

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: P195029

Luminaire Tested: **NAV-AF-05-D-UNV-AFL-7060-600-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195029
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-05-D-UNV-AFL-7060-600-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 5700K, 615mA 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: 16629 lumens
Efficiency: N/A
Efficacy: 102.6 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type II - Short - Full Cutoff
BUG Rating: B1 - U0 - G2

Input Watts (W): 162
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

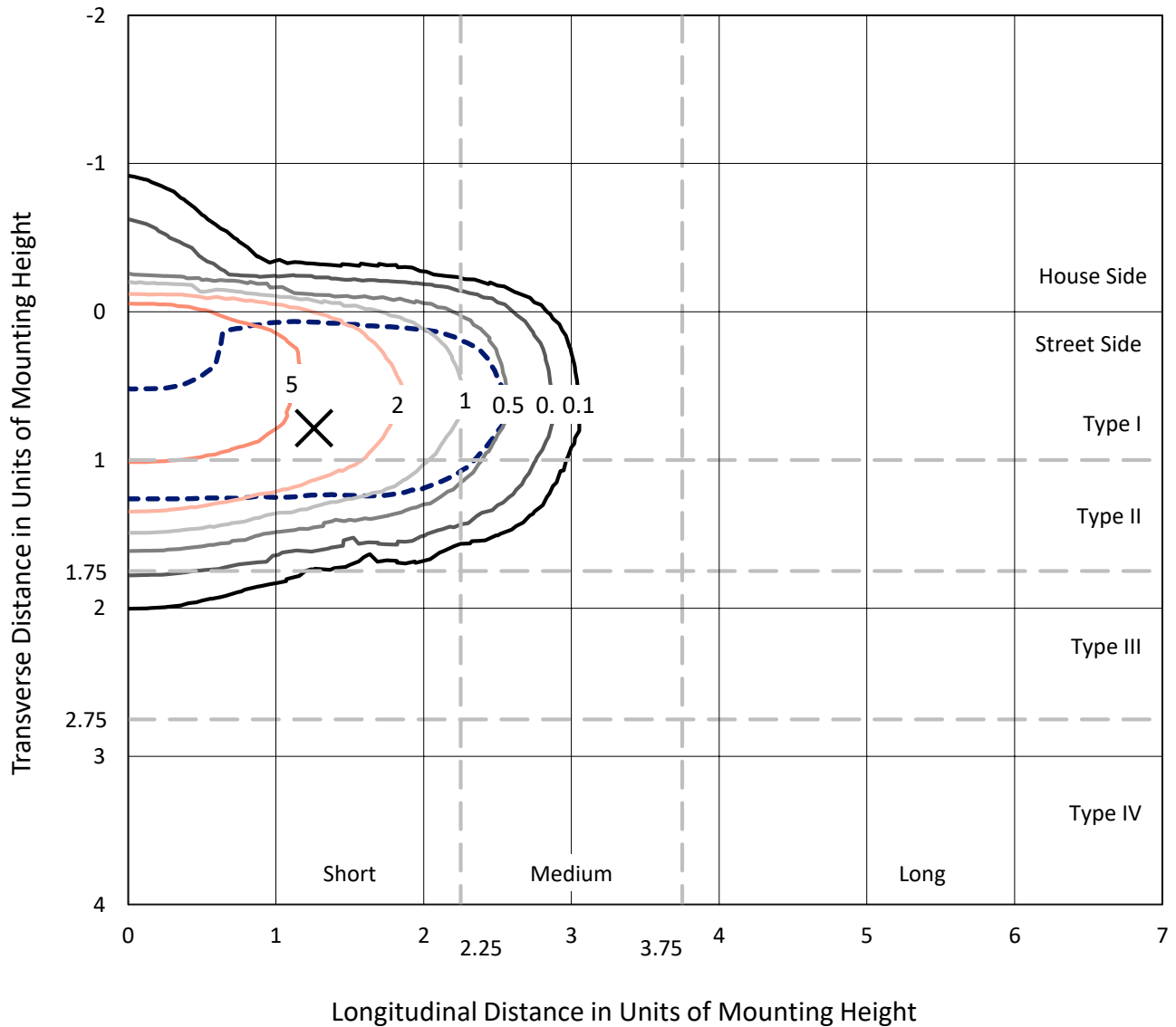


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Iso-Footcandle Lines of Horizontal Illumination

✕ Max cd
 - - - 1/2 Max cd

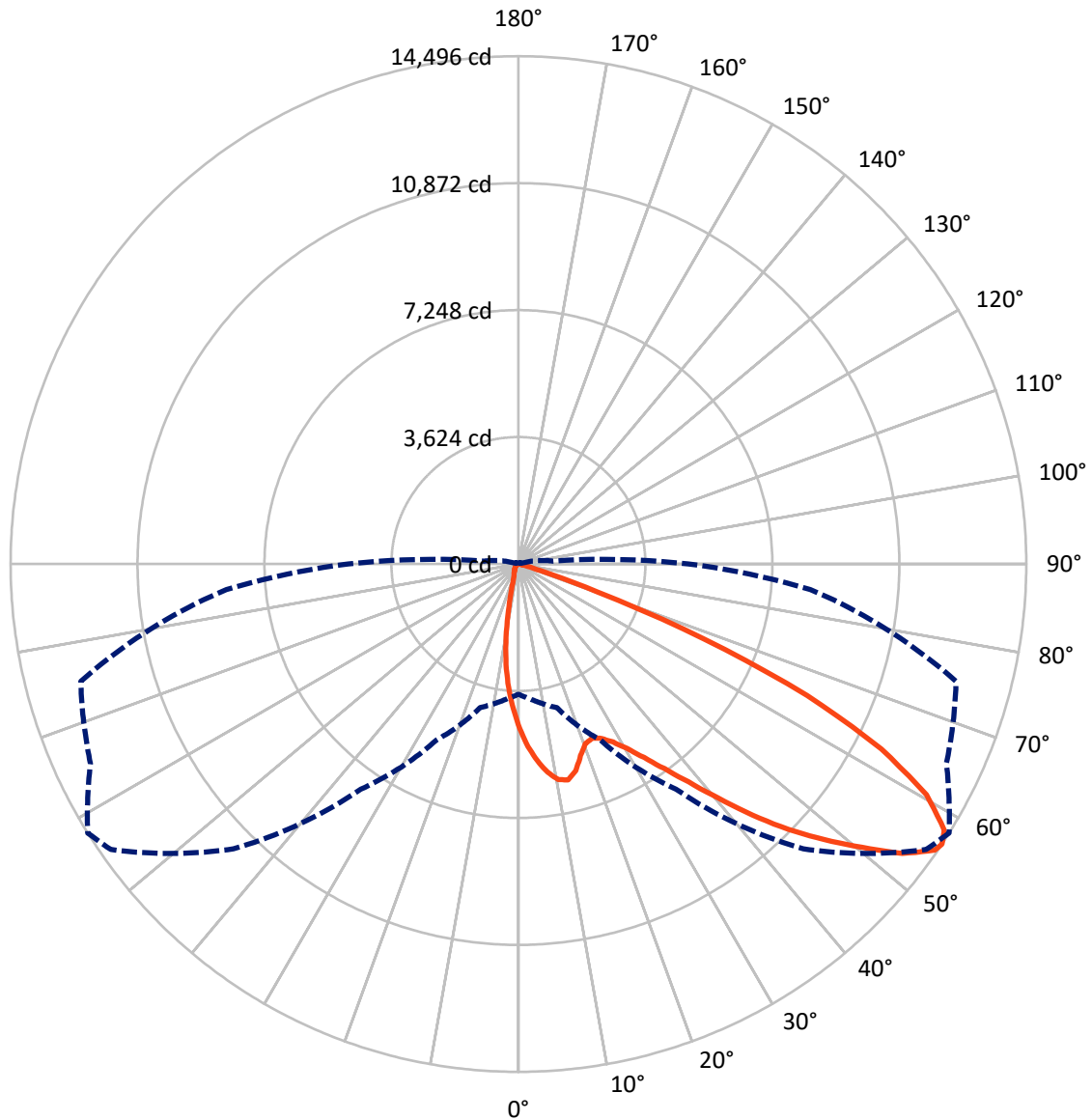


Based on 25 foot mounting height. Maximum calculated value = 9.4 fc
 Type II - Short - Full Cutoff

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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	1038.0	0.0	1038.0
	% Fixture	6.2	0.0	6.2
Street Side	Lumens	15591.0	0.0	15591.0
	% Fixture	93.8	0.0	93.8
Total	Lumens	16629.0	0.0	16629.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	401.6	2.4
10°-20°	934.5	5.6
20°-30°	1572.5	9.5
30°-40°	2692.8	16.2
40°-50°	4063.5	24.4
50°-60°	4223.8	25.4
60°-70°	2371.2	14.3
70°-80°	325.0	2.0
80°-90°	44.0	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°	16629.0	100.0
0°-180°	16629.0	100.0



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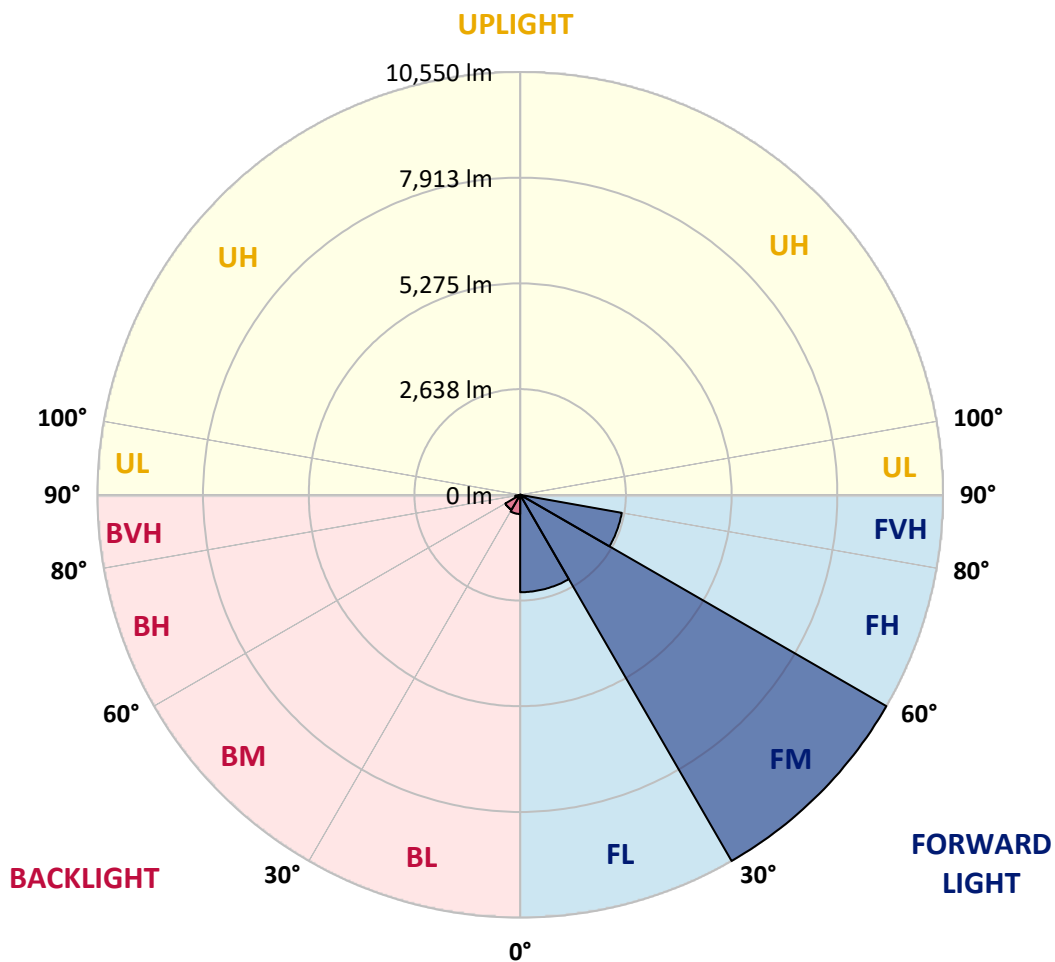
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	2429.9	14.6			
FM	(30°-60°)	10550.1	63.4			
FH	(60°-80°)	2573.1	15.5			G2/5000
FVH	(80°-90°)	37.9	0.2			G1/100
BL	(0°-30°)	478.8	2.9	B1/500		
BM	(30°-60°)	430.0	2.6	B1/1000		
BH	(60°-80°)	123.1	0.7	B1/500		G1/500
BVH	(80°-90°)	6.1	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°	4708.2	4708.2	4708.2	4708.2	4708.2	4708.2	4708.2	4708.2	4708.2	4708.2	4708.2
2.5°	5664.8	5630.5	5595.0	5529.0	5468.1	5374.2	5244.8	5213.1	5111.6	4944.2	4788.1
5°	6153.2	6146.9	6122.8	6069.5	6003.5	5889.3	5743.4	5645.7	5488.4	5224.5	4923.9
7.5°	5864.0	5917.3	6004.8	6129.1	6212.9	6201.4	6089.8	6004.8	5848.7	5488.4	5057.1
10°	4942.9	4953.0	5073.6	5334.9	5748.5	6134.2	6280.1	6257.3	6113.9	5719.3	5173.8
12.5°	4618.1	4624.4	4652.3	4736.1	5005.1	5543.0	6204.0	6323.2	6311.8	5940.1	5298.1
15°	4643.5	4647.3	4654.9	4681.5	4757.7	5027.9	5818.3	6121.5	6438.7	6149.4	5419.9
17.5°	4843.9	4841.4	4817.3	4791.9	4816.0	4904.8	5425.0	5744.7	6412.0	6325.8	5520.1
20°	5234.7	5247.4	5166.2	5053.3	4994.9	4998.7	5230.9	5470.7	6262.3	6462.8	5595.0
22.5°	5784.0	5792.9	5659.7	5464.3	5293.0	5206.8	5271.5	5398.3	6089.8	6589.7	5655.9
25°	6440.0	6440.0	6253.5	5975.6	5710.5	5521.4	5465.6	5513.8	6023.8	6733.0	5716.8
27.5°	7147.9	7173.3	6929.7	6565.6	6215.4	5938.8	5763.7	5754.9	6074.6	6913.2	5785.3
30°	7918.0	7940.8	7651.6	7206.3	6791.4	6437.4	6168.5	6110.1	6268.7	7155.5	5885.5
32.5°	8684.3	8703.3	8383.6	7929.4	7446.0	7029.9	6675.9	6583.3	6617.6	7509.5	6032.7
35°	9658.7	9662.5	9257.8	8717.3	8200.9	7712.5	7264.6	7173.3	7135.2	7956.1	6244.6
37.5°	10433.8	10403.4	10147.1	9635.8	9043.3	8533.3	8006.8	7887.6	7796.2	8584.1	6573.2
40°	10616.5	10616.5	10578.5	10425.0	9954.3	9463.3	8953.3	8775.6	8573.9	9323.7	7014.7
42.5°	10140.8	10171.2	10422.4	10756.1	10759.9	10445.3	9946.7	9797.0	9441.7	10166.2	7496.8
45°	9076.3	9085.2	9687.8	10588.6	11200.1	11380.3	11012.4	10805.6	10313.3	11041.6	7938.3
47.5°	8693.2	8721.1	8977.4	10078.6	11233.1	12137.7	12035.0	11750.8	11120.2	11840.8	8350.6
50°	8104.5	8138.8	8452.1	9327.5	10936.3	12623.6	13013.1	12708.6	11854.8	12506.9	8554.9
52.5°	6696.2	6749.5	7192.3	8334.1	10194.1	12643.9	13908.8	13726.1	12607.1	12863.4	8530.8
55°	4607.9	4647.3	5163.6	6505.9	8697.0	12023.5	14294.5	14420.1	13278.3	12943.4	8414.1
56°	3717.3	3864.5	4242.6	5543.0	7844.4	11495.8	14205.7	14496.2	13477.5	12930.7	8363.3
57.5°	2457.5	2485.4	2897.7	4016.7	6299.1	10350.1	13804.8	14333.9	13733.8	12866.0	8326.5
60°	1155.8	1168.5	1316.9	1853.6	3409.0	7542.5	12501.8	13379.8	13827.6	12730.2	8325.3
62.5°	753.6	756.1	773.9	884.3	1394.3	4108.1	10364.1	11627.7	13049.9	12715.0	8301.2
65°	620.4	626.7	605.2	619.1	729.5	1549.1	7310.3	9064.9	11224.3	12357.2	8029.6
67.5°	546.8	548.1	518.9	502.4	534.1	680.0	3683.1	5718.1	8395.0	10499.8	6613.8
70°	498.6	497.3	464.3	426.3	427.6	451.7	1200.2	2375.0	4644.7	6234.4	3797.2
72.5°	442.8	445.3	426.3	373.0	355.2	319.7	451.7	640.7	1580.8	2002.0	1001.0
75°	388.2	383.1	364.1	329.9	296.9	214.4	227.1	272.8	412.3	408.5	215.7
77.5°	294.3	289.3	298.1	281.7	232.2	149.7	124.3	142.1	186.5	173.8	87.5
80°	224.6	222.0	203.0	241.1	211.9	112.9	85.0	87.5	101.5	92.6	43.1
82.5°	162.4	161.1	153.5	148.4	134.5	82.5	64.7	68.5	76.1	64.7	31.7
85°	62.2	62.2	120.5	101.5	92.6	55.8	45.7	49.5	58.4	46.9	21.6
87.5°	10.1	10.1	81.2	67.2	41.9	27.9	29.2	31.7	34.3	27.9	16.5
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°	4708.2	4708.2	4708.2	4708.2	4708.2	4708.2	4708.2	4708.2	4708.2	4708.2	4708.2
2.5°	4695.5	4610.5	4424.0	4243.8	4086.5	3914.0	3826.4	3724.9	3686.9	3610.7	3618.4
5°	4743.7	4566.1	4191.8	3797.2	3435.7	3067.7	2806.4	2560.3	2423.2	2287.5	2287.5
7.5°	4793.2	4521.7	3943.1	3312.6	2703.6	2073.1	1626.5	1268.7	1069.5	936.3	932.5
10°	4827.4	4464.6	3660.2	2750.6	1852.3	1068.3	644.5	507.5	458.0	436.4	435.2
12.5°	4871.8	4407.5	3338.0	2088.3	1028.9	507.5	402.2	380.6	371.7	366.7	366.7
15°	4909.9	4326.3	2947.2	1404.5	540.5	380.6	346.4	338.7	337.5	336.2	337.5
17.5°	4918.8	4210.8	2479.1	822.1	392.0	332.4	317.2	310.8	310.8	309.6	309.6
20°	4898.5	4058.6	1961.4	507.5	338.7	305.8	289.3	281.7	280.4	280.4	280.4
22.5°	4856.6	3864.5	1450.1	384.4	308.3	281.7	260.1	252.5	252.5	253.7	255.0
25°	4804.6	3634.8	995.9	331.1	285.5	256.3	234.7	227.1	229.6	232.2	233.4
27.5°	4738.6	3360.8	652.1	286.7	255.0	230.9	211.9	206.8	211.9	216.9	219.5
30°	4672.6	3060.1	441.5	248.7	220.8	203.0	191.6	190.3	197.9	209.3	210.6
32.5°	4629.5	2751.8	333.7	223.3	194.1	178.9	173.8	176.4	187.8	200.5	203.0
35°	4625.7	2451.1	284.2	203.0	176.4	162.4	159.9	167.5	180.2	190.3	192.8
37.5°	4685.3	2169.5	257.5	187.8	162.4	148.4	144.6	158.6	170.0	180.2	182.7
40°	4805.9	1917.0	239.8	173.8	151.0	134.5	131.9	143.4	154.8	166.2	170.0
42.5°	4956.8	1681.0	219.5	159.9	138.3	119.3	116.7	125.6	137.0	153.5	156.1
45°	5087.5	1461.6	197.9	144.6	124.3	102.8	101.5	111.6	120.5	135.8	138.3
47.5°	5197.9	1278.9	177.6	128.1	106.6	91.3	90.1	95.2	100.2	114.2	116.7
50°	5139.5	1124.1	157.3	105.3	86.3	78.7	77.4	77.4	83.7	97.7	100.2
52.5°	4996.2	1027.7	138.3	87.5	71.0	67.2	63.4	64.7	71.0	77.4	78.7
55°	4880.7	982.0	121.8	77.4	59.6	55.8	52.0	50.7	52.0	49.5	46.9
56°	4852.8	976.9	118.0	74.9	57.1	52.0	46.9	44.4	43.1	38.1	36.8
57.5°	4840.1	976.9	111.6	69.8	53.3	46.9	40.6	35.5	30.4	26.6	26.6
60°	4830.0	983.2	104.0	60.9	45.7	38.1	29.2	21.6	17.8	17.8	17.8
62.5°	4808.4	980.7	95.2	50.7	39.3	29.2	17.8	14.0	12.7	14.0	15.2
65°	4566.1	910.9	83.7	40.6	30.4	20.3	10.1	10.1	11.4	14.0	15.2
67.5°	3679.3	690.2	68.5	31.7	21.6	15.2	8.9	8.9	11.4	14.0	15.2
70°	2021.1	364.1	58.4	22.8	16.5	12.7	8.9	7.6	11.4	14.0	15.2
72.5°	493.5	152.2	53.3	17.8	15.2	11.4	7.6	7.6	11.4	14.0	15.2
75°	121.8	114.2	43.1	14.0	12.7	10.1	7.6	7.6	11.4	14.0	15.2
77.5°	57.1	151.0	29.2	12.7	11.4	8.9	7.6	7.6	11.4	14.0	14.0
80°	34.3	114.2	17.8	11.4	10.1	8.9	7.6	7.6	11.4	14.0	15.2
82.5°	20.3	33.0	12.7	11.4	10.1	7.6	7.6	7.6	11.4	14.0	15.2
85°	17.8	16.5	12.7	11.4	10.1	8.9	7.6	7.6	12.7	15.2	15.2
87.5°	14.0	12.7	11.4	10.1	10.1	8.9	7.6	7.6	11.4	14.0	15.2
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)