

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: P196474

Luminaire Tested: **NAV-AF-04-D-UNV-AFL-7030-800-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196474
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24283)
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-AFL-7030-800-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 3000K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND AUTOMOTIVE FRONTLINE OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 16002.1 lumens
Efficiency: N/A
Efficacy: 93.6 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type II - Short - Full Cutoff
BUG Rating: B1 - U0 - G2

Input Watts (W): 171
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

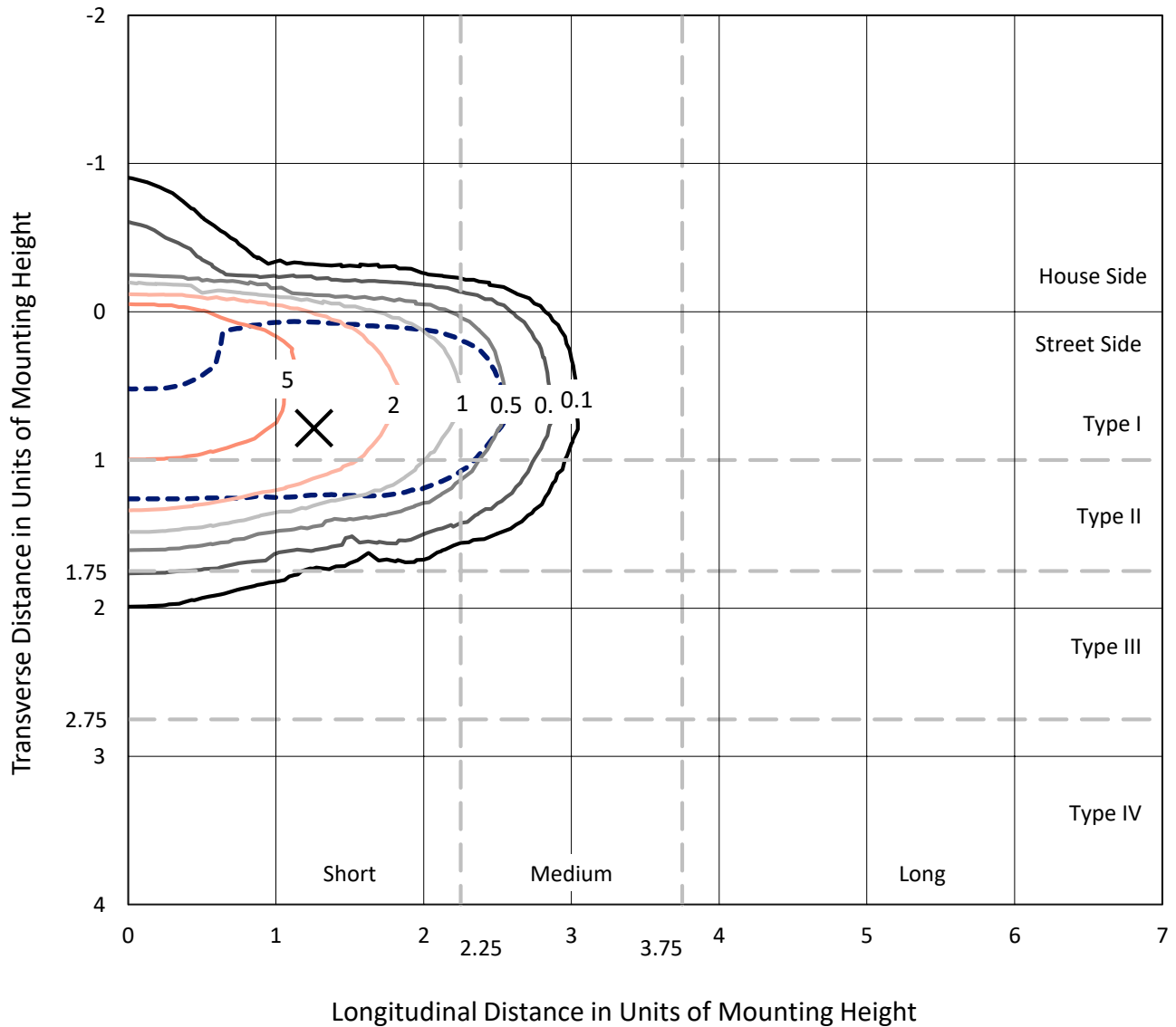


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

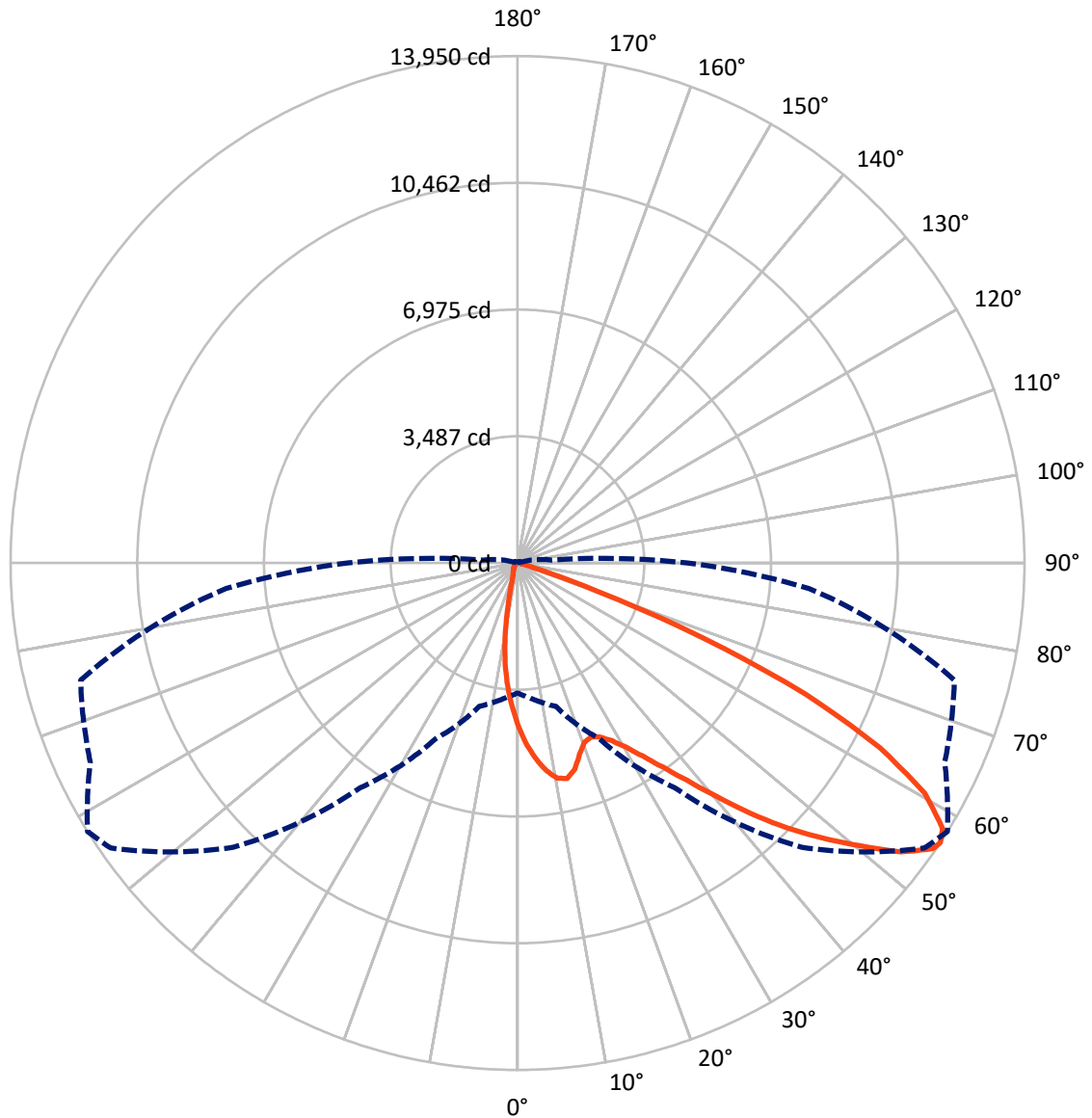


Based on 25 foot mounting height. Maximum calculated value = 9 fc
 Type II - Short - Full Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 58-Deg Lateral - - - Horizontal Cone Through 56-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	998.9	0.0	998.9
	% Fixture	6.2	0.0	6.2
Street Side	Lumens	15003.3	0.0	15003.3
	% Fixture	93.8	0.0	93.8
Total	Lumens	16002.1	0.0	16002.1
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	386.5	2.4
10°-20°	899.3	5.6
20°-30°	1513.2	9.5
30°-40°	2591.3	16.2
40°-50°	3910.3	24.4
50°-60°	4064.6	25.4
60°-70°	2281.8	14.3
70°-80°	312.7	2.0
80°-90°	42.4	0.3
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°	16002.1	100.0
0°-180°	16002.1	100.0

Coefficient of Utilization



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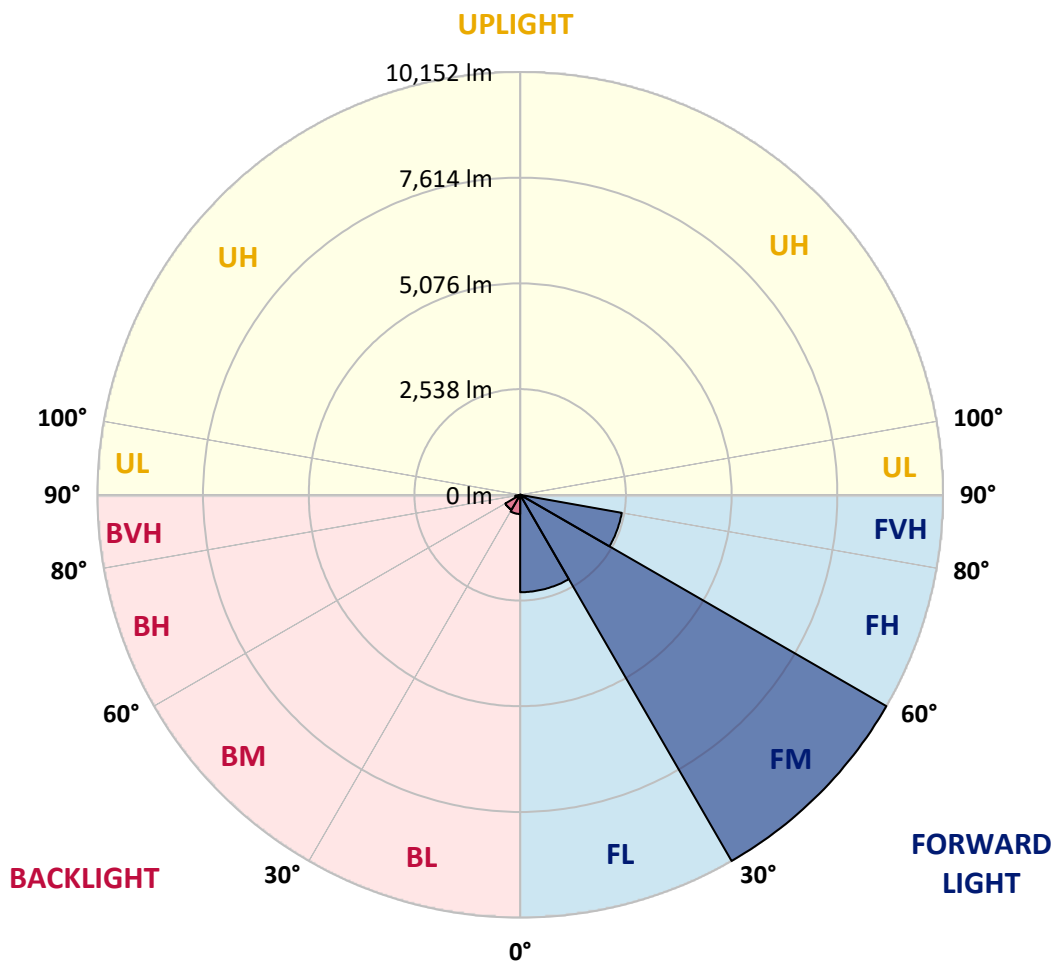
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	2338.3	14.6			
FM	(30°-60°)	10152.4	63.4			
FH	(60°-80°)	2476.1	15.5			G2/5000
FVH	(80°-90°)	36.5	0.2			G1/100
BL	(0°-30°)	460.8	2.9	B1/500		
BM	(30°-60°)	413.8	2.6	B1/1000		
BH	(60°-80°)	118.5	0.7	B1/500		G1/500
BVH	(80°-90°)	5.8	0.0			G0/10
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G2

Type II Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	58°	65°	75°	85°
0°	4530.7	4530.7	4530.7	4530.7	4530.7	4530.7	4530.7	4530.7	4530.7	4530.7	4530.7
2.5°	5451.3	5418.2	5384.1	5320.6	5262.0	5171.7	5047.1	5016.6	4919.0	4757.8	4607.6
5°	5921.3	5915.2	5892.0	5840.7	5777.2	5667.3	5526.9	5432.9	5281.5	5027.6	4738.2
7.5°	5642.9	5694.1	5778.4	5898.1	5978.6	5967.6	5860.2	5778.4	5628.3	5281.5	4866.4
10°	4756.5	4766.3	4882.2	5133.8	5531.8	5902.9	6043.3	6021.4	5883.4	5503.7	4978.7
12.5°	4444.0	4450.1	4477.0	4557.5	4816.3	5334.0	5970.2	6084.8	6073.8	5716.1	5098.4
15°	4468.3	4472.1	4479.4	4505.1	4578.3	4838.3	5599.0	5890.7	6196.0	5917.6	5215.6
17.5°	4661.3	4659.0	4635.7	4611.3	4634.4	4719.9	5220.5	5528.2	6170.3	6087.3	5312.0
20°	5037.4	5049.5	4971.4	4862.8	4806.7	4810.2	5033.7	5264.4	6026.3	6219.1	5384.1
22.5°	5566.0	5574.5	5446.3	5258.3	5093.5	5010.5	5072.8	5194.8	5860.2	6341.3	5442.6
25°	6197.1	6197.1	6017.7	5750.4	5495.2	5313.3	5259.5	5305.9	5796.8	6479.2	5501.3
27.5°	6878.4	6902.9	6668.4	6318.0	5981.1	5715.0	5546.4	5538.0	5845.6	6652.6	5567.2
30°	7619.5	7641.5	7363.1	6934.5	6535.4	6194.8	5935.9	5879.8	6032.3	6885.7	5663.7
32.5°	8356.9	8375.3	8067.6	7630.4	7165.3	6764.9	6424.2	6335.2	6368.0	7226.4	5805.3
35°	9294.5	9298.2	8908.8	8388.7	7891.8	7421.8	6990.7	6902.9	6866.2	7656.2	6009.2
37.5°	10040.5	10011.2	9764.6	9272.7	8702.4	8211.6	7705.0	7590.2	7502.3	8260.4	6325.3
40°	10216.3	10216.3	10179.6	10031.9	9579.0	9106.5	8615.7	8444.8	8250.7	8972.3	6750.2
42.5°	9758.5	9787.8	10029.6	10350.5	10354.3	10051.6	9571.6	9427.7	9085.8	9782.8	7214.2
45°	8734.1	8742.7	9322.6	10189.4	10777.9	10951.3	10597.3	10398.2	9924.6	10625.4	7639.1
47.5°	8365.4	8392.3	8638.9	9698.6	10809.7	11680.2	11581.3	11307.8	10701.0	11394.4	8035.8
50°	7798.9	7831.9	8133.5	8975.8	10524.0	12147.8	12522.5	12229.5	11407.9	12035.5	8232.3
52.5°	6443.8	6495.0	6921.1	8019.9	9809.8	12167.3	13384.5	13208.7	12131.8	12378.5	8209.2
55°	4434.2	4472.1	4969.0	6260.7	8369.1	11570.2	13755.6	13876.5	12777.8	12455.4	8096.8
56°	3577.1	3718.7	4082.6	5334.0	7548.7	11062.4	13670.2	13949.7	12969.4	12443.2	8048.0
57.5°	2364.8	2391.6	2788.6	3865.3	6061.7	9960.0	13284.4	13793.6	13216.0	12380.9	8012.6
60°	1112.3	1124.4	1267.3	1783.6	3280.5	7258.1	12030.5	12875.4	13306.3	12250.2	8011.4
62.5°	725.2	727.6	744.7	850.9	1341.7	3953.2	9973.4	11189.4	12557.9	12235.6	7988.2
65°	597.0	603.1	582.4	595.8	702.0	1490.8	7034.6	8723.1	10801.2	11891.3	7727.0
67.5°	526.2	527.4	499.4	483.5	513.9	654.4	3544.3	5502.6	8078.5	10104.0	6364.5
70°	479.7	478.5	446.9	410.3	411.5	434.7	1155.0	2285.4	4469.7	5999.4	3654.0
72.5°	426.1	428.6	410.3	358.9	341.9	307.7	434.7	616.6	1521.2	1926.6	963.2
75°	373.5	368.8	350.4	317.4	285.7	206.3	218.5	262.4	396.8	393.2	207.6
77.5°	283.2	278.4	287.0	271.1	223.4	144.1	119.6	136.8	179.5	167.2	84.2
80°	216.2	213.6	195.3	231.9	203.9	108.6	81.8	84.2	97.7	89.1	41.5
82.5°	156.2	155.0	147.7	142.8	129.4	79.3	62.3	65.9	73.2	62.3	30.5
85°	59.9	59.9	116.1	97.7	89.1	53.7	43.9	47.6	56.2	45.2	20.8
87.5°	9.8	9.8	78.1	64.7	40.3	26.9	28.1	30.5	33.0	26.9	15.9
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°	4530.7	4530.7	4530.7	4530.7	4530.7	4530.7	4530.7	4530.7	4530.7	4530.7	4530.7
2.5°	4518.5	4436.7	4257.2	4083.9	3932.5	3766.3	3682.1	3584.5	3547.8	3474.7	3482.0
5°	4564.9	4394.0	4033.8	3654.0	3306.1	2952.0	2700.6	2463.7	2331.9	2201.2	2201.2
7.5°	4612.5	4351.2	3794.5	3187.7	2601.7	1995.0	1565.1	1220.9	1029.2	901.1	897.3
10°	4645.4	4296.3	3522.2	2647.0	1782.4	1028.0	620.1	488.4	440.8	420.0	418.8
12.5°	4688.2	4241.3	3212.1	2009.6	990.1	488.4	387.0	366.2	357.8	352.8	352.8
15°	4724.8	4163.3	2836.2	1351.5	520.1	366.2	333.3	325.9	324.7	323.5	324.7
17.5°	4733.3	4052.1	2385.5	791.1	377.3	319.9	305.3	299.2	299.2	297.8	297.8
20°	4713.8	3905.6	1887.5	488.4	325.9	294.2	278.4	271.1	269.8	269.8	269.8
22.5°	4673.6	3718.7	1395.5	370.0	296.6	271.1	250.3	243.0	243.0	244.2	245.4
25°	4623.5	3497.8	958.4	318.6	274.7	246.6	225.8	218.5	221.0	223.4	224.6
27.5°	4559.9	3234.1	627.5	275.9	245.4	222.3	203.9	199.0	203.9	208.8	211.2
30°	4496.4	2944.7	424.9	239.3	212.4	195.3	184.3	183.1	190.4	201.5	202.6
32.5°	4454.9	2648.1	321.1	214.9	186.9	172.2	167.2	169.7	180.8	193.0	195.3
35°	4451.3	2358.7	273.4	195.3	169.7	156.2	153.8	161.1	173.4	183.1	185.5
37.5°	4508.7	2087.7	247.8	180.8	156.2	142.8	139.2	152.6	163.6	173.4	175.8
40°	4624.7	1844.8	230.7	167.2	145.4	129.4	127.0	138.0	148.9	159.9	163.6
42.5°	4769.9	1617.7	211.2	153.8	133.1	114.7	112.3	120.8	131.8	147.7	150.1
45°	4895.7	1406.5	190.4	139.2	119.6	98.9	97.7	107.4	116.1	130.7	133.1
47.5°	5001.9	1230.7	170.9	123.4	102.6	88.0	86.7	91.6	96.4	110.0	112.3
50°	4945.7	1081.6	151.5	101.3	83.0	75.7	74.6	74.6	80.6	94.0	96.4
52.5°	4807.9	988.9	133.1	84.2	68.4	64.7	61.0	62.3	68.4	74.6	75.7
55°	4696.7	945.0	117.2	74.6	57.4	53.7	50.0	48.8	50.0	47.6	45.2
56°	4669.8	940.0	113.5	72.0	54.9	50.0	45.2	42.7	41.5	36.6	35.4
57.5°	4657.6	940.0	107.4	67.2	51.3	45.2	39.2	34.2	29.3	25.6	25.6
60°	4647.9	946.1	100.1	58.6	43.9	36.6	28.1	20.8	17.1	17.1	17.1
62.5°	4627.1	943.8	91.6	48.8	37.8	28.1	17.1	13.4	12.2	13.4	14.6
65°	4394.0	876.6	80.6	39.2	29.3	19.5	9.8	9.8	11.0	13.4	14.6
67.5°	3540.5	664.2	65.9	30.5	20.8	14.6	8.5	8.5	11.0	13.4	14.6
70°	1944.9	350.4	56.2	22.0	15.9	12.2	8.5	7.3	11.0	13.4	14.6
72.5°	474.9	146.5	51.3	17.1	14.6	11.0	7.3	7.3	11.0	13.4	14.6
75°	117.2	110.0	41.5	13.4	12.2	9.8	7.3	7.3	11.0	13.4	14.6
77.5°	54.9	145.4	28.1	12.2	11.0	8.5	7.3	7.3	11.0	13.4	13.4
80°	33.0	110.0	17.1	11.0	9.8	8.5	7.3	7.3	11.0	13.4	14.6
82.5°	19.5	31.8	12.2	11.0	9.8	7.3	7.3	7.3	11.0	13.4	14.6
85°	17.1	15.9	12.2	11.0	9.8	8.5	7.3	7.3	12.2	14.6	14.6
87.5°	13.4	12.2	11.0	9.8	9.8	8.5	7.3	7.3	11.0	13.4	14.6
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)