

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: P196126

Luminaire Tested: **NAV-AF-04-D-UNV-SL3-1200-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196126
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24263)
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-SL3-1200-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 4000K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III
SPILL LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 23240.4 lumens
Efficiency: N/A
Efficacy: 90.1 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type III - Medium - Non-Cutoff
BUG Rating: B2 - U0 - G4

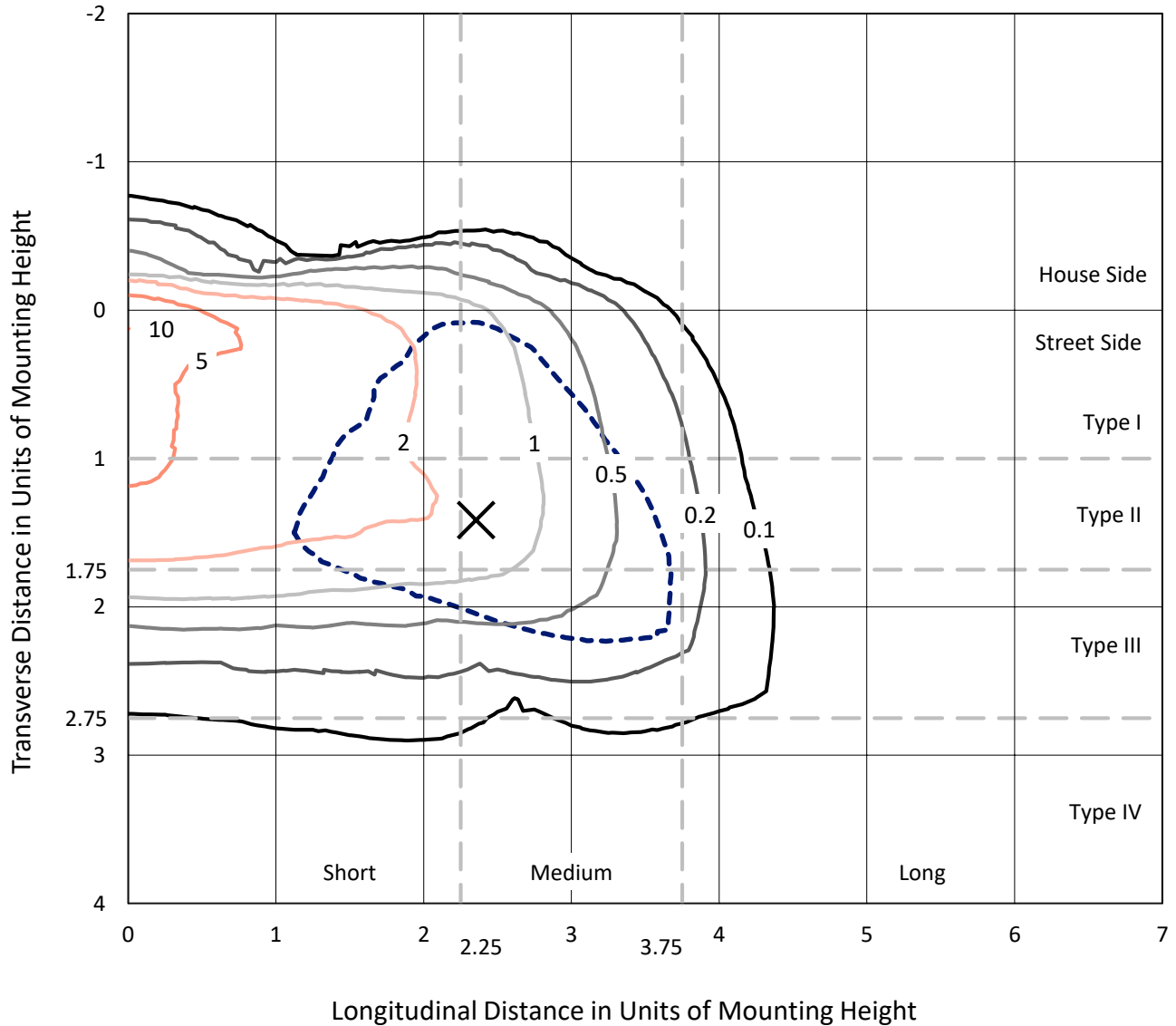
Input Watts (W): 258
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

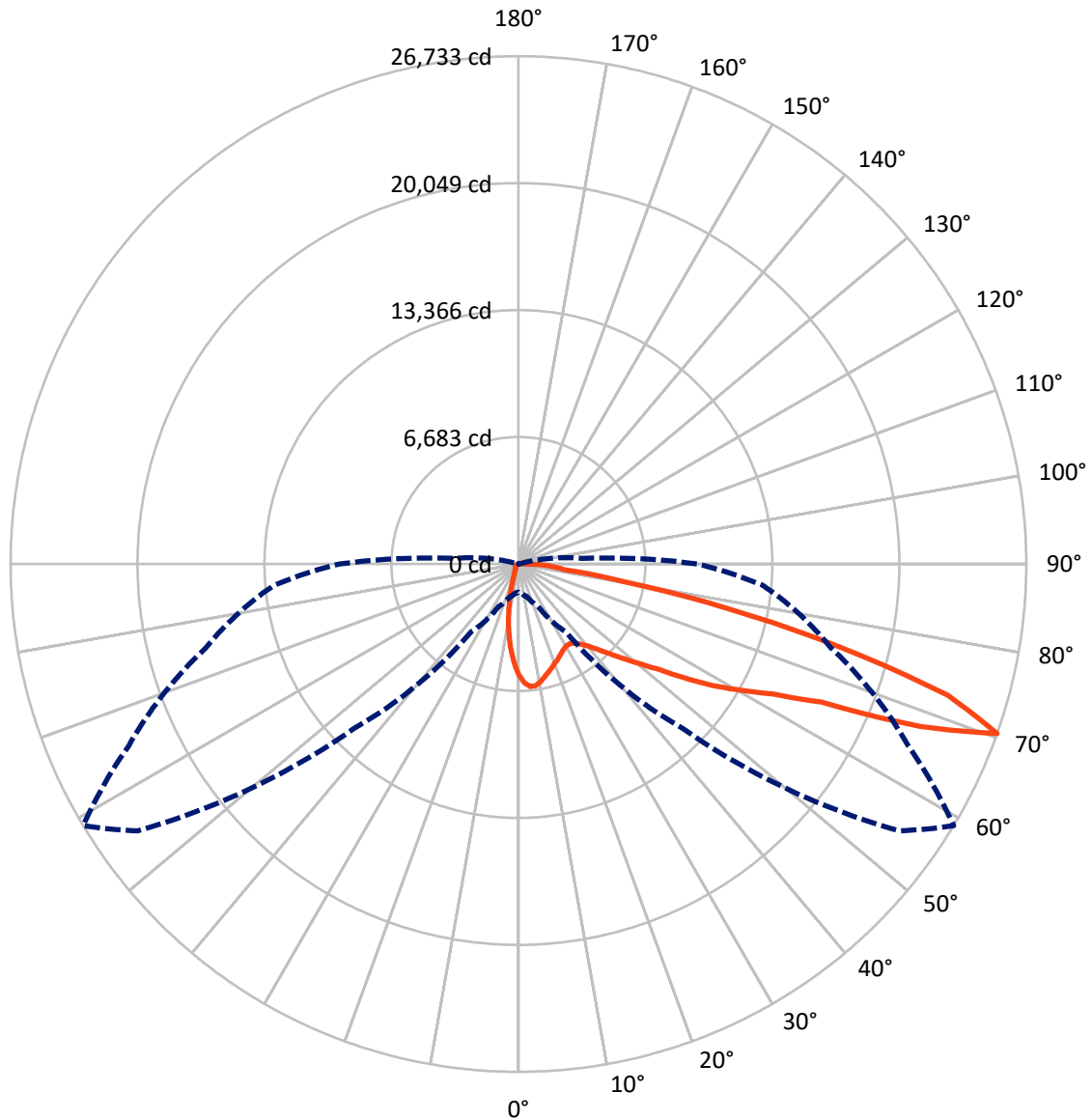
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 10 fc
 Type III - Medium - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 59-Deg Lateral - - - Horizontal Cone Through 70-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1786.6	0.0	1786.6
	% Fixture	7.7	0.0	7.7
Street Side	Lumens	21453.9	0.0	21453.9
	% Fixture	92.3	0.0	92.3
Total	Lumens	23240.4	0.0	23240.4
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	483.2	2.1
10°-20°	1013.6	4.4
20°-30°	1372.0	5.9
30°-40°	1980.1	8.5
40°-50°	3288.4	14.1
50°-60°	5030.0	21.6
60°-70°	6256.1	26.9
70°-80°	3458.4	14.9
80°-90°	358.6	1.5
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°	23240.4	100.0
0°-180°	23240.4	100.0

Coefficient of Utilization



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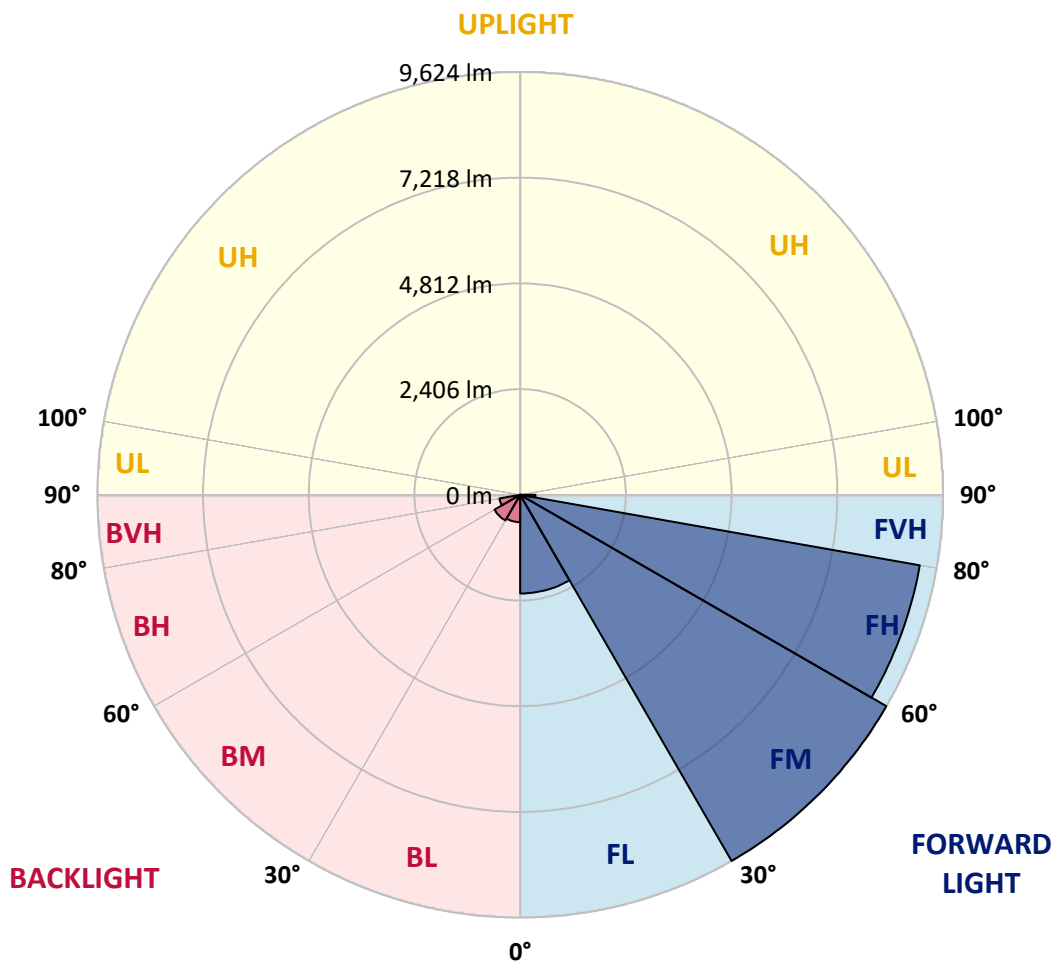
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	2246.3	9.7			
FM	(30°-60°)	9624.1	41.4			
FH	(60°-80°)	9235.3	39.7			G4/12000
FVH	(80°-90°)	348.2	1.5			G3/500
BL	(0°-30°)	622.6	2.7	B2/1000		
BM	(30°-60°)	674.4	2.9	B1/1000		
BH	(60°-80°)	479.3	2.1	B1/500		G1/500
BVH	(80°-90°)	10.4	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 III Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	59°	65°	75°	85°
0°	5876.6	5876.6	5876.6	5876.6	5876.6	5876.6	5876.6	5876.6	5876.6	5876.6	5876.6
2.5°	6642.8	6632.3	6588.4	6579.7	6530.6	6432.4	6318.5	6272.8	6180.0	6032.8	5869.7
5°	6753.2	6758.5	6762.0	6742.8	6735.7	6655.1	6528.9	6474.5	6350.1	6108.0	5810.1
7.5°	6339.5	6353.5	6397.3	6416.7	6500.8	6532.4	6506.1	6471.0	6372.8	6087.1	5668.1
10°	5902.9	5929.2	5976.6	6008.2	6111.6	6195.7	6302.7	6311.5	6290.4	6016.9	5508.5
12.5°	5527.8	5552.4	5605.0	5668.1	5773.2	5882.0	6041.4	6097.6	6167.7	5971.4	5394.5
15°	5205.2	5212.2	5263.1	5342.0	5480.5	5629.5	5818.9	5901.2	6038.0	5953.8	5306.9
17.5°	4923.0	4924.7	4958.0	5029.8	5198.2	5394.5	5615.5	5724.1	5897.7	5929.2	5229.7
20°	4737.1	4735.3	4737.1	4775.6	4924.7	5157.8	5426.1	5540.1	5762.7	5899.5	5150.9
22.5°	4674.0	4665.2	4624.9	4610.8	4705.6	4910.7	5231.5	5380.5	5641.8	5890.7	5093.0
25°	4751.1	4745.9	4660.0	4579.3	4588.0	4716.1	5033.4	5215.7	5547.1	5922.3	5079.0
27.5°	5000.1	4989.5	4858.1	4700.3	4600.3	4623.1	4886.1	5077.2	5471.7	5999.4	5098.3
30°	5326.2	5327.9	5187.7	4996.6	4761.6	4631.9	4807.3	4987.8	5420.8	6115.1	5140.3
32.5°	5689.0	5687.3	5587.4	5366.5	5066.7	4793.2	4842.2	4994.9	5427.9	6285.1	5220.9
35°	6064.3	6044.9	6011.7	5817.0	5466.4	5075.5	5001.8	5114.0	5501.5	6509.5	5357.7
37.5°	6497.3	6490.3	6523.6	6318.5	5960.8	5491.0	5282.3	5357.7	5687.3	6840.9	5578.7
40°	7186.3	7147.8	7163.5	6884.8	6518.3	6050.2	5675.0	5694.4	5983.6	7279.2	5927.5
42.5°	8499.4	8343.4	8050.6	7528.2	7131.9	6670.9	6188.8	6155.4	6402.6	7810.4	6386.8
45°	10068.5	9889.7	9151.6	8238.2	7745.6	7337.1	6823.4	6734.0	6918.0	8443.3	6979.4
47.5°	11378.2	11185.3	10207.0	8979.8	8369.7	8024.3	7526.4	7421.2	7535.2	9177.9	7691.2
50°	11825.2	11718.3	10859.2	9596.9	8999.1	8795.7	8408.2	8232.9	8261.0	9970.4	8522.2
52.5°	11620.1	11583.3	11008.2	10019.4	9581.2	9647.8	9374.2	9190.2	9158.6	10836.4	9440.9
55°	11187.1	11169.5	10889.0	10254.4	10094.8	10428.0	10729.4	10569.9	10271.9	11756.9	10200.0
57.5°	10568.2	10634.8	10836.4	10706.7	10725.9	11251.9	11988.3	12070.6	11625.3	12489.7	10762.8
60°	8914.9	9093.7	10017.7	11192.3	12091.7	12622.9	13336.4	13490.8	12772.0	12991.1	11413.2
62.5°	6590.3	6846.2	8162.8	10321.0	12843.8	15229.9	15130.0	15061.6	13865.9	13662.5	12596.6
65°	3871.1	4170.8	5284.1	8064.6	11709.5	16905.9	18478.6	17531.8	15533.2	15058.0	14481.3
67.5°	1928.5	1930.2	2433.4	4256.7	8653.8	15736.6	23366.4	22819.4	19078.1	17114.6	15224.7
70°	1483.2	1523.5	1800.5	2473.7	4376.0	12256.5	24486.7	26732.6	22640.6	17023.4	12917.4
72.5°	1257.0	1283.3	1602.5	2152.9	3271.4	6728.7	21197.7	23629.3	21604.4	14383.1	9521.5
75°	904.6	925.7	1418.3	1953.0	3012.0	3338.1	14540.9	17524.8	16209.9	10117.6	5240.3
77.5°	224.4	222.7	494.4	1584.9	2694.7	2780.6	8343.4	11237.9	9300.7	4142.7	1346.4
80°	99.9	96.5	112.2	333.1	2507.0	2624.5	3669.4	5675.0	3567.7	671.5	412.0
82.5°	70.2	66.6	70.2	122.8	838.0	2435.1	2217.8	2459.7	1306.1	229.7	175.3
85°	22.8	21.1	38.6	103.4	235.0	1404.3	2163.4	1837.3	971.3	98.2	117.4
87.5°	3.5	3.5	14.0	56.1	68.3	468.1	1269.3	1272.9	436.5	57.9	52.6
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°	5876.6	5876.6	5876.6	5876.6	5876.6	5876.6	5876.6	5876.6	5876.6	5876.6	5876.6
2.5°	5787.2	5683.8	5538.3	5392.8	5261.3	5126.3	5017.6	4966.7	4944.0	4912.4	4844.1
5°	5654.1	5466.4	5147.4	4833.5	4540.8	4260.2	4020.1	3883.3	3736.0	3729.1	3657.2
7.5°	5440.2	5173.7	4670.5	4183.1	3736.0	3308.2	2940.1	2701.6	2538.7	2436.9	2366.8
10°	5201.7	4859.8	4193.6	3508.1	2899.8	2328.2	1854.9	1546.3	1358.7	1264.1	1209.7
12.5°	5012.4	4582.8	3723.7	2861.2	2098.6	1442.9	1002.8	778.4	678.5	640.0	622.4
15°	4849.3	4328.6	3283.7	2282.6	1400.8	829.2	580.3	506.7	490.9	490.9	489.2
17.5°	4684.5	4083.2	2856.0	1714.6	881.9	543.5	457.6	447.0	448.8	454.1	454.1
20°	4528.5	3850.0	2443.9	1222.0	578.6	434.8	415.5	412.0	417.3	424.3	422.5
22.5°	4402.3	3644.9	2058.3	839.7	445.3	394.4	382.2	377.0	380.4	385.7	383.9
25°	4312.9	3469.5	1704.1	585.5	387.5	359.4	345.3	338.4	334.8	338.4	336.7
27.5°	4258.4	3322.2	1371.0	440.1	347.1	324.4	306.8	292.8	284.0	284.0	280.5
30°	4223.5	3183.7	1074.7	364.7	313.8	289.3	264.7	245.4	231.4	227.9	226.2
32.5°	4221.6	3064.6	802.9	322.5	282.2	254.2	224.4	199.9	184.1	180.6	178.8
35°	4265.5	2968.1	590.9	291.0	254.2	220.9	187.6	161.3	147.3	147.3	145.5
37.5°	4379.5	2912.0	447.0	266.5	231.4	192.8	157.7	133.3	121.0	124.5	124.5
40°	4591.6	2901.5	364.7	247.2	212.2	168.3	128.0	108.7	103.4	108.7	108.7
42.5°	4915.9	2957.7	324.4	233.1	194.6	143.7	106.9	92.9	91.1	96.5	96.5
45°	5338.5	3068.0	301.6	220.9	175.3	119.2	89.4	80.6	78.9	85.9	85.9
47.5°	5850.4	3217.1	280.5	206.8	156.0	98.2	75.4	68.3	68.3	75.4	77.1
50°	6457.0	3418.7	259.4	192.8	140.2	82.4	63.1	57.9	59.6	66.6	68.3
52.5°	7154.7	3665.9	240.2	180.6	122.8	66.6	52.6	49.1	50.8	57.9	59.6
55°	7756.1	3881.6	217.4	168.3	99.9	54.3	43.8	42.0	43.8	52.6	52.6
57.5°	8280.3	4088.4	196.4	149.0	78.9	43.8	35.1	35.1	38.6	47.4	49.1
60°	8976.3	4414.5	178.8	126.2	59.6	33.3	28.0	29.8	35.1	42.0	43.8
62.5°	10208.7	4968.5	156.0	105.2	43.8	26.3	22.8	24.6	31.5	40.3	42.0
65°	11751.6	5492.7	129.7	87.7	33.3	19.3	17.5	22.8	31.5	40.3	42.0
67.5°	11593.8	4777.4	101.7	70.2	24.6	15.8	14.0	21.1	29.8	40.3	42.0
70°	9402.4	3348.5	75.4	47.4	19.3	14.0	14.0	21.1	29.8	38.6	40.3
72.5°	6521.8	1863.6	57.9	31.5	17.5	14.0	12.3	19.3	28.0	38.6	40.3
75°	3103.1	571.5	45.6	22.8	15.8	12.3	10.5	19.3	28.0	38.6	40.3
77.5°	596.1	145.5	36.8	19.3	14.0	12.3	10.5	17.5	28.0	36.8	38.6
80°	201.6	64.9	29.8	17.5	14.0	12.3	10.5	17.5	26.3	35.1	36.8
82.5°	110.5	36.8	26.3	15.8	14.0	10.5	8.8	15.8	24.6	35.1	36.8
85°	85.9	26.3	21.1	15.8	14.0	10.5	8.8	15.8	24.6	33.3	35.1
87.5°	43.8	19.3	17.5	15.8	14.0	10.5	8.8	14.0	22.8	31.5	35.1
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)