

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: P196121

Luminaire Tested: **NAV-AF-05-D-UNV-SL3-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196121
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-05-D-UNV-SL3-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 4000K, 1050mA 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: 26111.9 lumens
Efficiency: N/A
Efficacy: 93.6 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type III - Medium - Non-Cutoff
BUG Rating: B2 - U0 - G4

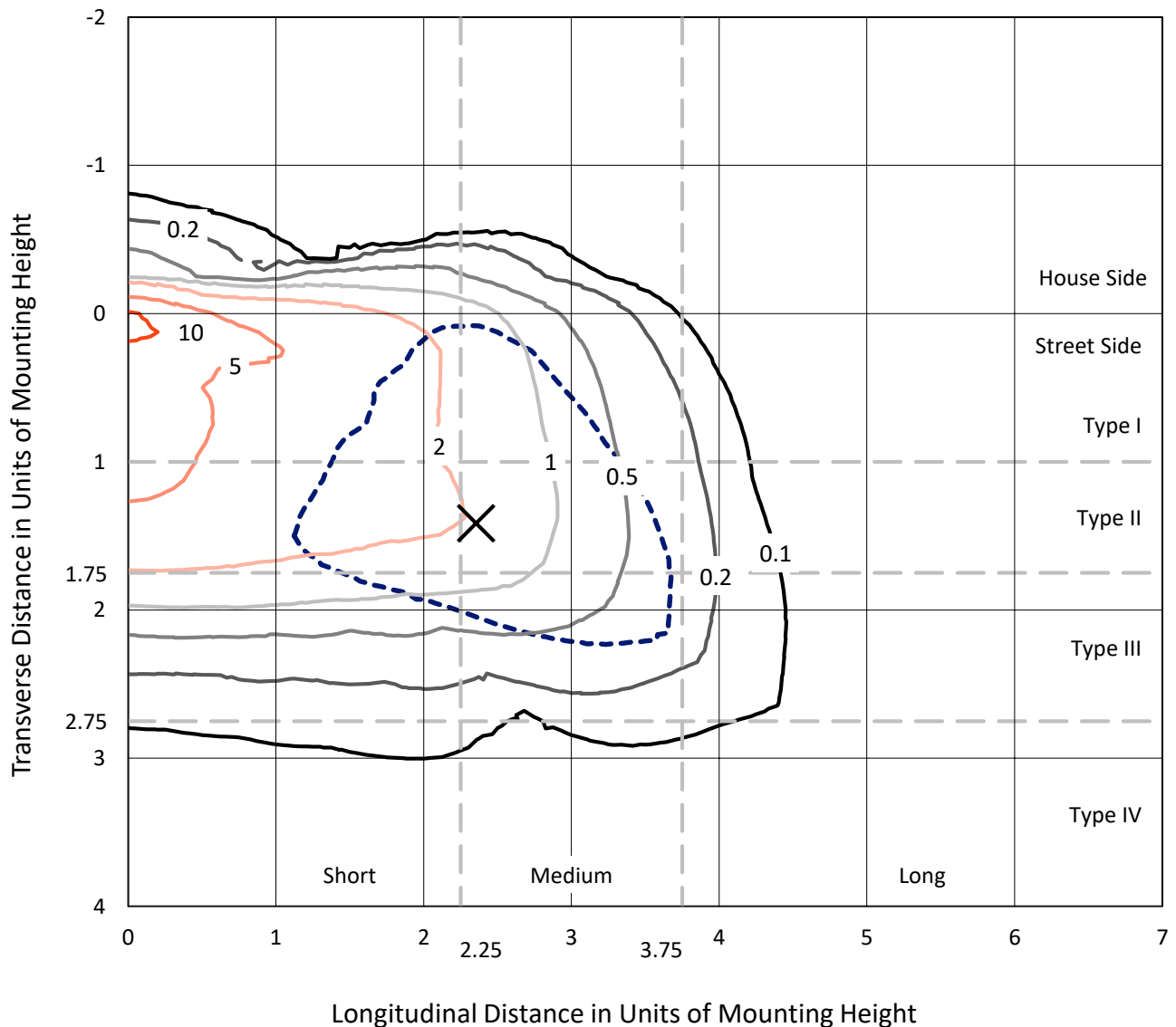
Input Watts (W): 279
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

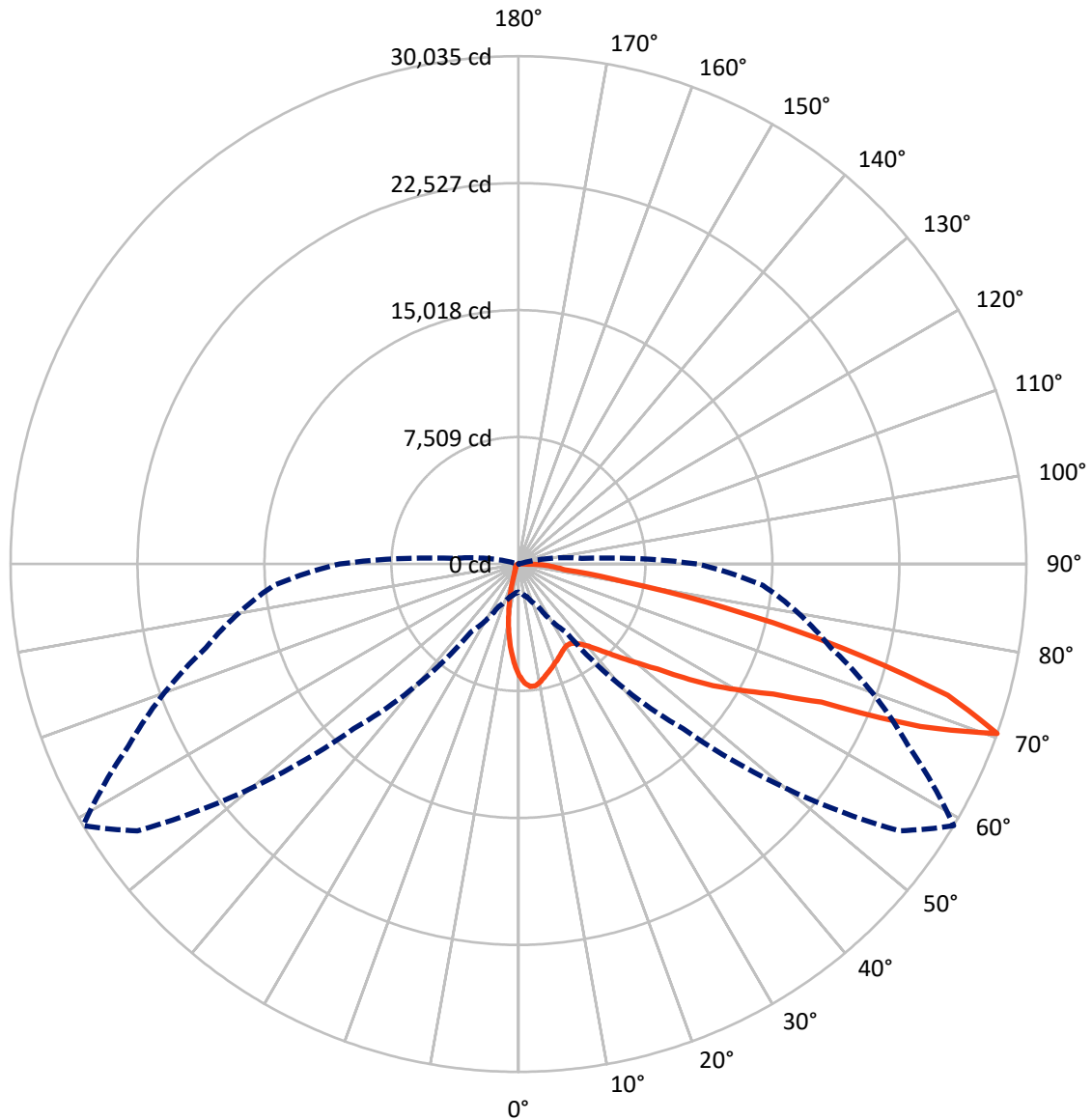
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 11.2 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	2007.3	0.0	2007.3
	% Fixture	7.7	0.0	7.7
Street Side	Lumens	24104.5	0.0	24104.5
	% Fixture	92.3	0.0	92.3
Total	Lumens	26111.9	0.0	26111.9
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	542.9	2.1
10°-20°	1138.8	4.4
20°-30°	1541.6	5.9
30°-40°	2224.7	8.5
40°-50°	3694.7	14.1
50°-60°	5651.5	21.6
60°-70°	7029.1	26.9
70°-80°	3885.7	14.9
80°-90°	402.9	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°	26111.9	100.0
0°-180°	26111.9	100.0

Coefficient of Utilization



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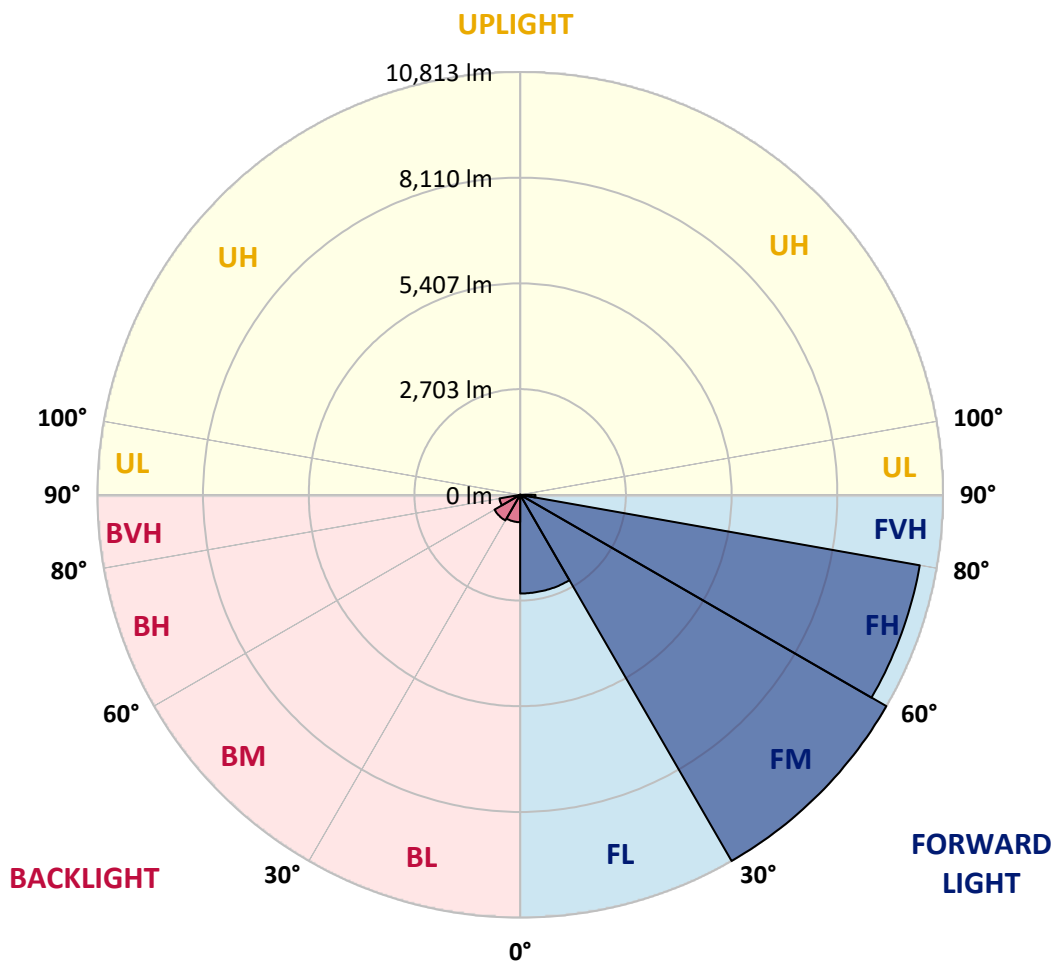
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	2523.8	9.7			
FM (30°-60°)	10813.2	41.4			
FH (60°-80°)	10376.3	39.7			G4/12000
FVH (80°-90°)	391.3	1.5			G3/500
BL (0°-30°)	699.5	2.7	B2/1000		
BM (30°-60°)	757.7	2.9	B1/1000		
BH (60°-80°)	538.5	2.1	B2/1000		G2/1000
BVH (80°-90°)	11.6	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°	6602.7	6602.7	6602.7	6602.7	6602.7	6602.7	6602.7	6602.7	6602.7	6602.7	6602.7
2.5°	7463.6	7451.7	7402.5	7392.7	7337.5	7227.1	7099.2	7047.9	6943.5	6778.1	6594.9
5°	7587.6	7593.6	7597.5	7575.9	7568.0	7477.4	7335.5	7274.4	7134.6	6862.8	6527.9
7.5°	7122.8	7138.6	7187.8	7209.5	7304.0	7339.5	7309.9	7270.5	7160.2	6839.1	6368.4
10°	6632.3	6661.9	6715.1	6750.5	6866.7	6961.3	7081.4	7091.3	7067.6	6760.4	6189.1
12.5°	6210.7	6238.4	6297.4	6368.4	6486.5	6608.7	6787.9	6850.9	6929.8	6709.1	6061.1
15°	5848.3	5856.2	5913.3	6002.0	6157.6	6325.0	6537.8	6630.4	6784.0	6689.4	5962.6
17.5°	5531.2	5533.1	5570.6	5651.3	5840.4	6061.1	6309.3	6431.4	6626.4	6661.9	5875.9
20°	5322.4	5320.4	5322.4	5365.7	5533.1	5795.1	6096.5	6224.6	6474.7	6628.3	5787.2
22.5°	5251.4	5241.6	5196.3	5180.5	5286.9	5517.4	5877.9	6045.3	6338.8	6618.5	5722.3
25°	5338.2	5332.2	5235.7	5145.1	5155.0	5298.8	5655.3	5860.2	6232.4	6654.0	5706.5
27.5°	5617.8	5606.1	5458.3	5281.0	5168.8	5194.3	5489.8	5704.5	6147.7	6740.6	5728.1
30°	5984.3	5986.2	5828.6	5614.0	5349.9	5204.2	5401.2	5604.0	6090.6	6870.6	5775.5
32.5°	6392.0	6390.0	6277.7	6029.6	5692.7	5385.4	5440.6	5611.9	6098.5	7061.7	5866.0
35°	6813.5	6791.9	6754.4	6535.7	6141.8	5702.5	5619.8	5745.9	6181.2	7313.8	6019.7
37.5°	7300.1	7292.2	7329.6	7099.2	6697.3	6169.4	5935.0	6019.7	6390.0	7686.1	6267.9
40°	8074.2	8030.9	8048.6	7735.3	7323.7	6797.7	6376.3	6397.8	6722.9	8178.6	6659.8
42.5°	9549.6	9374.2	9045.2	8458.3	8013.1	7495.1	6953.4	6916.0	7193.7	8775.4	7176.0
45°	11312.5	11111.6	10282.3	9256.1	8702.5	8243.6	7666.4	7565.9	7772.8	9486.5	7841.7
47.5°	12783.9	12567.3	11468.1	10089.3	9403.8	9015.8	8456.3	8338.2	8466.1	10311.9	8641.5
50°	13286.3	13166.1	12200.9	10782.6	10110.9	9882.4	9447.2	9250.1	9281.6	11202.2	9575.1
52.5°	13055.8	13014.4	12368.3	11257.4	10764.9	10839.8	10532.5	10325.7	10290.2	12175.3	10607.3
55°	12569.2	12549.6	12234.4	11521.3	11342.1	11716.4	12055.2	11875.8	11541.0	13209.5	11460.2
57.5°	11873.9	11948.8	12175.3	12029.5	12051.2	12642.1	13469.4	13562.0	13061.6	14032.8	12092.6
60°	10016.4	10217.3	11255.4	12575.1	13585.7	14182.5	14984.2	15157.6	14350.0	14596.2	12823.3
62.5°	7404.4	7692.1	9171.4	11596.2	14430.7	17111.6	16999.3	16922.5	15579.1	15350.6	14152.9
65°	4349.3	4686.1	5937.0	9061.1	13156.3	18994.7	20761.6	19697.9	17452.4	16918.6	16270.4
67.5°	2166.8	2168.8	2734.0	4782.7	9722.9	17680.9	26253.4	25638.8	21435.3	19229.1	17105.7
70°	1666.5	1711.7	2023.0	2779.4	4916.6	13770.9	27512.1	30035.4	25437.9	19126.7	14513.4
72.5°	1412.4	1441.8	1800.4	2418.9	3675.7	7560.0	23816.8	26548.8	24273.8	16160.2	10697.9
75°	1016.4	1040.0	1593.6	2194.3	3384.1	3750.4	16337.4	19690.1	18212.7	11367.6	5887.7
77.5°	252.2	250.2	555.5	1780.7	3027.5	3124.1	9374.2	12626.4	10449.7	4654.6	1512.8
80°	112.3	108.3	126.0	374.3	2816.8	2948.8	4122.8	6376.3	4008.5	754.4	462.9
82.5°	78.8	74.9	78.8	137.9	941.5	2736.1	2491.8	2763.6	1467.5	258.1	197.0
85°	25.6	23.6	43.4	116.2	263.9	1577.8	2430.7	2064.3	1091.3	110.3	132.0
87.5°	4.0	4.0	15.8	63.0	76.8	525.9	1426.1	1430.1	490.5	65.0	59.1
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°	6602.7	6602.7	6602.7	6602.7	6602.7	6602.7	6602.7	6602.7	6602.7	6602.7	6602.7
2.5°	6502.3	6386.1	6222.6	6059.0	5911.3	5759.7	5637.6	5580.4	5554.8	5519.3	5442.5
5°	6352.6	6141.8	5783.4	5430.7	5101.8	4786.6	4516.7	4363.1	4197.7	4189.7	4109.0
7.5°	6112.2	5812.8	5247.5	4699.9	4197.7	3717.0	3303.3	3035.4	2852.3	2738.0	2659.3
10°	5844.4	5460.3	4711.7	3941.5	3258.0	2615.9	2084.1	1737.4	1526.5	1420.3	1359.2
12.5°	5631.7	5149.0	4183.9	3214.7	2357.8	1621.2	1126.7	874.6	762.3	718.9	699.3
15°	5448.4	4863.4	3689.4	2564.6	1573.9	931.7	652.0	569.3	551.6	551.6	549.5
17.5°	5263.3	4587.6	3208.8	1926.4	990.8	610.6	514.1	502.3	504.3	510.1	510.1
20°	5088.0	4325.6	2745.9	1372.9	650.0	488.5	466.9	462.9	468.8	476.7	474.8
22.5°	4946.2	4095.2	2312.6	943.6	500.3	443.2	429.4	423.5	427.5	433.3	431.4
25°	4845.7	3898.3	1914.7	657.9	435.4	403.8	388.0	380.1	376.2	380.1	378.2
27.5°	4784.6	3732.7	1540.4	494.4	390.1	364.4	344.7	329.0	319.1	319.1	315.2
30°	4745.3	3577.2	1207.5	409.7	352.6	325.0	297.5	275.8	260.0	256.0	254.1
32.5°	4743.2	3443.2	902.1	362.4	317.1	285.6	252.2	224.5	206.8	202.9	200.9
35°	4792.5	3334.8	663.8	326.9	285.6	248.2	210.7	181.3	165.5	165.5	163.5
37.5°	4920.5	3271.8	502.3	299.4	260.0	216.7	177.3	149.7	136.0	139.8	139.8
40°	5158.8	3260.0	409.7	277.7	238.3	189.1	143.8	122.1	116.2	122.1	122.1
42.5°	5523.3	3323.1	364.4	262.0	218.6	161.5	120.2	104.4	102.4	108.3	108.3
45°	5998.0	3447.1	338.8	248.2	197.0	133.9	100.5	90.6	88.7	96.6	96.6
47.5°	6573.2	3614.6	315.2	232.4	175.3	110.3	84.7	76.8	76.8	84.7	86.6
50°	7254.8	3841.1	291.5	216.7	157.5	92.6	70.9	65.0	67.0	74.9	76.8
52.5°	8038.8	4118.8	269.9	202.9	137.9	74.9	59.1	55.1	57.1	65.0	67.0
55°	8714.3	4361.1	244.3	189.1	112.3	61.1	49.2	47.3	49.2	59.1	59.1
57.5°	9303.3	4593.6	220.7	167.5	88.7	49.2	39.4	39.4	43.4	53.2	55.1
60°	10085.4	4960.0	200.9	141.8	67.0	37.4	31.5	33.5	39.4	47.3	49.2
62.5°	11470.1	5582.3	175.3	118.2	49.2	29.6	25.6	27.6	35.5	45.3	47.3
65°	13203.5	6171.4	145.8	98.5	37.4	21.7	19.7	25.6	35.5	45.3	47.3
67.5°	13026.3	5367.7	114.3	78.8	27.6	17.7	15.8	23.6	33.5	45.3	47.3
70°	10564.0	3762.3	84.7	53.2	21.7	15.8	15.8	23.6	33.5	43.4	45.3
72.5°	7327.6	2093.9	65.0	35.5	19.7	15.8	13.8	21.7	31.5	43.4	45.3
75°	3486.5	642.1	51.2	25.6	17.7	13.8	11.9	21.7	31.5	43.4	45.3
77.5°	669.7	163.5	41.3	21.7	15.8	13.8	11.9	19.7	31.5	41.3	43.4
80°	226.5	72.8	33.5	19.7	15.8	13.8	11.9	19.7	29.6	39.4	41.3
82.5°	124.1	41.3	29.6	17.7	15.8	11.9	9.8	17.7	27.6	39.4	41.3
85°	96.6	29.6	23.6	17.7	15.8	11.9	9.8	17.7	27.6	37.4	39.4
87.5°	49.2	21.7	19.7	17.7	15.8	11.9	9.8	15.8	25.6	35.5	39.4
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)