

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: P195986

Luminaire Tested: **NAV-AF-02-D-UNV-AFL-600-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195986
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-02-D-UNV-AFL-600-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 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: 6890.6 lumens
Efficiency: N/A
Efficacy: 104.4 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type II - Short - Full Cutoff
BUG Rating: B1 - U0 - G1

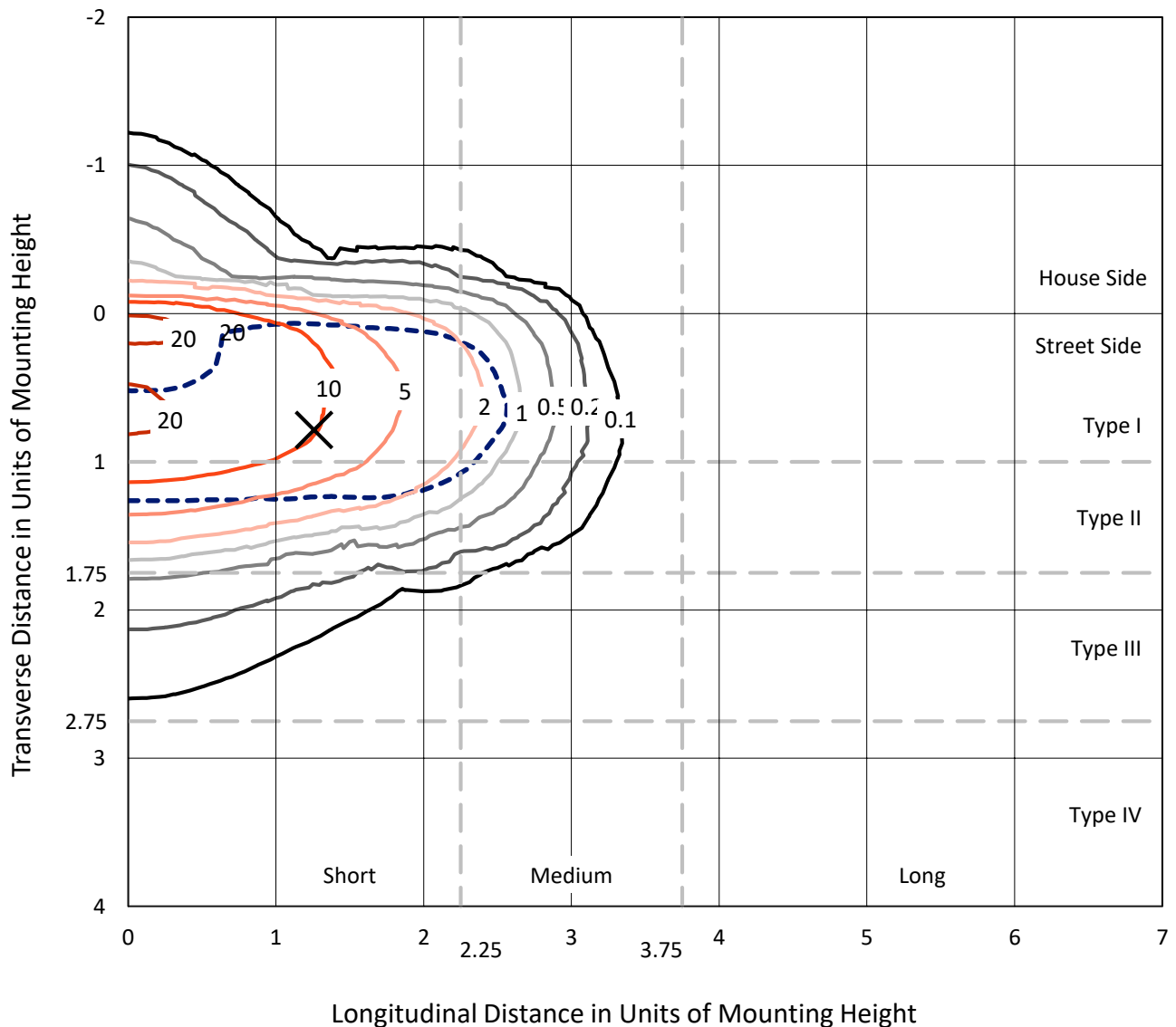
Input Watts (W): 66
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



REPORT NUMBER: P195986
 CATALOG NUMBER: NAV-AF-02-D-UNV-AFL-600-HSS

Iso-Footcandle Lines of Horizontal Illumination

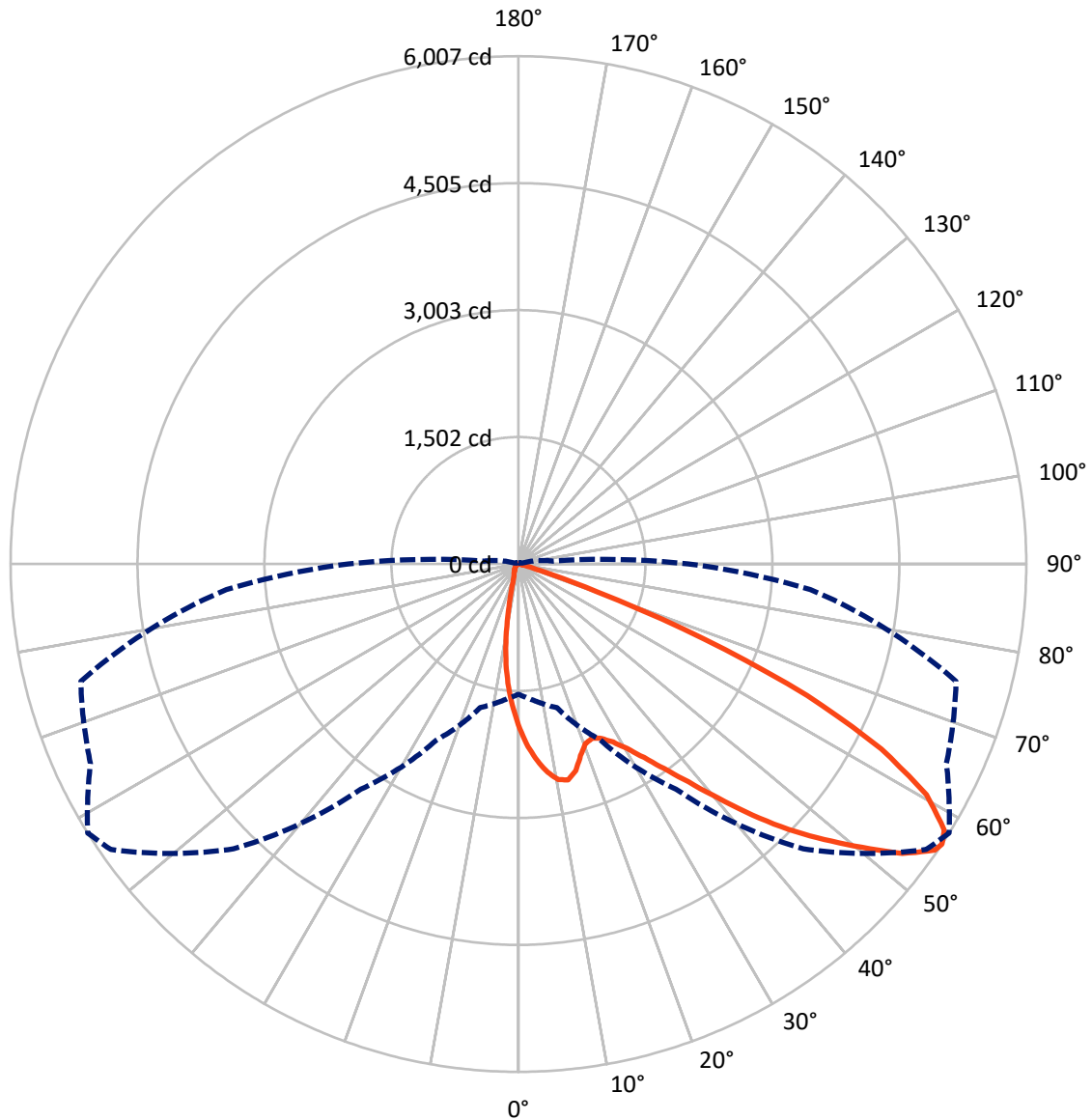
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 24.2 fc
 Type II - Short - Full Cutoff

REPORT NUMBER: P195986
CATALOG NUMBER: NAV-AF-02-D-UNV-AFL-600-HSS

Luminous Intensity Polar Plot



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

REPORT NUMBER: P195986

CATALOG NUMBER: NAV-AF-02-D-UNV-AFL-600-HSS

FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	430.1	0.0	430.1
	% Fixture	6.2	0.0	6.2
Street Side	Lumens	6460.5	0.0	6460.5
	% Fixture	93.8	0.0	93.8
Total	Lumens	6890.6	0.0	6890.6
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	166.4	2.4
10°-20°	387.2	5.6
20°-30°	651.6	9.5
30°-40°	1115.8	16.2
40°-50°	1683.8	24.4
50°-60°	1750.2	25.4
60°-70°	982.6	14.3
70°-80°	134.7	2.0
80°-90°	18.2	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°	6890.6	100.0
0°-180°	6890.6	100.0



REPORT NUMBER: P195986

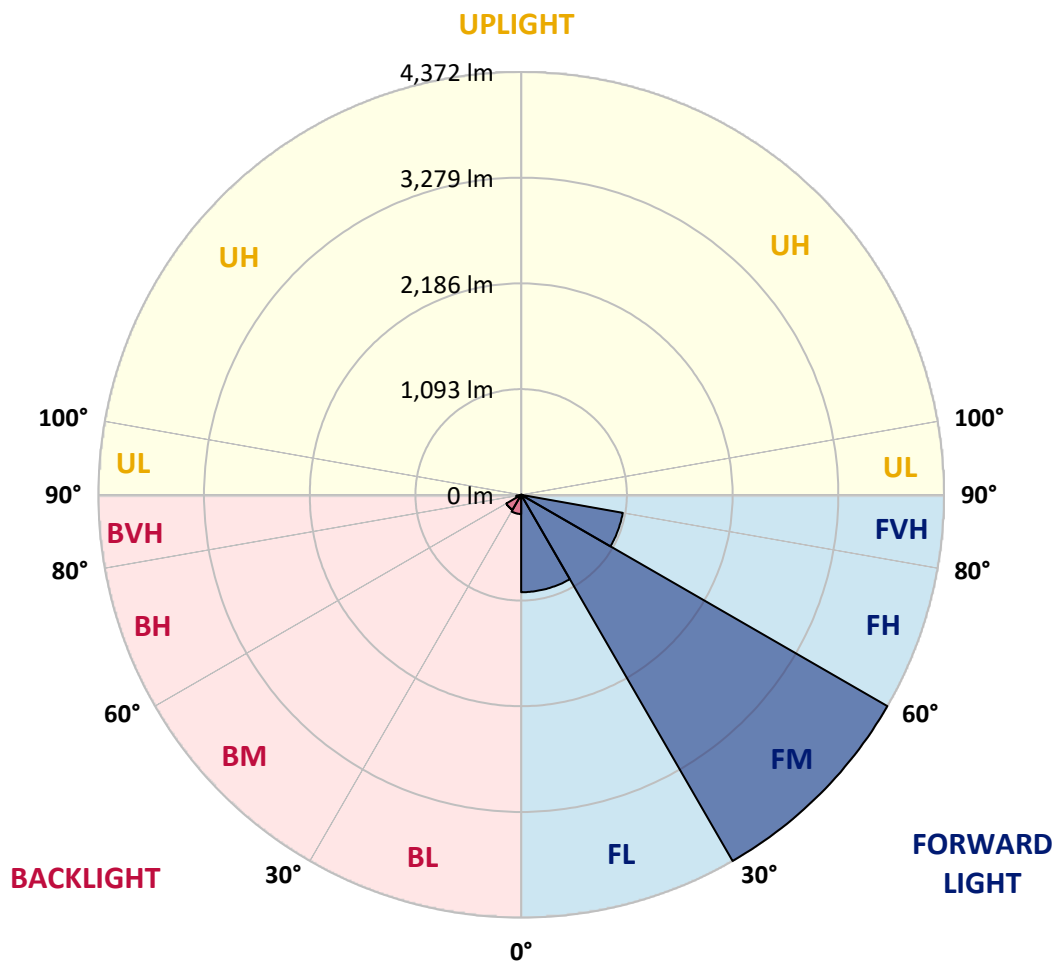
CATALOG NUMBER: NAV-AF-02-D-UNV-AFL-600-HSS

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1006.9	14.6			
FM (30°-60°)	4371.7	63.4			
FH (60°-80°)	1066.2	15.5			G1/1800
FVH (80°-90°)	15.7	0.2			G1/100
BL (0°-30°)	198.4	2.9	B1/500		
BM (30°-60°)	178.2	2.6	B0/220		
BH (60°-80°)	51.0	0.7	B0/110		G0/110
BVH (80°-90°)	2.5	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





REPORT NUMBER: P195986

CATALOG NUMBER: NAV-AF-02-D-UNV-AFL-600-HSS

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	58°	65°	75°	85°
0°	1951.0	1951.0	1951.0	1951.0	1951.0	1951.0	1951.0	1951.0	1951.0	1951.0	1951.0
2.5°	2347.4	2333.1	2318.4	2291.1	2265.8	2227.0	2173.4	2160.2	2118.1	2048.8	1984.0
5°	2549.7	2547.1	2537.1	2515.0	2487.7	2440.4	2379.9	2339.5	2274.2	2164.9	2040.3
7.5°	2429.8	2451.9	2488.2	2539.8	2574.5	2569.8	2523.4	2488.2	2423.6	2274.2	2095.5
10°	2048.2	2052.4	2102.4	2210.6	2382.0	2541.8	2602.3	2592.9	2533.4	2370.0	2143.9
12.5°	1913.6	1916.2	1927.9	1962.5	2073.9	2296.8	2570.8	2620.2	2615.5	2461.4	2195.4
15°	1924.2	1925.7	1928.9	1939.9	1971.4	2083.4	2410.9	2536.6	2668.1	2548.2	2245.9
17.5°	2007.2	2006.1	1996.2	1985.6	1995.6	2032.4	2247.9	2380.4	2657.0	2621.2	2287.4
20°	2169.1	2174.4	2140.7	2094.0	2069.7	2071.4	2167.5	2266.9	2594.9	2678.0	2318.4
22.5°	2396.8	2400.5	2345.2	2264.3	2193.3	2157.5	2184.3	2236.9	2523.4	2730.6	2343.7
25°	2668.6	2668.6	2591.2	2476.2	2366.3	2287.9	2264.8	2284.8	2496.1	2790.0	2368.8
27.5°	2961.9	2972.4	2871.4	2720.5	2575.5	2460.9	2388.3	2384.7	2517.2	2864.7	2397.3
30°	3281.0	3290.4	3170.6	2986.1	2814.1	2667.4	2556.0	2531.8	2597.6	2965.0	2438.8
32.5°	3598.5	3606.4	3473.9	3285.7	3085.4	2913.0	2766.4	2727.9	2742.1	3111.7	2499.8
35°	4002.3	4003.8	3836.2	3612.2	3398.2	3195.8	3010.2	2972.4	2956.6	3296.8	2587.6
37.5°	4323.5	4310.9	4204.6	3992.8	3747.3	3535.9	3317.8	3268.4	3230.6	3557.0	2723.7
40°	4399.2	4399.2	4383.4	4319.8	4124.7	3921.3	3709.9	3636.4	3552.8	3863.5	2906.7
42.5°	4202.1	4214.7	4318.8	4457.0	4458.6	4328.2	4121.7	4059.6	3912.4	4212.6	3106.5
45°	3761.0	3764.7	4014.4	4387.6	4641.0	4715.7	4563.2	4477.6	4273.6	4575.4	3289.4
47.5°	3602.2	3613.8	3720.0	4176.3	4654.7	5029.5	4987.0	4869.1	4607.9	4906.5	3460.2
50°	3358.2	3372.5	3502.3	3865.1	4531.7	5230.9	5392.3	5266.2	4912.3	5182.5	3544.9
52.5°	2774.8	2796.8	2980.3	3453.5	4224.2	5239.2	5763.4	5687.7	5224.0	5330.3	3534.9
55°	1909.4	1925.7	2139.7	2695.9	3603.8	4982.2	5923.3	5975.3	5502.1	5363.3	3486.5
56°	1540.4	1601.3	1758.0	2296.8	3250.5	4763.5	5886.5	6006.9	5584.7	5358.1	3465.6
57.5°	1018.3	1029.9	1200.7	1664.4	2610.2	4288.8	5720.3	5939.6	5690.9	5331.3	3450.3
60°	478.9	484.2	545.7	768.0	1412.6	3125.4	5180.4	5544.2	5729.8	5275.1	3449.8
62.5°	312.3	313.3	320.7	366.4	577.8	1702.3	4294.6	4818.2	5407.5	5268.7	3439.8
65°	257.1	259.7	250.7	256.6	302.3	641.9	3029.2	3756.3	4651.1	5120.5	3327.2
67.5°	226.6	227.1	215.0	208.2	221.4	281.8	1526.1	2369.4	3478.6	4350.8	2740.6
70°	206.6	206.1	192.4	176.7	177.2	187.2	497.4	984.2	1924.7	2583.4	1573.5
72.5°	183.5	184.5	176.7	154.6	147.2	132.5	187.2	265.5	655.0	829.6	414.8
75°	160.9	158.8	150.9	136.7	123.1	88.9	94.1	113.0	170.8	169.3	89.4
77.5°	121.9	119.9	123.6	116.7	96.2	62.0	51.6	58.9	77.2	72.0	36.3
80°	93.1	92.0	84.1	99.8	87.8	46.7	35.2	36.3	42.0	38.4	17.9
82.5°	67.3	66.8	63.6	61.5	55.8	34.2	26.8	28.4	31.5	26.8	13.1
85°	25.8	25.8	49.9	42.0	38.4	23.1	18.9	20.5	24.1	19.4	8.9
87.5°	4.2	4.2	33.7	27.8	17.4	11.6	12.1	13.1	14.2	11.6	6.9
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P195986

CATALOG NUMBER: NAV-AF-02-D-UNV-AFL-600-HSS

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	1951.0	1951.0	1951.0	1951.0	1951.0	1951.0	1951.0	1951.0	1951.0	1951.0	1951.0
2.5°	1945.7	1910.5	1833.1	1758.6	1693.3	1621.9	1585.6	1543.5	1527.8	1496.2	1499.3
5°	1965.7	1892.0	1737.0	1573.5	1423.6	1271.2	1162.9	1060.9	1004.1	947.9	947.9
7.5°	1986.2	1873.6	1634.0	1372.7	1120.3	859.0	673.9	525.7	443.1	388.0	386.4
10°	2000.4	1850.0	1516.7	1139.8	767.5	442.6	267.1	210.3	189.8	180.9	180.3
12.5°	2018.8	1826.4	1383.1	865.3	426.4	210.3	166.6	157.7	154.1	151.9	151.9
15°	2034.5	1792.7	1221.2	582.0	223.9	157.7	143.5	140.3	139.8	139.3	139.8
17.5°	2038.2	1744.8	1027.2	340.6	162.4	137.7	131.4	128.8	128.8	128.3	128.3
20°	2029.8	1681.7	812.7	210.3	140.3	126.7	119.9	116.7	116.2	116.2	116.2
22.5°	2012.5	1601.3	600.9	159.3	127.8	116.7	107.8	104.6	104.6	105.2	105.7
25°	1990.9	1506.2	412.7	137.2	118.3	106.2	97.3	94.1	95.1	96.2	96.8
27.5°	1963.6	1392.6	270.3	118.8	105.7	95.6	87.8	85.7	87.8	89.9	90.9
30°	1936.2	1268.0	182.9	103.0	91.5	84.1	79.4	78.9	82.0	86.7	87.3
32.5°	1918.3	1140.3	138.3	92.6	80.4	74.2	72.0	73.0	77.8	83.1	84.1
35°	1916.8	1015.7	117.7	84.1	73.0	67.3	66.3	69.4	74.7	78.9	79.9
37.5°	1941.5	899.0	106.7	77.8	67.3	61.5	59.9	65.7	70.5	74.7	75.7
40°	1991.4	794.3	99.3	72.0	62.6	55.8	54.6	59.4	64.1	68.8	70.5
42.5°	2054.0	696.5	90.9	66.3	57.3	49.4	48.4	52.1	56.8	63.6	64.7
45°	2108.1	605.6	82.0	59.9	51.6	42.6	42.0	46.2	49.9	56.3	57.3
47.5°	2153.8	529.9	73.6	53.1	44.2	37.8	37.3	39.4	41.5	47.4	48.4
50°	2129.7	465.7	65.2	43.7	35.7	32.6	32.0	32.0	34.7	40.5	41.5
52.5°	2070.2	425.9	57.3	36.3	29.5	27.8	26.3	26.8	29.5	32.0	32.6
55°	2022.5	406.9	50.4	32.0	24.8	23.1	21.6	21.1	21.6	20.5	19.4
56°	2010.9	404.8	48.9	31.0	23.6	21.6	19.4	18.4	17.9	15.8	15.2
57.5°	2005.6	404.8	46.2	28.9	22.1	19.4	16.8	14.7	12.6	11.0	11.0
60°	2001.4	407.4	43.1	25.3	18.9	15.8	12.1	8.9	7.4	7.4	7.4
62.5°	1992.5	406.4	39.4	21.1	16.3	12.1	7.4	5.8	5.2	5.8	6.3
65°	1892.0	377.5	34.7	16.8	12.6	8.4	4.2	4.2	4.7	5.8	6.3
67.5°	1524.6	286.0	28.4	13.1	8.9	6.3	3.7	3.7	4.7	5.8	6.3
70°	837.5	150.9	24.1	9.5	6.9	5.2	3.7	3.2	4.7	5.8	6.3
72.5°	204.5	63.1	22.1	7.4	6.3	4.7	3.2	3.2	4.7	5.8	6.3
75°	50.4	47.4	17.9	5.8	5.2	4.2	3.2	3.2	4.7	5.8	6.3
77.5°	23.6	62.6	12.1	5.2	4.7	3.7	3.2	3.2	4.7	5.8	5.8
80°	14.2	47.4	7.4	4.7	4.2	3.7	3.2	3.2	4.7	5.8	6.3
82.5°	8.4	13.7	5.2	4.7	4.2	3.2	3.2	3.2	4.7	5.8	6.3
85°	7.4	6.9	5.2	4.7	4.2	3.7	3.2	3.2	5.2	6.3	6.3
87.5°	5.8	5.2	4.7	4.2	4.2	3.7	3.2	3.2	4.7	5.8	6.3
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)