

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: P196006

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

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P196006  
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-1200-HSS  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(4) 70 CRI, 4000K, 1200mA 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: 22979.6 lumens  
Efficiency: N/A  
Efficacy: 89.1 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type II - Short - Full Cutoff  
BUG Rating: B2 - U0 - G2

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

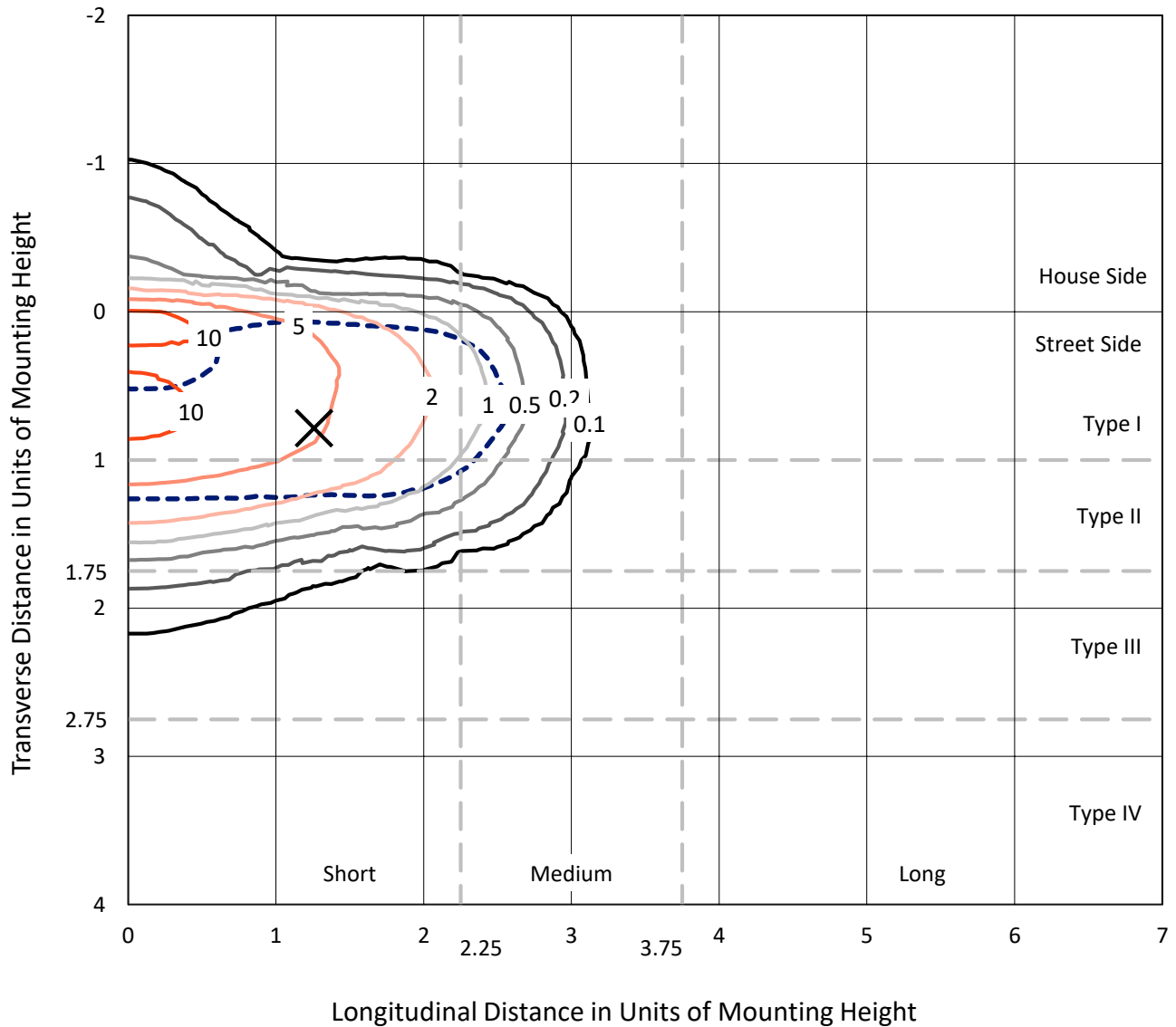


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### Iso-Footcandle Lines of Horizontal Illumination

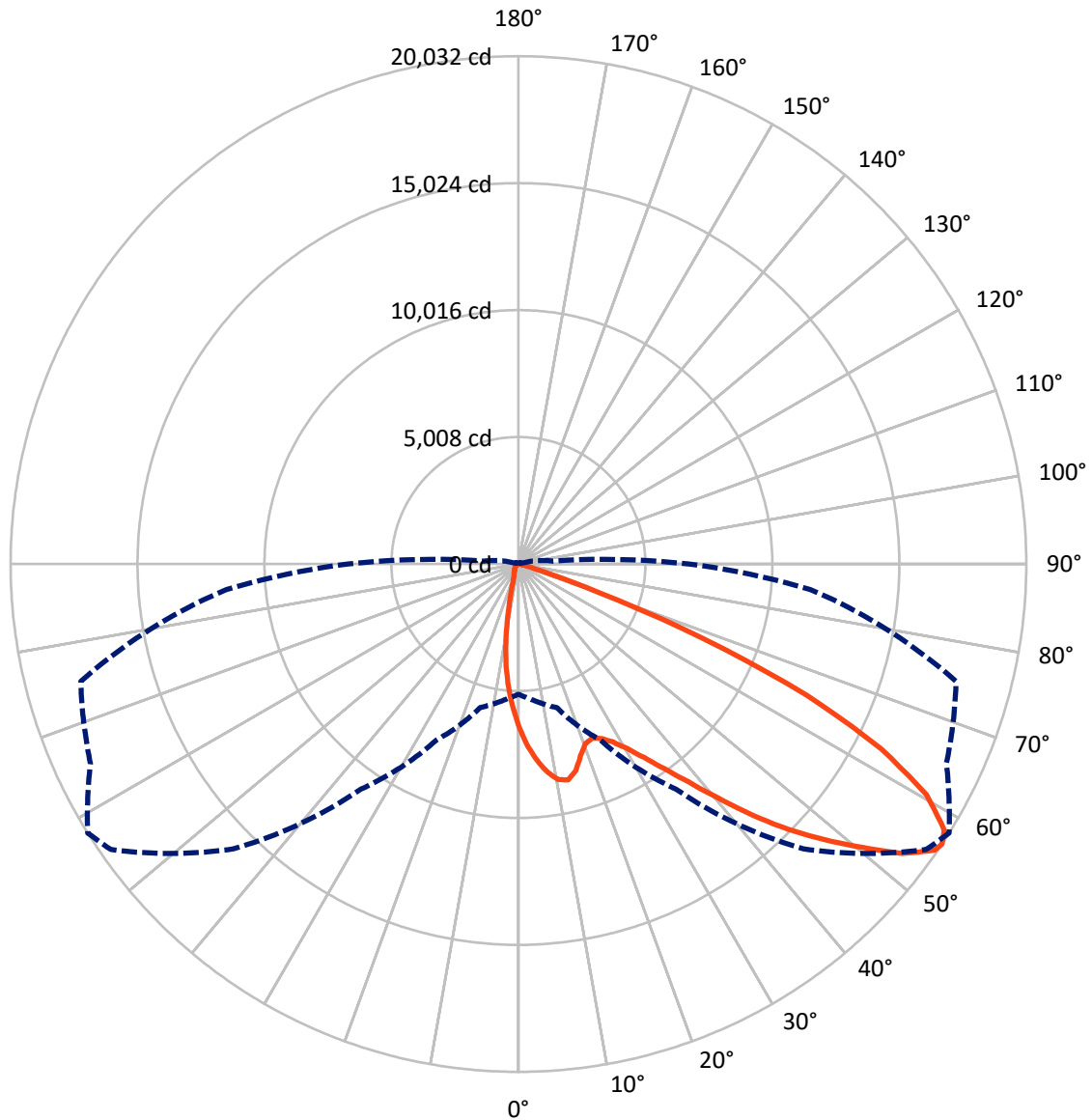
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 12.9 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
<b>House Side</b>	Lumens	1434.4	0.0	1434.4
	% Fixture	6.2	0.0	6.2
<b>Street Side</b>	Lumens	21545.2	0.0	21545.2
	% Fixture	93.8	0.0	93.8
<b>Total</b>	Lumens	22979.6	0.0	22979.6
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	555.0	2.4
10°-20°	1291.4	5.6
20°-30°	2173.1	9.5
30°-40°	3721.2	16.2
40°-50°	5615.3	24.4
50°-60°	5836.9	25.4
60°-70°	3276.8	14.3
70°-80°	449.1	2.0
80°-90°	60.8	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°	22979.6	100.0
0°-180°	22979.6	100.0



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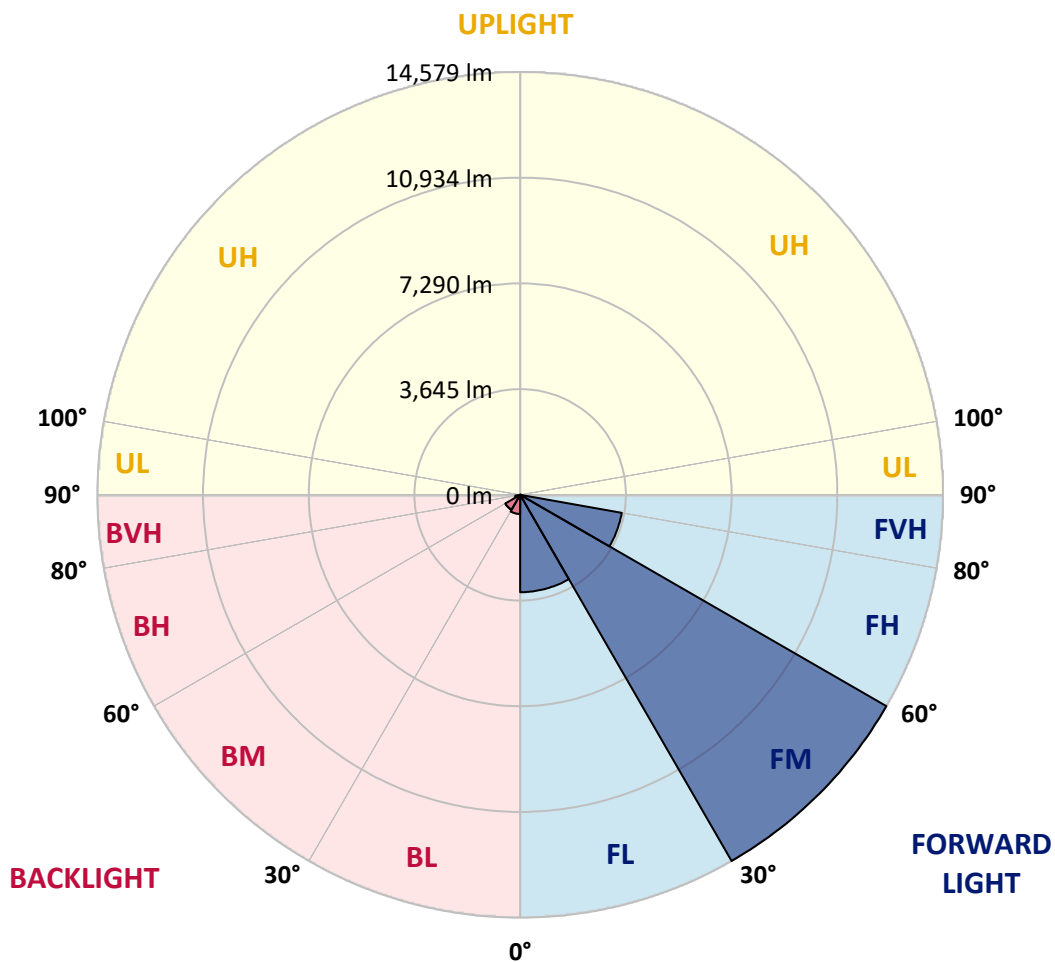
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	3357.8	14.6			
FM	(30°-60°)	14579.2	63.4			
FH	(60°-80°)	3555.7	15.5			G2/5000
FVH	(80°-90°)	52.4	0.2			G1/100
BL	(0°-30°)	661.7	2.9	B2/1000		
BM	(30°-60°)	594.2	2.6	B1/1000		
BH	(60°-80°)	170.1	0.7	B1/500		G1/500
BVH	(80°-90°)	8.4	0.0			G0/10
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B2-U0-G2**

Type II Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	58°	65°	75°	85°
0°	6506.2	6506.2	6506.2	6506.2	6506.2	6506.2	6506.2	6506.2	6506.2	6506.2	6506.2
2.5°	7828.1	7780.8	7731.7	7640.5	7556.4	7426.6	7247.8	7204.0	7063.8	6832.3	6616.7
5°	8503.2	8494.4	8461.0	8387.4	8296.2	8138.5	7936.9	7801.8	7584.5	7219.8	6804.3
7.5°	8103.4	8177.1	8298.0	8469.8	8585.5	8569.8	8415.5	8298.0	8082.3	7584.5	6988.4
10°	6830.5	6844.6	7011.1	7372.3	7943.8	8476.8	8678.4	8646.9	8448.8	7903.5	7149.6
12.5°	6381.8	6390.5	6429.0	6544.7	6916.5	7659.9	8573.2	8738.0	8722.3	8208.6	7321.5
15°	6416.8	6422.1	6432.6	6469.3	6574.6	6948.0	8040.3	8459.3	8897.6	8497.9	7489.7
17.5°	6693.8	6690.3	6657.0	6622.0	6655.2	6778.0	7496.8	7938.6	8860.8	8741.5	7628.2
20°	7233.8	7251.3	7139.2	6983.1	6902.5	6907.7	7228.6	7559.9	8654.0	8930.9	7731.7
22.5°	7992.9	8005.2	7821.2	7551.1	7314.4	7195.2	7284.6	7460.0	8415.5	9106.2	7815.9
25°	8899.4	8899.4	8641.7	8257.7	7891.2	7630.0	7552.9	7619.6	8324.3	9304.4	7900.0
27.5°	9877.6	9912.7	9576.1	9073.0	8589.0	8206.8	7964.9	7952.6	8394.4	9553.3	7994.7
30°	10941.9	10973.4	10573.7	9958.3	9385.0	8895.9	8524.1	8443.5	8662.7	9888.1	8133.2
32.5°	12000.8	12027.1	11585.3	10957.6	10289.7	9714.7	9225.5	9097.5	9144.8	10377.3	8336.5
35°	13347.3	13352.6	12793.2	12046.4	11332.9	10657.8	10038.9	9912.7	9860.1	10994.5	8629.4
37.5°	14418.5	14376.4	14022.3	13315.8	12497.0	11792.2	11064.5	10899.7	10773.5	11862.3	9083.5
40°	14671.0	14671.0	14618.4	14406.2	13755.8	13077.3	12372.5	12127.1	11848.3	12884.5	9693.6
42.5°	14013.5	14055.5	14402.7	14863.8	14869.1	14434.2	13745.3	13538.3	13047.5	14048.6	10359.8
45°	12542.6	12554.9	13387.6	14632.4	15477.5	15726.4	15217.9	14932.2	14252.0	15258.3	10969.9
47.5°	12013.1	12051.7	12405.8	13927.6	15523.1	16773.1	16631.0	16238.3	15367.0	16362.8	11539.7
50°	11199.6	11246.9	11680.0	12889.7	15112.8	17444.6	17982.8	17562.0	16382.1	17283.3	11821.9
52.5°	9253.5	9327.2	9939.0	11516.9	14087.2	17472.6	19220.6	18968.2	17421.8	17775.9	11788.7
55°	6367.7	6422.1	7135.6	8990.5	12018.3	16615.3	19753.6	19927.1	18349.3	17886.4	11627.4
56°	5137.0	5340.3	5862.7	7659.9	10840.2	15885.9	19630.8	20032.3	18624.5	17868.8	11557.2
57.5°	3396.0	3434.6	4004.3	5550.7	8704.8	14302.8	19076.8	19807.9	18978.6	17779.4	11506.4
60°	1597.2	1614.7	1819.8	2561.5	4710.9	10422.9	17276.3	18489.5	19108.4	17591.9	11504.6
62.5°	1041.4	1044.9	1069.5	1222.0	1926.8	5677.0	14322.0	16068.3	18033.7	17570.8	11471.4
65°	857.3	866.1	836.3	855.6	1008.1	2140.7	10102.0	12526.7	15510.8	17076.4	11096.2
67.5°	755.7	757.4	717.1	694.3	738.1	939.7	5089.6	7901.8	11601.1	14509.6	9139.6
70°	689.1	687.2	641.7	589.1	590.9	624.1	1658.5	3282.0	6418.5	8615.3	5247.4
72.5°	611.8	615.4	589.1	515.5	490.9	441.8	624.1	885.4	2184.5	2766.6	1383.3
75°	536.4	529.5	503.2	455.8	410.2	296.2	313.8	377.0	569.8	564.6	298.1
77.5°	406.7	399.8	412.0	389.2	320.8	206.8	171.9	196.4	257.7	240.2	121.0
80°	310.4	306.8	280.5	333.1	292.8	156.0	117.4	121.0	140.2	128.0	59.6
82.5°	224.4	222.7	212.2	205.1	185.9	114.0	89.4	94.6	105.2	89.4	43.8
85°	85.9	85.9	166.5	140.2	128.0	77.1	63.1	68.3	80.6	64.9	29.8
87.5°	14.0	14.0	112.2	92.9	57.9	38.6	40.3	43.8	47.4	38.6	22.8
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°	6506.2	6506.2	6506.2	6506.2	6506.2	6506.2	6506.2	6506.2	6506.2	6506.2	6506.2
2.5°	6488.7	6371.2	6113.5	5864.6	5647.1	5408.6	5287.7	5147.5	5094.9	4989.6	5000.2
5°	6555.3	6309.9	5792.7	5247.4	4747.7	4239.3	3878.1	3538.0	3348.6	3161.0	3161.0
7.5°	6623.7	6248.5	5449.1	4577.7	3736.1	2864.8	2247.6	1753.2	1478.0	1293.8	1288.6
10°	6671.0	6169.6	5058.1	3801.0	2559.7	1476.2	890.7	701.3	632.9	603.1	601.4
12.5°	6732.3	6090.6	4612.7	2885.8	1421.9	701.3	555.8	526.0	513.7	506.7	506.7
15°	6784.9	5978.5	4072.8	1940.8	746.9	526.0	478.6	468.1	466.4	464.6	466.4
17.5°	6797.2	5819.0	3425.8	1136.1	541.8	459.3	438.3	429.5	429.5	427.8	427.8
20°	6769.2	5608.5	2710.5	701.3	468.1	422.5	399.8	389.2	387.5	387.5	387.5
22.5°	6711.4	5340.3	2004.0	531.2	426.1	389.2	359.4	348.9	348.9	350.7	352.4
25°	6639.5	5023.0	1376.3	457.6	394.4	354.1	324.4	313.8	317.3	320.8	322.6
27.5°	6548.3	4644.3	901.1	396.2	352.4	319.1	292.8	285.8	292.8	299.8	303.3
30°	6457.1	4228.8	610.1	343.6	305.0	280.5	264.7	263.0	273.5	289.3	291.0
32.5°	6397.5	3802.7	461.1	308.5	268.2	247.2	240.2	243.7	259.5	277.0	280.5
35°	6392.2	3387.2	392.7	280.5	243.7	224.4	220.9	231.4	249.0	263.0	266.5
37.5°	6474.7	2998.0	355.9	259.5	224.4	205.1	199.9	219.1	235.0	249.0	252.5
40°	6641.2	2649.1	331.3	240.2	208.7	185.9	182.3	198.1	213.9	229.7	235.0
42.5°	6849.9	2323.0	303.3	220.9	191.1	164.8	161.3	173.6	189.3	212.2	215.6
45°	7030.4	2019.7	273.5	199.9	171.9	142.0	140.2	154.3	166.5	187.6	191.1
47.5°	7183.0	1767.2	245.4	177.1	147.3	126.2	124.5	131.4	138.5	157.7	161.3
50°	7102.3	1553.4	217.4	145.6	119.2	108.7	106.9	106.9	115.7	135.0	138.5
52.5°	6904.2	1420.1	191.1	121.0	98.2	92.9	87.7	89.4	98.2	106.9	108.7
55°	6744.6	1356.9	168.3	106.9	82.4	77.1	71.9	70.2	71.9	68.3	64.9
56°	6706.1	1350.0	163.1	103.4	78.9	71.9	64.9	61.4	59.6	52.6	50.8
57.5°	6688.6	1350.0	154.3	96.5	73.7	64.9	56.1	49.1	42.0	36.8	36.8
60°	6674.5	1358.8	143.7	84.2	63.1	52.6	40.3	29.8	24.6	24.6	24.6
62.5°	6644.7	1355.2	131.4	70.2	54.3	40.3	24.6	19.3	17.5	19.3	21.1
65°	6309.9	1258.8	115.7	56.1	42.0	28.0	14.0	14.0	15.8	19.3	21.1
67.5°	5084.4	953.8	94.6	43.8	29.8	21.1	12.3	12.3	15.8	19.3	21.1
70°	2792.9	503.2	80.6	31.5	22.8	17.5	12.3	10.5	15.8	19.3	21.1
72.5°	682.0	210.4	73.7	24.6	21.1	15.8	10.5	10.5	15.8	19.3	21.1
75°	168.3	157.7	59.6	19.3	17.5	14.0	10.5	10.5	15.8	19.3	21.1
77.5°	78.9	208.7	40.3	17.5	15.8	12.3	10.5	10.5	15.8	19.3	19.3
80°	47.4	157.7	24.6	15.8	14.0	12.3	10.5	10.5	15.8	19.3	21.1
82.5°	28.0	45.6	17.5	15.8	14.0	10.5	10.5	10.5	15.8	19.3	21.1
85°	24.6	22.8	17.5	15.8	14.0	12.3	10.5	10.5	17.5	21.1	21.1
87.5°	19.3	17.5	15.8	14.0	14.0	12.3	10.5	10.5	15.8	19.3	21.1
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)