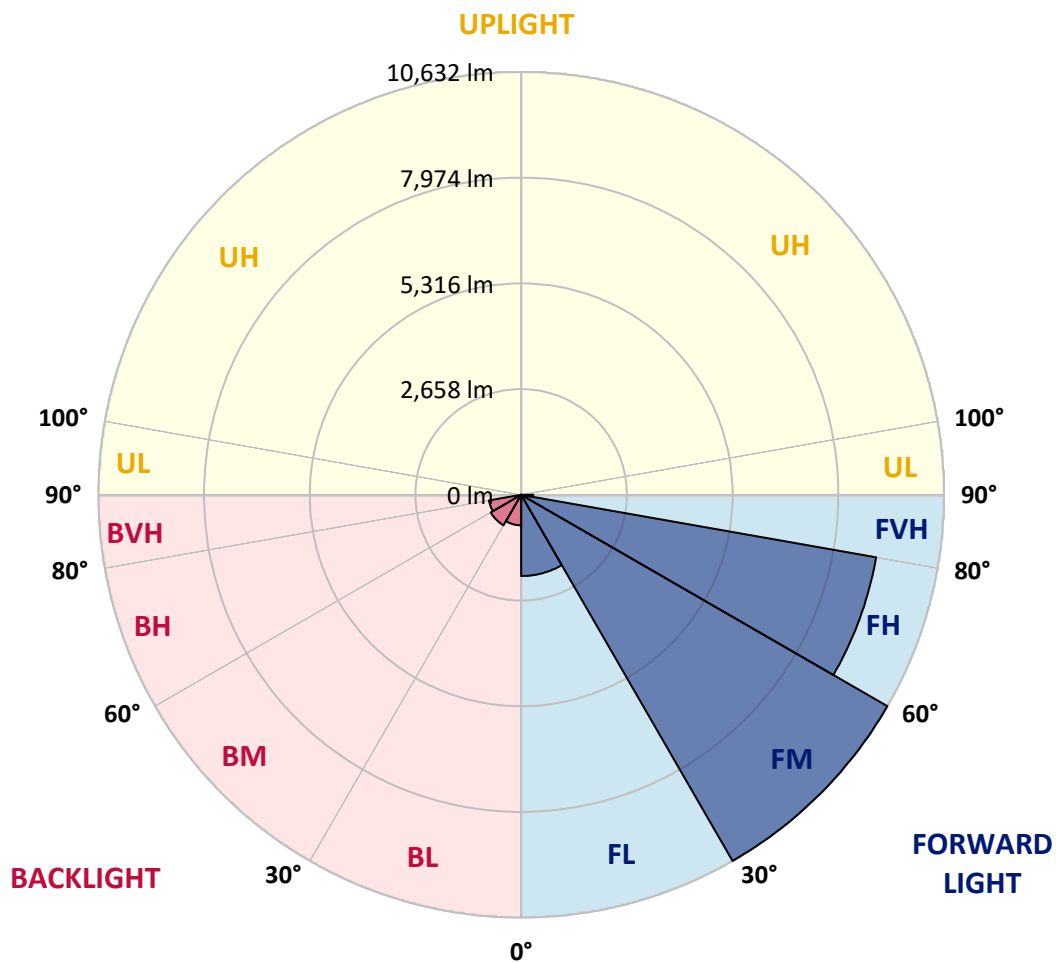
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	2041.8	8.3			
FM	(30°-60°)	10631.6	43.3			
FH	(60°-80°)	9063.0	36.9			G4/12000
FVH	(80°-90°)	307.2	1.3			G3/500
BL	(0°-30°)	766.8	3.1	B2/1000		
BM	(30°-60°)	884.7	3.6	B1/1000		
BH	(60°-80°)	820.8	3.3	B2/1000		G2/1000
BVH	(80°-90°)	12.1	0.0			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G4

Type II Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	66°	75°	85°
0°	5464.6	5464.6	5464.6	5464.6	5464.6	5464.6	5464.6	5464.6	5464.6	5464.6	5464.6
2.5°	5747.7	5751.5	5749.6	5755.4	5751.5	5722.6	5691.8	5626.3	5632.1	5547.4	5453.1
5°	5343.3	5376.0	5408.8	5441.5	5520.4	5589.8	5672.6	5691.8	5691.8	5618.6	5480.0
7.5°	4931.2	4933.2	4969.7	5014.0	5119.9	5247.0	5439.6	5612.9	5616.7	5636.0	5483.9
10°	4621.2	4630.9	4655.9	4704.0	4809.9	4935.1	5150.7	5422.2	5443.4	5585.9	5445.4
12.5°	4380.5	4392.1	4419.1	4474.9	4571.2	4700.2	4927.4	5237.4	5266.3	5537.8	5433.8
15°	4195.7	4211.1	4232.3	4288.1	4392.1	4528.8	4777.2	5114.2	5148.8	5518.5	5470.4
17.5°	4118.7	4118.7	4116.7	4155.3	4259.2	4397.9	4657.8	5048.7	5093.0	5533.9	5532.0
20°	4151.4	4145.6	4105.2	4095.6	4159.1	4297.7	4563.5	5006.3	5056.4	5562.8	5607.1
22.5°	4324.7	4313.1	4222.7	4147.6	4128.3	4220.7	4499.9	4977.5	5037.1	5622.5	5707.2
25°	4692.5	4657.8	4532.7	4363.2	4211.1	4201.5	4455.6	4962.0	5025.6	5691.8	5817.0
27.5°	5170.0	5160.4	4960.1	4732.9	4440.2	4265.0	4442.2	4950.5	5014.0	5741.9	5905.5
30°	5763.1	5766.9	5535.9	5239.3	4796.5	4444.1	4484.5	4944.7	5010.2	5745.7	5944.1
32.5°	6375.4	6379.2	6186.7	5869.0	5283.6	4752.2	4603.9	4971.7	5031.4	5730.3	5942.1
35°	6964.6	6970.4	6854.8	6598.7	5934.4	5179.6	4829.2	5064.1	5106.5	5740.0	5938.3
37.5°	7709.8	7732.9	7590.4	7351.6	6750.8	5807.3	5197.0	5250.9	5285.5	5818.9	5967.2
40°	8980.6	8949.8	8541.6	8137.2	7636.6	6571.8	5728.4	5572.4	5584.0	6023.0	6076.9
42.5°	10461.3	10422.8	9723.8	9026.8	8547.4	7494.1	6408.1	6065.4	6063.4	6365.7	6315.7
45°	11736.0	11712.9	10977.4	10047.3	9556.3	8512.7	7245.7	6775.9	6752.8	6958.8	6750.8
47.5°	12641.0	12621.7	12065.3	11133.3	10723.2	9633.3	8291.3	7744.4	7696.3	7734.8	7457.5
50°	12729.6	12708.4	12513.9	11915.1	12086.4	11277.7	9583.3	9013.3	8951.7	8892.0	8526.2
52.5°	11901.6	11899.7	12001.7	11963.2	13041.5	13393.9	11168.0	10582.6	10509.5	10357.3	9993.4
55°	10209.1	10199.4	10586.5	11148.7	13020.3	15577.4	13584.5	12450.4	12354.1	12049.9	11572.3
57.5°	7459.4	7409.4	8218.1	9410.0	12105.7	16532.5	17422.0	14770.6	14610.8	13646.1	12910.6
60°	4118.7	4137.9	5177.7	6589.1	9939.5	16343.8	20953.4	17476.0	17056.2	15022.9	14281.5
62.5°	2308.7	2356.8	3130.9	4282.3	6336.9	14813.0	22848.1	22131.8	21121.0	16628.7	16014.5
65°	1746.4	1775.3	2164.3	3304.2	3995.4	10351.6	23150.4	28642.0	27769.8	19062.6	18773.8
67.5°	1644.4	1667.5	1858.1	2740.0	3639.2	5368.3	20874.5	32493.0	32602.8	22382.2	20911.1
68°	1655.9	1684.8	1875.4	2636.0	3633.4	4802.2	19904.0	32512.3	32745.3	22917.5	20837.9
70°	1521.2	1528.9	1983.3	2586.0	3521.8	3783.6	14399.0	30284.5	30702.3	23554.8	18916.2
72.5°	581.5	583.4	889.6	2239.4	3689.3	3804.8	7253.4	23936.1	23957.2	20499.0	14747.5
75°	302.3	254.2	279.2	700.9	3523.7	3708.5	3639.2	16343.8	16241.7	13863.7	9036.4
77.5°	208.0	177.1	186.8	242.6	1465.3	3706.6	2628.3	9398.4	9377.2	5897.8	2578.3
80°	117.5	102.1	111.7	204.1	514.1	3479.4	2449.3	4039.7	3806.7	1035.9	417.8
82.5°	59.7	50.1	59.7	171.4	319.6	2189.3	2381.9	1584.7	1411.4	246.5	271.5
85°	15.4	15.4	28.9	119.4	198.3	718.2	2135.4	1143.8	1028.2	107.8	192.6
87.5°	3.9	1.9	11.6	44.3	71.2	156.0	1184.2	637.3	548.8	55.8	111.7
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°	5464.6	5464.6	5464.6	5464.6	5464.6	5464.6	5464.6	5464.6	5464.6	5464.6	5464.6
2.5°	5414.5	5360.6	5254.7	5135.3	5050.6	4958.2	4904.3	4838.8	4788.8	4744.5	4777.2
5°	5395.3	5291.3	5056.4	4792.6	4571.2	4359.4	4201.5	4051.3	3937.7	3866.4	3895.3
7.5°	5345.2	5191.2	4809.9	4397.9	4035.9	3695.1	3417.8	3169.4	2976.8	2872.9	2905.6
10°	5260.5	5042.9	4530.7	3958.9	3452.4	2971.1	2559.0	2189.3	1910.1	1779.2	1810.0
12.5°	5198.9	4912.0	4241.9	3535.2	2869.0	2185.5	1638.6	1215.0	997.4	866.5	878.0
15°	5171.9	4809.9	3972.3	3088.5	2231.7	1403.7	885.7	641.2	566.1	539.1	541.1
17.5°	5175.8	4729.1	3716.2	2624.5	1588.5	806.8	543.0	489.1	477.5	471.8	471.8
20°	5185.4	4648.2	3450.5	2141.2	1016.7	519.9	452.5	435.2	429.4	421.7	423.6
22.5°	5214.3	4586.6	3182.9	1655.9	625.8	423.6	400.5	385.1	375.5	363.9	365.8
25°	5258.6	4540.4	2919.1	1191.9	440.9	369.7	348.5	327.3	310.0	296.5	298.5
27.5°	5285.5	4474.9	2638.0	812.6	365.8	323.5	294.6	265.7	246.5	234.9	233.0
30°	5266.3	4369.0	2318.3	533.4	323.5	279.2	244.5	211.8	192.6	182.9	182.9
32.5°	5214.3	4232.3	1965.9	389.0	286.9	240.7	198.3	169.4	156.0	150.2	152.1
35°	5154.6	4089.8	1590.5	329.3	258.0	204.1	161.7	138.6	132.9	130.9	130.9
37.5°	5121.9	3966.6	1230.4	298.5	231.1	169.4	132.9	119.4	113.6	113.6	113.6
40°	5158.4	3872.2	910.8	275.3	204.1	140.6	111.7	102.1	100.1	100.1	100.1
42.5°	5314.4	3839.5	666.2	256.1	177.1	117.5	96.3	88.6	86.6	88.6	88.6
45°	5618.6	3910.7	504.5	236.8	152.1	96.3	82.8	77.0	77.0	78.9	78.9
47.5°	6134.7	4093.6	414.0	217.6	127.1	80.9	71.2	67.4	67.4	69.3	69.3
50°	6935.7	4432.5	371.6	196.4	105.9	69.3	59.7	57.8	57.8	59.7	61.6
52.5°	8152.6	5077.6	350.4	175.2	86.6	57.8	50.1	48.1	50.1	52.0	52.0
55°	9506.3	5903.6	325.4	154.0	73.2	48.1	40.4	40.4	42.4	46.2	46.2
57.5°	10767.5	6700.8	302.3	127.1	63.5	38.5	32.7	32.7	36.6	40.4	40.4
60°	12099.9	7482.5	271.5	102.1	53.9	30.8	27.0	27.0	32.7	36.6	38.5
62.5°	13746.2	8391.4	231.1	80.9	42.4	23.1	19.3	25.0	30.8	36.6	36.6
65°	16126.2	9521.7	181.0	63.5	32.7	17.3	15.4	23.1	28.9	34.7	36.6
67.5°	16990.7	9377.2	136.7	52.0	25.0	13.5	13.5	21.2	28.9	34.7	34.7
68°	16674.9	9061.5	130.9	50.1	23.1	13.5	13.5	21.2	28.9	34.7	34.7
70°	14529.9	7407.4	107.8	38.5	19.3	11.6	11.6	19.3	28.9	32.7	34.7
72.5°	10879.1	4921.6	92.4	25.0	17.3	11.6	9.6	19.3	27.0	32.7	32.7
75°	6240.6	2043.0	78.9	19.3	15.4	9.6	9.6	17.3	27.0	32.7	32.7
77.5°	1763.8	477.5	63.5	15.4	13.5	9.6	7.7	17.3	25.0	30.8	30.8
80°	323.5	142.5	50.1	13.5	11.6	9.6	7.7	17.3	25.0	30.8	30.8
82.5°	213.7	67.4	36.6	13.5	11.6	9.6	7.7	15.4	23.1	28.9	28.9
85°	159.8	48.1	23.1	13.5	11.6	9.6	7.7	15.4	23.1	28.9	28.9
87.5°	88.6	21.2	17.3	15.4	13.5	9.6	7.7	13.5	21.2	27.0	27.0
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)