

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: P195990

Luminaire Tested: **NAV-AF-06-D-UNV-AFL-600-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195990
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-06-D-UNV-AFL-600-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(6) 70 CRI, 4000K, 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: 20378.2 lumens
Efficiency: N/A
Efficacy: 105.6 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type II - Short - Full Cutoff
BUG Rating: B2 - U0 - G2

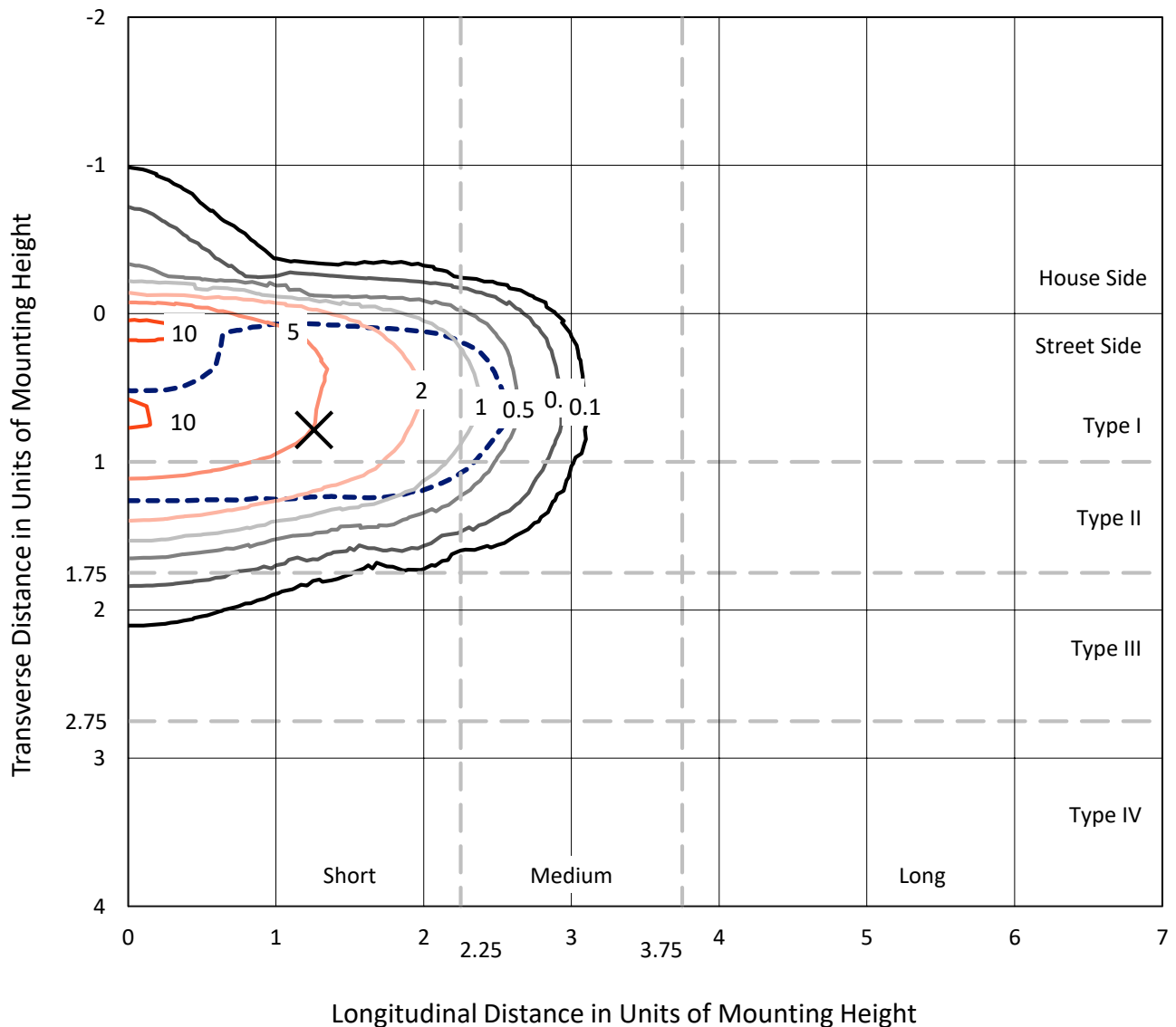
Input Watts (W): 193
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

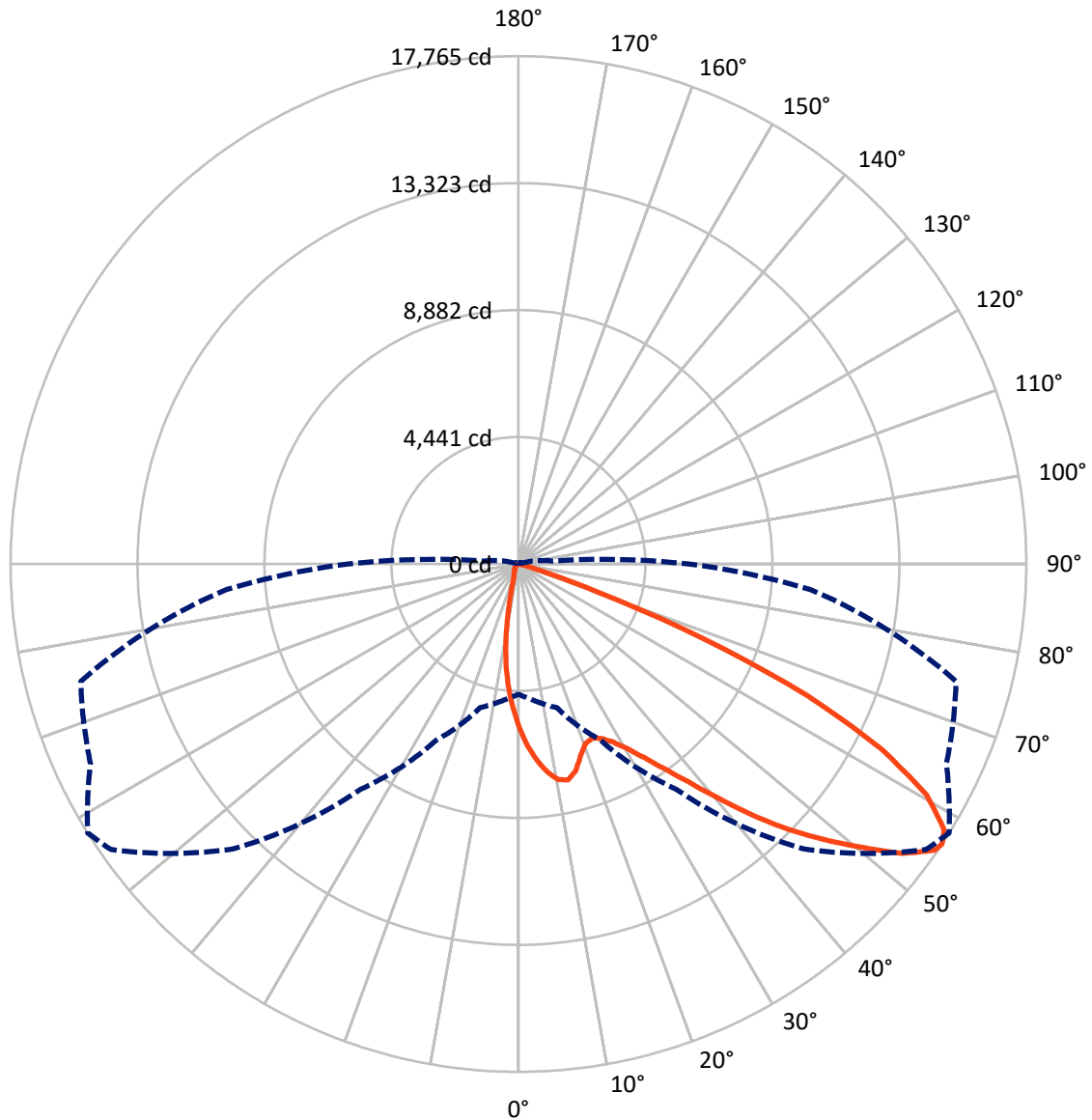
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 11.5 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	1272.0	0.0	1272.0
	% Fixture	6.2	0.0	6.2
Street Side	Lumens	19106.2	0.0	19106.2
	% Fixture	93.8	0.0	93.8
Total	Lumens	20378.2	0.0	20378.2
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	492.2	2.4
10°-20°	1145.2	5.6
20°-30°	1927.1	9.5
30°-40°	3299.9	16.2
40°-50°	4979.6	24.4
50°-60°	5176.2	25.4
60°-70°	2905.8	14.3
70°-80°	398.3	2.0
80°-90°	54.0	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°	20378.2	100.0
0°-180°	20378.2	100.0

Coefficient of Utilization



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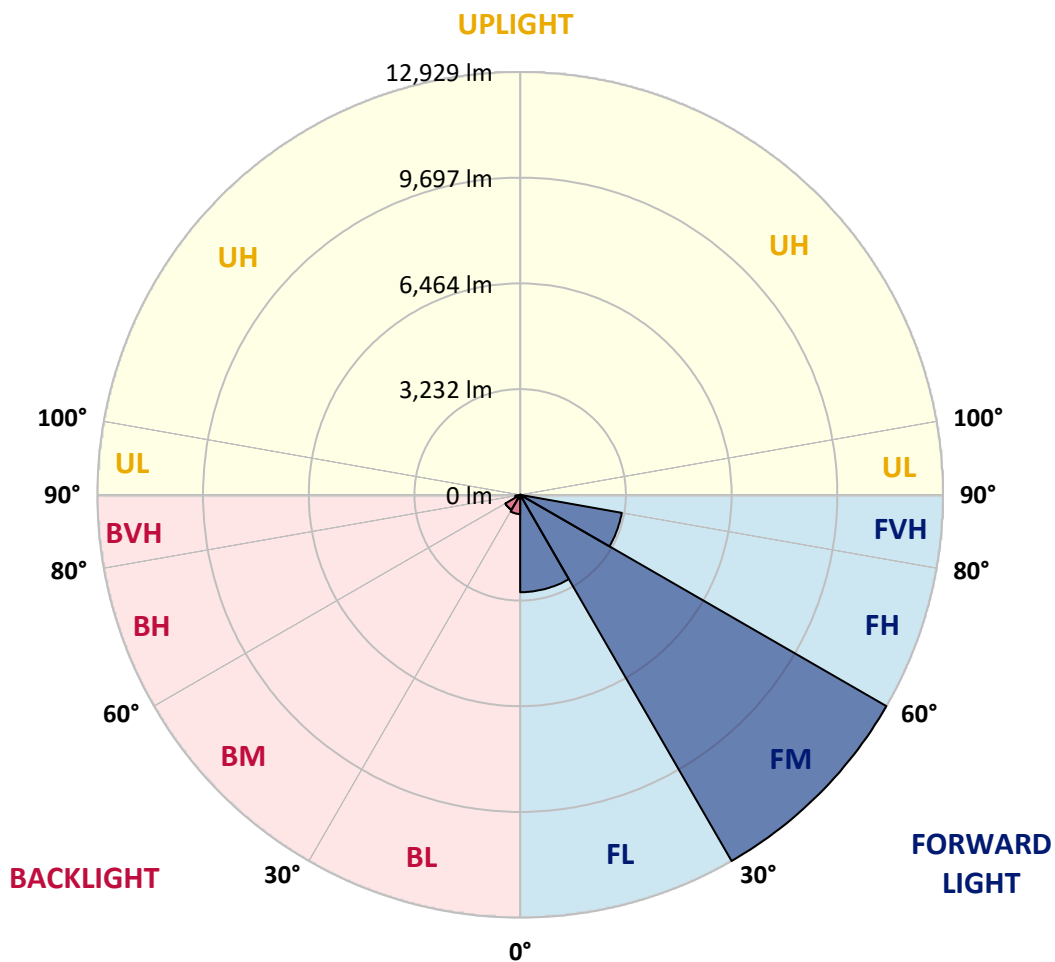
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	2977.7	14.6			
FM	(30°-60°)	12928.8	63.4			
FH	(60°-80°)	3153.2	15.5			G2/5000
FVH	(80°-90°)	46.5	0.2			G1/100
BL	(0°-30°)	586.8	2.9	B2/1000		
BM	(30°-60°)	526.9	2.6	B1/1000		
BH	(60°-80°)	150.9	0.7	B1/500		G1/500
BVH	(80°-90°)	7.4	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°	5769.6	5769.6	5769.6	5769.6	5769.6	5769.6	5769.6	5769.6	5769.6	5769.6	5769.6
2.5°	6941.9	6900.0	6856.4	6775.6	6700.9	6586.0	6427.3	6388.4	6264.1	6058.8	5867.6
5°	7540.6	7532.8	7503.2	7438.0	7357.1	7217.1	7038.4	6918.6	6725.9	6402.4	6034.0
7.5°	7186.0	7251.4	7358.6	7511.0	7613.6	7599.6	7462.8	7358.6	7167.4	6725.9	6197.2
10°	6057.3	6069.8	6217.5	6537.8	7044.6	7517.3	7696.1	7668.0	7492.4	7008.8	6340.2
12.5°	5659.3	5667.0	5701.3	5803.9	6133.5	6792.7	7602.8	7748.9	7734.9	7279.3	6492.7
15°	5690.4	5695.1	5704.4	5737.0	5830.3	6161.4	7130.1	7501.7	7890.3	7535.9	6641.9
17.5°	5936.1	5932.9	5903.3	5872.2	5901.8	6010.7	6648.2	7039.9	7857.7	7752.0	6764.8
20°	6414.9	6430.5	6330.9	6192.5	6121.0	6125.7	6410.2	6704.1	7674.3	7919.9	6856.4
22.5°	7088.1	7099.0	6935.7	6696.3	6486.4	6380.7	6460.0	6615.4	7462.8	8075.4	6931.1
25°	7892.0	7892.0	7663.3	7322.9	6997.9	6766.3	6697.9	6757.0	7381.9	8251.1	7005.7
27.5°	8759.4	8790.5	8492.0	8045.8	7616.7	7277.8	7063.3	7052.3	7444.1	8471.9	7089.7
30°	9703.2	9731.2	9376.7	8831.0	8322.6	7888.8	7559.2	7487.7	7682.1	8768.8	7212.5
32.5°	10642.3	10665.6	10273.8	9717.2	9124.8	8614.9	8181.2	8067.6	8109.5	9202.6	7392.9
35°	11836.4	11841.0	11345.0	10682.7	10049.9	9451.3	8902.5	8790.5	8743.9	9749.8	7652.5
37.5°	12786.3	12748.9	12434.9	11808.3	11082.2	10457.2	9812.0	9665.9	9554.0	10519.4	8055.1
40°	13010.2	13010.2	12963.5	12775.4	12198.6	11596.9	10971.9	10754.2	10507.0	11425.8	8596.3
42.5°	12427.1	12464.5	12772.3	13181.2	13185.8	12800.3	12189.3	12005.8	11570.5	12458.2	9187.0
45°	11122.7	11133.6	11872.1	12975.9	13725.3	13946.1	13495.3	13241.8	12638.6	13531.0	9728.1
47.5°	10653.1	10687.4	11001.4	12350.9	13765.7	14874.3	14748.4	14400.1	13627.4	14510.5	10233.4
50°	9931.7	9973.8	10357.8	11430.6	13402.0	15469.8	15947.1	15573.9	14527.6	15326.8	10483.7
52.5°	8206.0	8271.3	8813.8	10213.1	12492.5	15494.6	17044.7	16820.9	15449.5	15763.7	10454.1
55°	5646.9	5695.1	6327.9	7972.8	10657.8	14734.4	17517.4	17671.3	16272.1	15861.6	10311.1
56°	4555.4	4735.8	5199.0	6792.7	9613.1	14087.6	17408.6	17764.6	16516.2	15846.0	10248.9
57.5°	3011.6	3045.7	3551.1	4922.3	7719.4	12683.7	16917.3	17565.6	16830.2	15766.7	10203.8
60°	1416.4	1431.9	1613.8	2271.5	4177.6	9243.0	15320.5	16396.4	16945.3	15600.4	10202.3
62.5°	923.5	926.6	948.4	1083.6	1708.6	5034.2	12700.8	14249.3	15992.2	15581.7	10172.7
65°	760.3	768.0	741.6	758.7	894.0	1898.4	8958.5	11108.7	13754.9	15143.3	9840.1
67.5°	670.1	671.7	635.9	615.7	654.6	833.4	4513.5	7007.3	10287.8	12867.1	8104.9
70°	611.0	609.5	569.1	522.4	524.0	553.5	1470.8	2910.5	5691.9	7640.0	4653.4
72.5°	542.6	545.7	522.4	457.1	435.4	391.8	553.5	785.1	1937.3	2453.4	1226.7
75°	475.8	469.5	446.2	404.3	363.8	262.8	278.3	334.3	505.3	500.6	264.3
77.5°	360.7	354.5	365.4	345.1	284.5	183.4	152.3	174.1	228.5	213.0	107.3
80°	275.2	272.1	248.8	295.4	259.6	138.4	104.1	107.3	124.4	113.5	52.9
82.5°	199.0	197.4	188.1	181.9	164.8	101.1	79.3	84.0	93.3	79.3	38.9
85°	76.2	76.2	147.7	124.4	113.5	68.4	56.0	60.7	71.5	57.5	26.4
87.5°	12.5	12.5	99.5	82.4	51.4	34.2	35.8	38.9	41.9	34.2	20.3
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°	5769.6	5769.6	5769.6	5769.6	5769.6	5769.6	5769.6	5769.6	5769.6	5769.6	5769.6
2.5°	5754.1	5650.0	5421.4	5200.7	5007.9	4796.4	4689.1	4564.7	4518.1	4424.9	4434.2
5°	5813.2	5595.5	5137.0	4653.4	4210.3	3759.3	3439.2	3137.5	2969.6	2803.2	2803.2
7.5°	5873.9	5541.1	4832.2	4059.5	3313.1	2540.5	1993.2	1554.8	1310.7	1147.4	1142.7
10°	5915.8	5471.2	4485.4	3370.7	2269.9	1309.1	789.8	621.9	561.3	534.8	533.3
12.5°	5970.2	5401.2	4090.6	2559.1	1260.9	621.9	492.9	466.5	455.5	449.3	449.3
15°	6016.9	5301.7	3611.7	1721.1	662.4	466.5	424.4	415.1	413.6	412.0	413.6
17.5°	6027.7	5160.2	3038.0	1007.5	480.4	407.3	388.7	380.9	380.9	379.3	379.3
20°	6002.9	4973.7	2403.6	621.9	415.1	374.7	354.5	345.1	343.6	343.6	343.6
22.5°	5951.6	4735.8	1777.1	471.1	377.8	345.1	318.8	309.4	309.4	311.0	312.5
25°	5887.8	4454.3	1220.5	405.8	349.8	314.0	287.7	278.3	281.4	284.5	286.1
27.5°	5807.0	4118.5	799.1	351.4	312.5	282.9	259.6	253.4	259.6	265.9	268.9
30°	5726.2	3750.0	541.0	304.7	270.6	248.8	234.8	233.2	242.5	256.6	258.1
32.5°	5673.3	3372.3	408.9	273.6	237.8	219.2	213.0	216.1	230.1	245.6	248.8
35°	5668.6	3003.8	348.3	248.8	216.1	199.0	195.9	205.2	220.8	233.2	236.3
37.5°	5741.7	2658.6	315.6	230.1	199.0	181.9	177.3	194.4	208.4	220.8	223.9
40°	5889.4	2349.2	293.9	213.0	185.1	164.8	161.7	175.6	189.7	203.7	208.4
42.5°	6074.4	2060.0	268.9	195.9	169.5	146.2	143.0	154.0	167.9	188.1	191.2
45°	6234.6	1791.1	242.5	177.3	152.3	125.9	124.4	136.8	147.7	166.3	169.5
47.5°	6369.8	1567.2	217.7	157.0	130.6	111.9	110.4	116.6	122.9	139.9	143.0
50°	6298.3	1377.5	192.8	129.0	105.8	96.4	94.8	94.8	102.6	119.7	122.9
52.5°	6122.6	1259.4	169.5	107.3	87.1	82.4	77.7	79.3	87.1	94.8	96.4
55°	5981.1	1203.4	149.2	94.8	73.0	68.4	63.7	62.2	63.7	60.7	57.5
56°	5946.9	1197.2	144.5	91.8	70.0	63.7	57.5	54.4	52.9	46.6	45.1
57.5°	5931.4	1197.2	136.8	85.5	65.3	57.5	49.7	43.6	37.3	32.6	32.6
60°	5918.9	1204.9	127.5	74.7	56.0	46.6	35.8	26.4	21.8	21.8	21.8
62.5°	5892.5	1201.9	116.6	62.2	48.2	35.8	21.8	17.1	15.5	17.1	18.6
65°	5595.5	1116.3	102.6	49.7	37.3	24.9	12.5	12.5	14.0	17.1	18.6
67.5°	4508.8	845.8	84.0	38.9	26.4	18.6	10.8	10.8	14.0	17.1	18.6
70°	2476.8	446.2	71.5	28.0	20.3	15.5	10.8	9.3	14.0	17.1	18.6
72.5°	604.8	186.6	65.3	21.8	18.6	14.0	9.3	9.3	14.0	17.1	18.6
75°	149.2	139.9	52.9	17.1	15.5	12.5	9.3	9.3	14.0	17.1	18.6
77.5°	70.0	185.1	35.8	15.5	14.0	10.8	9.3	9.3	14.0	17.1	17.1
80°	41.9	139.9	21.8	14.0	12.5	10.8	9.3	9.3	14.0	17.1	18.6
82.5°	24.9	40.4	15.5	14.0	12.5	9.3	9.3	9.3	14.0	17.1	18.6
85°	21.8	20.3	15.5	14.0	12.5	10.8	9.3	9.3	15.5	18.6	18.6
87.5°	17.1	15.5	14.0	12.5	12.5	10.8	9.3	9.3	14.0	17.1	18.6
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)