

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: P196948

Luminaire Tested: **NAV-AF-04-D-UNV-AFL-8030-600-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196948
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-8030-600-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 80 CRI, 3000K, 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: 11009 lumens
Efficiency: N/A
Efficacy: 85.3 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type II - Short - Full Cutoff
BUG Rating: B1 - U0 - G1

Input Watts (W): 129
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

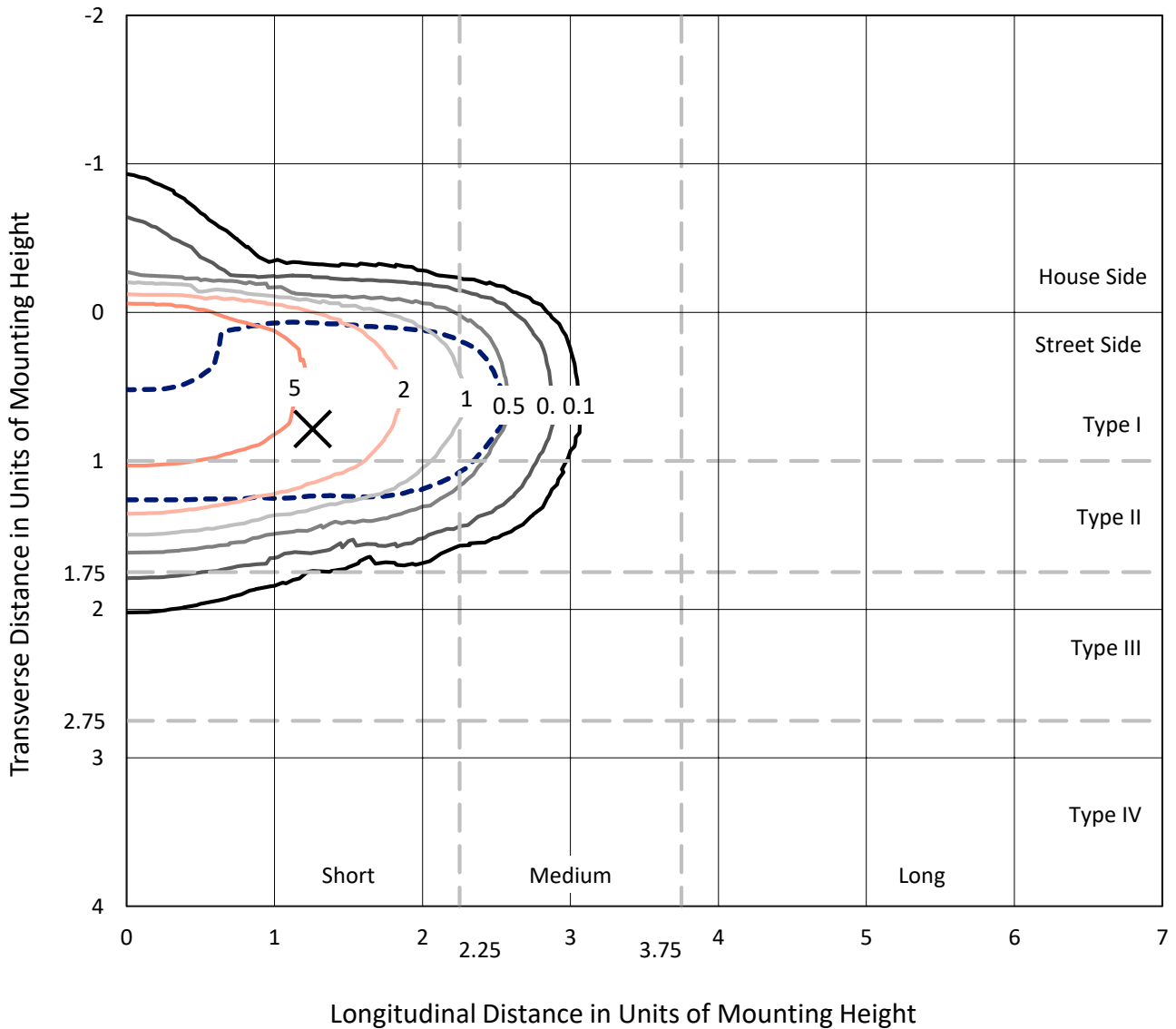


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Iso-Footcandle Lines of Horizontal Illumination

✕ Max cd
 - - - 1/2 Max cd

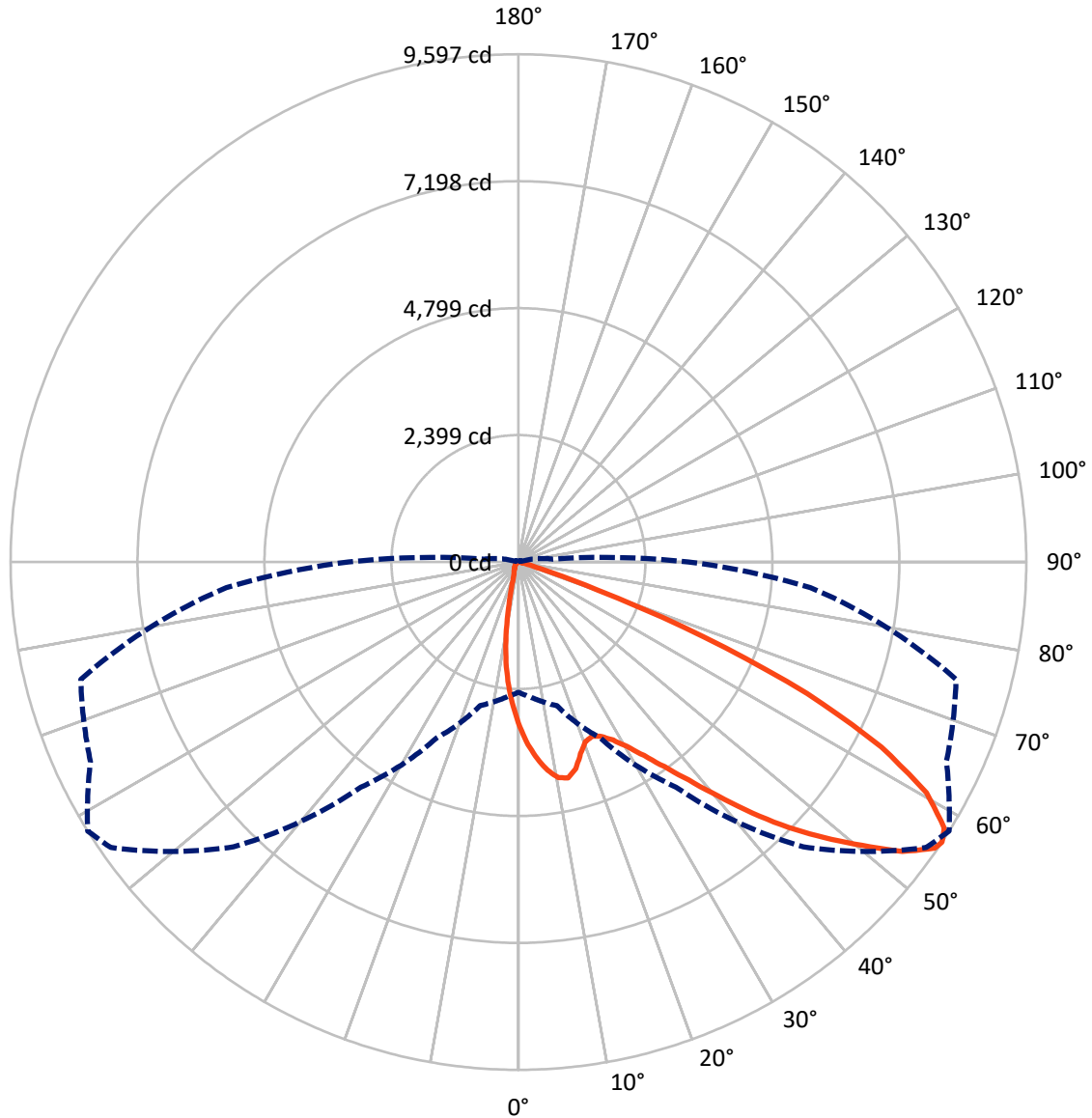


Based on 20 foot mounting height. Maximum calculated value = 9.7 fc
 Type II - Short - Full Cutoff

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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	687.2	0.0	687.2
	% Fixture	6.2	0.0	6.2
Street Side	Lumens	10321.8	0.0	10321.8
	% Fixture	93.8	0.0	93.8
Total	Lumens	11009.0	0.0	11009.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	265.9	2.4
10°-20°	618.7	5.6
20°-30°	1041.1	9.5
30°-40°	1782.7	16.2
40°-50°	2690.2	24.4
50°-60°	2796.3	25.4
60°-70°	1569.8	14.3
70°-80°	215.2	2.0
80°-90°	29.2	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°	11009.0	100.0
0°-180°	11009.0	100.0



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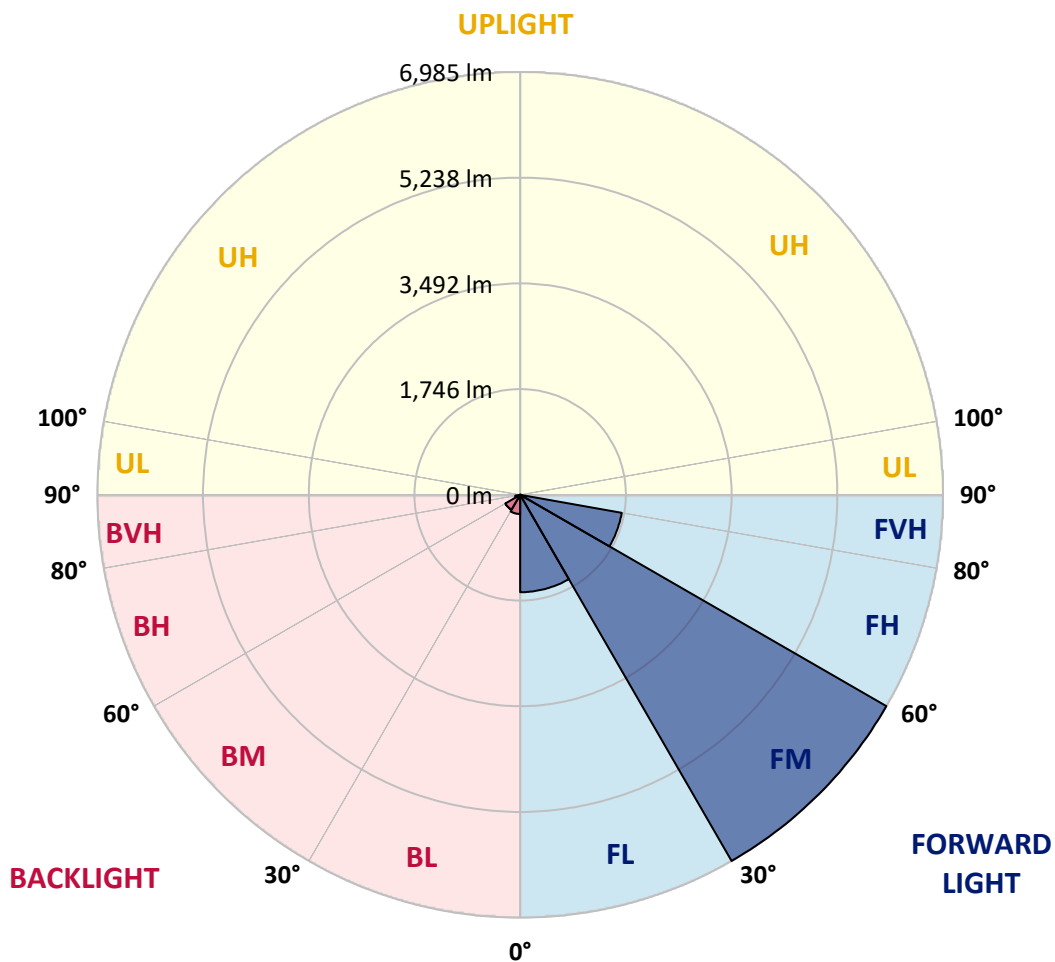
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1608.7	14.6			
FM	(30°-60°)	6984.6	63.4			
FH	(60°-80°)	1703.5	15.5			G1/1800
FVH	(80°-90°)	25.1	0.2			G1/100
BL	(0°-30°)	317.0	2.9	B1/500		
BM	(30°-60°)	284.6	2.6	B1/1000		
BH	(60°-80°)	81.5	0.7	B0/110		G0/110
BVH	(80°-90°)	4.0	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-G1

Type II Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	58°	65°	75°	85°
0°	3117.0	3117.0	3117.0	3117.0	3117.0	3117.0	3117.0	3117.0	3117.0	3117.0	3117.0
2.5°	3750.3	3727.6	3704.1	3660.4	3620.1	3557.9	3472.3	3451.3	3384.1	3273.2	3169.9
5°	4073.7	4069.5	4053.5	4018.2	3974.5	3899.0	3802.4	3737.7	3633.5	3458.8	3259.8
7.5°	3882.2	3917.4	3975.4	4057.7	4113.1	4105.6	4031.7	3975.4	3872.1	3633.5	3348.0
10°	3272.4	3279.1	3358.9	3531.9	3805.7	4061.1	4157.7	4142.5	4047.6	3786.4	3425.2
12.5°	3057.3	3061.5	3080.0	3135.5	3313.5	3669.7	4107.3	4186.2	4178.7	3932.6	3507.5
15°	3074.1	3076.7	3081.7	3099.3	3149.7	3328.6	3851.9	4052.7	4262.6	4071.1	3588.2
17.5°	3206.9	3205.2	3189.2	3172.4	3188.4	3247.2	3591.5	3803.2	4245.0	4187.9	3654.5
20°	3465.6	3474.0	3420.2	3345.4	3306.8	3309.3	3463.0	3621.8	4145.9	4278.6	3704.1
22.5°	3829.2	3835.1	3746.9	3617.6	3504.2	3447.1	3489.9	3573.9	4031.7	4362.6	3744.4
25°	4263.5	4263.5	4140.0	3956.1	3780.5	3655.4	3618.4	3650.3	3988.0	4457.5	3784.7
27.5°	4732.2	4749.0	4587.7	4346.6	4114.8	3931.7	3815.8	3809.9	4021.6	4576.8	3830.1
30°	5242.0	5257.1	5065.6	4770.8	4496.1	4261.8	4083.7	4045.1	4150.1	4737.2	3896.4
32.5°	5749.3	5761.9	5550.3	5249.6	4929.6	4654.1	4419.7	4358.4	4381.1	4971.5	3993.9
35°	6394.4	6396.9	6129.0	5771.2	5429.3	5105.9	4809.4	4749.0	4723.8	5267.2	4134.1
37.5°	6907.6	6887.4	6717.8	6379.3	5987.0	5649.4	5300.8	5221.8	5161.4	5683.0	4351.7
40°	7028.5	7028.5	7003.3	6901.7	6590.1	6265.0	5927.4	5809.8	5676.2	6172.6	4644.0
42.5°	6713.6	6733.7	6900.0	7120.9	7123.4	6915.1	6585.1	6485.9	6250.8	6730.4	4963.1
45°	6008.9	6014.7	6413.7	7010.1	7414.9	7534.2	7290.6	7153.7	6827.8	7309.9	5255.4
47.5°	5755.2	5773.7	5943.3	6672.4	7436.7	8035.6	7967.6	7779.4	7362.0	7839.1	5528.4
50°	5365.5	5388.2	5595.6	6175.2	7240.2	8357.3	8615.2	8413.6	7848.3	8280.0	5663.6
52.5°	4433.2	4468.4	4761.6	5517.5	6748.8	8370.7	9208.2	9087.2	8346.4	8516.1	5647.7
55°	3050.6	3076.7	3418.5	4307.2	5757.7	7960.0	9463.5	9546.6	8790.7	8569.0	5570.4
56°	2461.0	2558.4	2808.7	3669.7	5193.3	7610.6	9404.7	9597.0	8922.6	8560.6	5536.8
57.5°	1626.9	1645.4	1918.4	2659.2	4170.3	6852.2	9139.3	9489.5	9092.2	8517.7	5512.5
60°	765.2	773.6	871.8	1227.1	2256.9	4993.4	8276.7	8857.9	9154.4	8427.9	5511.6
62.5°	498.9	500.6	512.4	585.4	923.1	2719.7	6861.4	7698.0	8639.5	8417.8	5495.7
65°	410.7	414.9	400.6	409.9	483.0	1025.6	4839.7	6001.3	7430.9	8180.9	5315.9
67.5°	362.0	362.8	343.5	332.6	353.6	450.2	2438.3	3785.6	5557.8	6951.3	4378.6
70°	330.1	329.3	307.4	282.2	283.1	299.0	794.6	1572.3	3075.0	4127.4	2513.9
72.5°	293.1	294.8	282.2	246.9	235.2	211.7	299.0	424.2	1046.6	1325.4	662.7
75°	257.0	253.7	241.1	218.4	196.5	141.9	150.3	180.6	273.0	270.5	142.8
77.5°	194.9	191.5	197.4	186.5	153.7	99.1	82.3	94.1	123.5	115.1	58.0
80°	148.7	147.0	134.4	159.6	140.3	74.8	56.3	58.0	67.2	61.3	28.6
82.5°	107.5	106.7	101.6	98.3	89.0	54.6	42.8	45.4	50.4	42.8	21.0
85°	41.2	41.2	79.8	67.2	61.3	37.0	30.2	32.8	38.6	31.1	14.3
87.5°	6.7	6.7	53.8	44.5	27.7	18.5	19.3	21.0	22.7	18.5	10.9
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°	3117.0	3117.0	3117.0	3117.0	3117.0	3117.0	3117.0	3117.0	3117.0	3117.0	3117.0
2.5°	3108.6	3052.3	2928.8	2809.6	2705.4	2591.2	2533.2	2466.0	2440.8	2390.4	2395.5
5°	3140.5	3022.9	2775.1	2513.9	2274.5	2031.0	1857.9	1695.0	1604.3	1514.4	1514.4
7.5°	3173.3	2993.5	2610.5	2193.1	1789.9	1372.4	1076.8	839.9	708.1	619.9	617.3
10°	3195.9	2955.7	2423.2	1821.0	1226.3	707.2	426.7	336.0	303.2	288.9	288.1
12.5°	3225.3	2917.9	2209.9	1382.5	681.2	336.0	266.3	252.0	246.1	242.7	242.7
15°	3250.5	2864.2	1951.2	929.8	357.8	252.0	229.3	224.3	223.4	222.6	223.4
17.5°	3256.4	2787.7	1641.2	544.3	259.5	220.1	210.0	205.8	205.8	204.9	204.9
20°	3243.0	2686.9	1298.5	336.0	224.3	202.4	191.5	186.5	185.6	185.6	185.6
22.5°	3215.3	2558.4	960.0	254.5	204.1	186.5	172.2	167.1	167.1	168.0	168.8
25°	3180.8	2406.4	659.3	219.2	189.0	169.7	155.4	150.3	152.0	153.7	154.5
27.5°	3137.1	2225.0	431.7	189.8	168.8	152.9	140.3	136.9	140.3	143.6	145.3
30°	3093.5	2025.9	292.3	164.6	146.1	134.4	126.8	126.0	131.0	138.6	139.4
32.5°	3064.9	1821.8	220.9	147.8	128.5	118.4	115.1	116.8	124.3	132.7	134.4
35°	3062.4	1622.7	188.1	134.4	116.8	107.5	105.8	110.9	119.3	126.0	127.7
37.5°	3101.9	1436.3	170.5	124.3	107.5	98.3	95.8	105.0	112.6	119.3	120.9
40°	3181.7	1269.1	158.7	115.1	100.0	89.0	87.4	94.9	102.5	110.0	112.6
42.5°	3281.6	1112.9	145.3	105.8	91.6	79.0	77.3	83.2	90.7	101.6	103.3
45°	3368.1	967.6	131.0	95.8	82.3	68.0	67.2	73.9	79.8	89.9	91.6
47.5°	3441.2	846.6	117.6	84.8	70.6	60.5	59.6	63.0	66.4	75.6	77.3
50°	3402.6	744.2	104.2	69.7	57.1	52.1	51.2	51.2	55.4	64.7	66.4
52.5°	3307.6	680.3	91.6	58.0	47.0	44.5	42.0	42.8	47.0	51.2	52.1
55°	3231.2	650.1	80.6	51.2	39.5	37.0	34.4	33.6	34.4	32.8	31.1
56°	3212.7	646.7	78.1	49.6	37.8	34.4	31.1	29.4	28.6	25.2	24.4
57.5°	3204.3	646.7	73.9	46.2	35.3	31.1	26.9	23.5	20.2	17.6	17.6
60°	3197.6	650.9	68.9	40.3	30.2	25.2	19.3	14.3	11.8	11.8	11.8
62.5°	3183.3	649.3	63.0	33.6	26.0	19.3	11.8	9.2	8.4	9.2	10.1
65°	3022.9	603.1	55.4	26.9	20.2	13.4	6.7	6.7	7.6	9.2	10.1
67.5°	2435.8	456.9	45.4	21.0	14.3	10.1	5.9	5.9	7.6	9.2	10.1
70°	1338.0	241.1	38.6	15.1	10.9	8.4	5.9	5.0	7.6	9.2	10.1
72.5°	326.7	100.8	35.3	11.8	10.1	7.6	5.0	5.0	7.6	9.2	10.1
75°	80.6	75.6	28.6	9.2	8.4	6.7	5.0	5.0	7.6	9.2	10.1
77.5°	37.8	100.0	19.3	8.4	7.6	5.9	5.0	5.0	7.6	9.2	9.2
80°	22.7	75.6	11.8	7.6	6.7	5.9	5.0	5.0	7.6	9.2	10.1
82.5°	13.4	21.8	8.4	7.6	6.7	5.0	5.0	5.0	7.6	9.2	10.1
85°	11.8	10.9	8.4	7.6	6.7	5.9	5.0	5.0	8.4	10.1	10.1
87.5°	9.2	8.4	7.6	6.7	6.7	5.9	5.0	5.0	7.6	9.2	10.1
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)