

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: P195620

Luminaire Tested: **NAV-AF-02-D-UNV-SL2-7050-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195620
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24257)
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-SL2-7050-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 70 CRI, 5000K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II
SPILL LIGHT ELIMINATOR OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 13099 lumens
Efficiency: N/A
Efficacy: 101.5 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type II - Medium - Semi-Cutoff
BUG Rating: B2 - U0 - G3

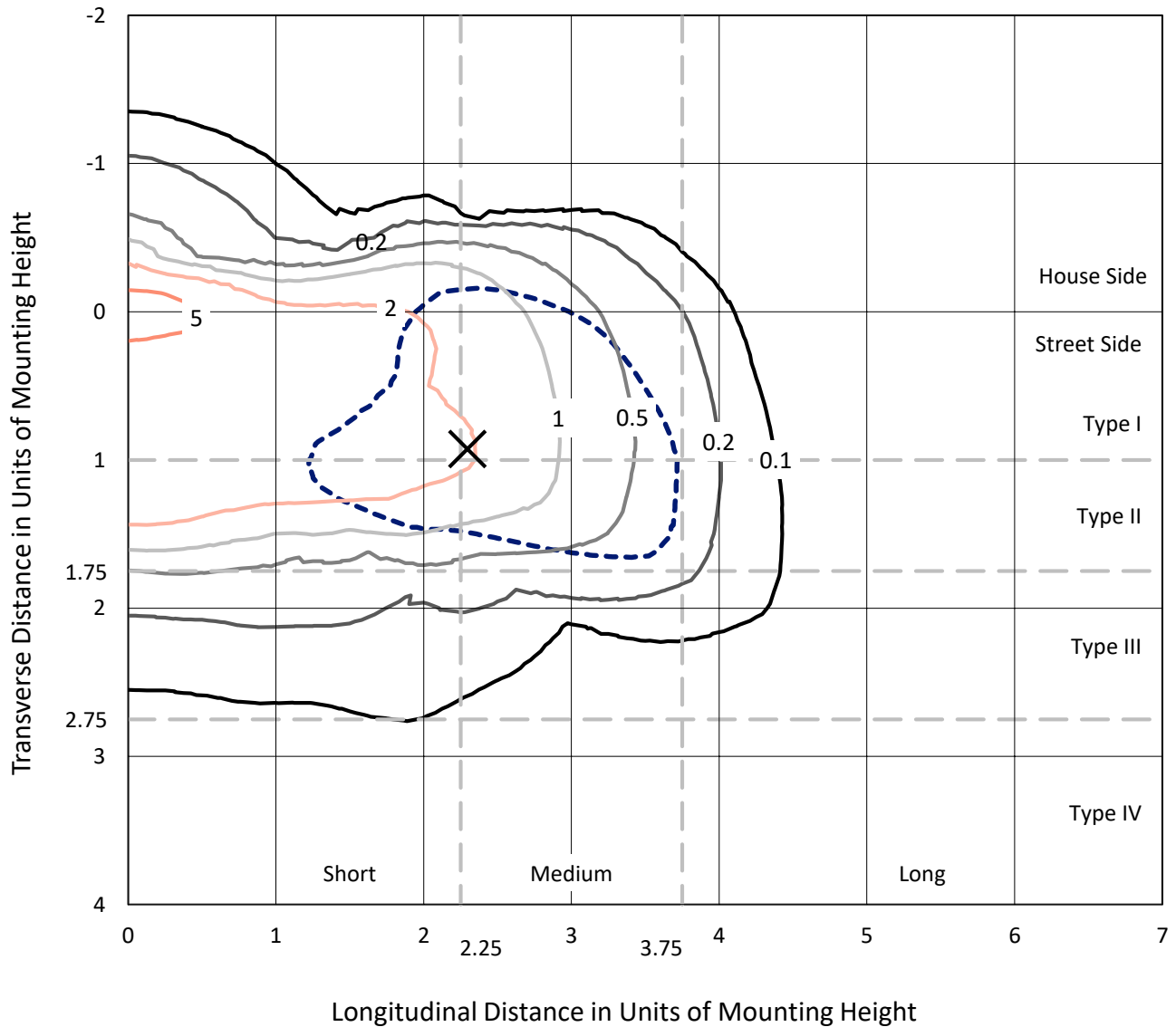
Input Watts (W): 129
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

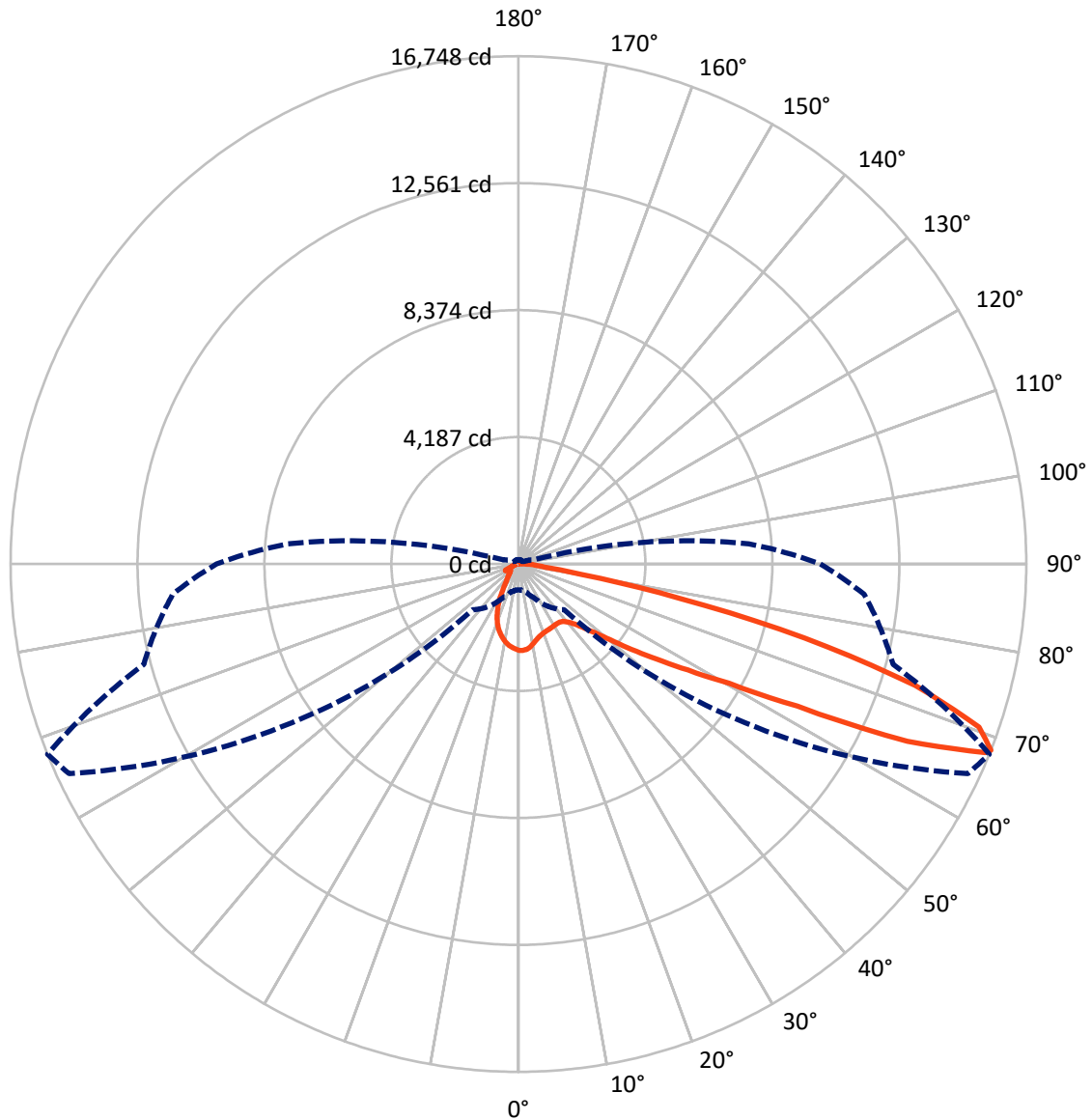
✕ Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 7.1 fc
 Type II - Medium - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 68-Deg Lateral - - - Horizontal Cone Through 68-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2143.0	0.0	2143.0
	% Fixture	16.4	0.0	16.4
Street Side	Lumens	10956.0	0.0	10956.0
	% Fixture	83.6	0.0	83.6
Total	Lumens	13099.0	0.0	13099.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	244.2	1.9
10°-20°	566.4	4.3
20°-30°	766.1	5.8
30°-40°	1080.1	8.2
40°-50°	1776.1	13.6
50°-60°	2753.2	21.0
60°-70°	3569.7	27.3
70°-80°	2048.5	15.6
80°-90°	294.7	2.2
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°	13099.0	100.0
0°-180°	13099.0	100.0



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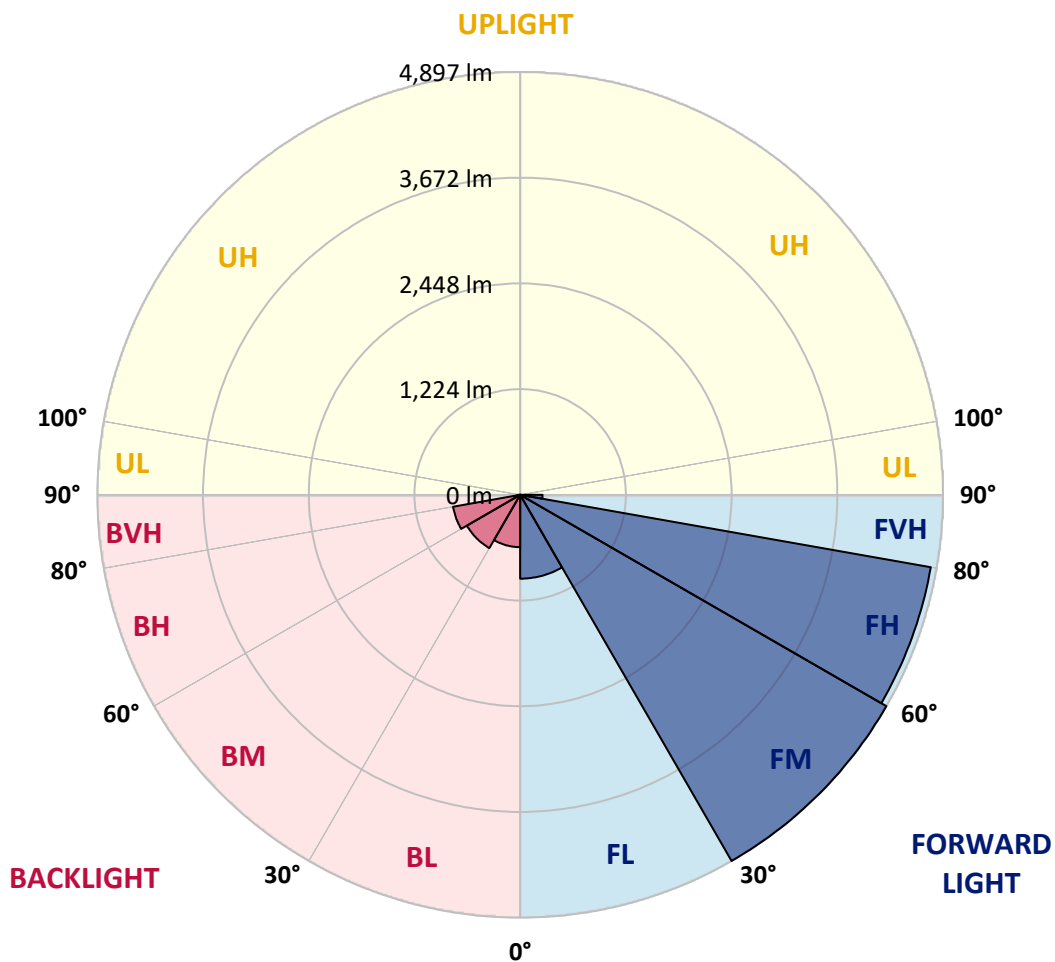
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	970.8	7.4			
FM (30°-60°)	4896.6	37.4			
FH (60°-80°)	4828.9	36.9			G2/5000
FVH (80°-90°)	259.6	2.0			G3/500
BL (0°-30°)	605.9	4.6	B2/1000		
BM (30°-60°)	712.8	5.4	B1/1000		
BH (60°-80°)	789.2	6.0	B2/1000		G2/1000
BVH (80°-90°)	35.1	0.3			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G3

Type II Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	68°	75°	85°
0°	2850.2	2850.2	2850.2	2850.2	2850.2	2850.2	2850.2	2850.2	2850.2	2850.2	2850.2
2.5°	2774.1	2796.3	2796.3	2812.6	2827.1	2839.1	2849.4	2849.4	2849.4	2842.5	2836.5
5°	2482.3	2512.2	2516.5	2557.6	2611.5	2677.4	2751.0	2816.0	2828.8	2852.8	2862.2
7.5°	2279.5	2288.9	2305.2	2333.4	2388.2	2469.5	2585.0	2730.4	2765.5	2840.8	2880.2
10°	2135.7	2143.4	2157.1	2185.4	2235.0	2308.6	2422.4	2611.5	2669.7	2803.2	2881.0
12.5°	2030.5	2036.5	2049.3	2075.0	2125.5	2191.4	2307.7	2504.5	2576.4	2765.5	2893.0
15°	1948.4	1958.6	1968.9	1993.7	2045.0	2108.4	2226.4	2426.7	2504.5	2735.6	2915.3
17.5°	1915.8	1921.0	1922.7	1935.5	1981.7	2045.9	2164.0	2371.9	2452.3	2711.6	2932.4
20°	1936.4	1937.2	1920.1	1911.6	1938.1	1997.1	2111.8	2330.8	2413.0	2690.2	2939.2
22.5°	2026.2	2026.2	1981.7	1944.1	1926.1	1962.9	2076.7	2302.6	2391.6	2674.0	2939.2
25°	2197.4	2189.7	2120.3	2045.9	1966.3	1950.9	2054.5	2284.6	2375.3	2665.4	2928.1
27.5°	2422.4	2415.5	2327.4	2217.0	2073.3	1976.6	2046.8	2270.1	2359.1	2652.6	2904.1
30°	2696.2	2690.2	2590.1	2445.5	2233.3	2057.9	2064.7	2259.8	2346.2	2631.2	2863.9
32.5°	2969.2	2965.7	2886.2	2738.1	2454.1	2195.6	2111.8	2258.1	2339.4	2605.5	2815.1
35°	3243.8	3243.8	3195.1	3070.1	2751.0	2402.7	2210.2	2289.8	2352.2	2591.8	2773.2
37.5°	3649.4	3633.2	3542.5	3413.3	3124.9	2671.4	2369.3	2356.5	2401.9	2614.9	2759.5
40°	4277.5	4230.4	4003.7	3786.3	3533.0	3015.4	2602.1	2485.7	2513.1	2693.6	2792.0
42.5°	4934.6	4860.2	4559.8	4212.4	3954.9	3439.8	2907.6	2695.3	2694.5	2845.9	2895.6
45°	5498.5	5460.0	5134.9	4694.2	4436.6	3917.2	3293.5	3006.8	2976.0	3082.1	3094.9
47.5°	5826.2	5800.6	5604.6	5204.2	5008.2	4481.1	3782.9	3438.9	3380.7	3444.1	3424.4
50°	5735.5	5760.3	5703.9	5499.4	5622.6	5273.5	4406.7	4031.0	3920.7	3984.0	3936.1
52.5°	5258.1	5324.8	5375.3	5414.7	5976.0	6333.6	5190.5	4770.3	4678.8	4667.7	4621.5
55°	4398.1	4504.2	4663.4	4952.6	5881.0	7185.0	6559.5	5664.5	5531.0	5460.9	5478.8
57.5°	2993.1	3154.0	3497.1	4047.3	5387.3	7547.8	8584.0	6819.7	6593.8	6343.9	6402.1
60°	1648.9	1783.2	2191.4	2745.8	4260.4	7493.9	10378.4	8697.0	7985.9	7323.7	7443.4
62.5°	1067.0	1096.1	1399.9	1875.6	2614.9	6616.0	11375.2	11834.7	10327.9	8615.7	8784.3
65°	857.4	877.9	1026.8	1512.8	1821.7	4256.1	11419.7	15089.7	14096.3	10371.5	10376.7
67.5°	837.7	847.1	933.5	1272.4	1708.8	2317.1	9871.0	16373.2	16603.4	12444.0	11442.0
68°	849.7	860.8	948.1	1233.0	1707.9	2135.7	9123.1	16353.5	16748.0	12790.5	11442.0
70°	749.6	763.3	966.9	1275.8	1635.2	1836.3	6247.2	15485.0	16119.9	13587.1	10856.7
72.5°	391.9	380.8	478.3	1007.1	1840.5	1913.3	3300.3	12936.8	13677.8	12583.4	9379.8
75°	305.5	278.1	267.8	397.9	1618.9	1984.3	1916.7	9195.0	9754.6	9070.9	6269.5
77.5°	287.5	254.1	234.5	235.3	712.8	2064.7	1550.5	5411.2	5411.2	4327.1	2000.5
80°	231.0	200.2	187.4	213.9	344.0	1903.0	1618.1	2466.0	2103.2	1118.4	551.0
82.5°	152.3	136.1	136.9	173.7	261.0	1270.7	1873.9	1217.6	914.7	495.4	324.3
85°	96.7	83.0	92.4	121.5	195.1	566.5	1855.1	846.3	605.8	278.1	161.7
87.5°	48.8	37.6	46.2	63.3	118.9	162.6	1527.4	755.6	449.2	115.5	88.1
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°	2850.2	2850.2	2850.2	2850.2	2850.2	2850.2	2850.2	2850.2	2850.2	2850.2	2850.2
2.5°	2836.5	2817.7	2808.3	2792.9	2774.1	2755.2	2742.4	2736.4	2733.0	2734.7	2733.9
5°	2857.1	2832.3	2792.0	2734.7	2675.7	2613.2	2565.3	2528.5	2505.4	2498.5	2496.8
7.5°	2872.5	2836.5	2761.2	2656.8	2555.9	2446.4	2353.1	2278.6	2228.2	2205.1	2204.2
10°	2869.9	2823.7	2704.8	2550.7	2402.7	2241.8	2095.5	1970.6	1879.9	1836.3	1834.5
12.5°	2872.5	2809.2	2635.5	2426.7	2214.5	1984.3	1767.0	1572.7	1437.5	1373.3	1370.8
15°	2882.7	2793.8	2564.4	2288.1	1994.6	1669.4	1358.8	1114.9	991.7	949.8	949.8
17.5°	2881.9	2768.1	2482.3	2127.2	1733.6	1298.0	927.5	776.9	765.0	803.5	809.5
20°	2864.8	2727.0	2376.2	1936.4	1427.3	898.4	628.9	607.5	703.4	809.5	821.4
22.5°	2838.2	2674.0	2253.8	1714.8	1070.4	585.3	485.2	517.7	647.7	779.5	798.3
25°	2801.5	2609.8	2113.5	1457.2	711.9	421.0	404.7	444.9	536.5	624.6	638.3
27.5°	2747.5	2528.5	1960.3	1178.3	454.4	346.5	352.5	380.8	420.1	457.8	465.5
30°	2679.9	2433.5	1793.5	869.4	344.8	309.8	320.0	337.1	354.2	378.2	383.3
32.5°	2611.5	2336.8	1619.8	597.3	301.2	290.1	300.3	309.8	324.3	340.6	344.0
35°	2549.9	2247.0	1440.9	416.7	282.4	277.2	282.4	288.4	302.9	319.2	320.9
37.5°	2505.4	2173.4	1254.4	329.4	271.2	266.1	268.7	271.2	288.4	312.3	314.9
40°	2499.4	2124.6	1065.3	296.1	262.7	255.8	254.1	255.8	278.1	305.5	308.0
42.5°	2557.6	2127.2	880.5	282.4	255.8	248.1	241.3	244.7	264.4	285.8	287.5
45°	2695.3	2187.1	720.5	276.4	249.9	243.9	233.6	235.3	244.7	255.8	257.6
47.5°	2938.4	2318.0	598.1	273.0	244.7	239.6	226.8	221.6	222.5	228.5	228.5
50°	3326.8	2537.1	523.7	269.5	240.4	231.0	216.5	206.2	203.6	207.1	207.9
52.5°	3906.1	2912.7	487.7	262.7	232.7	219.9	203.6	193.4	189.1	192.5	192.5
55°	4689.1	3512.5	470.6	253.3	223.3	206.2	191.7	183.1	179.7	182.3	182.3
57.5°	5581.5	4292.0	499.7	240.4	211.3	191.7	181.4	175.4	172.8	175.4	176.3
60°	6641.7	5312.0	699.9	224.2	198.5	178.8	172.8	169.4	167.7	170.3	170.3
62.5°	8051.0	6669.1	1083.3	211.3	184.8	166.9	165.1	163.4	161.7	164.3	164.3
65°	9572.3	7903.8	1114.9	203.6	172.8	156.6	157.4	157.4	155.7	158.3	158.3
67.5°	10056.6	7796.8	622.9	194.2	158.3	146.3	149.7	149.7	148.9	151.5	150.6
68°	9954.0	7627.4	542.5	191.7	155.7	143.8	147.2	148.0	147.2	149.7	148.9
70°	9189.0	6696.4	356.8	177.1	144.6	135.2	140.3	141.2	140.3	143.8	142.9
72.5°	7585.5	5022.8	263.5	154.9	130.9	124.1	129.2	130.1	130.9	134.3	133.5
75°	4817.4	2774.1	207.9	131.8	117.2	111.2	116.4	118.9	120.6	125.8	123.2
77.5°	1319.4	842.0	168.6	112.1	101.0	98.4	101.8	105.2	107.0	112.9	108.7
80°	462.1	372.2	140.3	95.0	83.9	83.0	86.4	89.8	91.6	96.7	91.6
82.5°	280.7	243.0	112.1	74.4	65.9	65.0	69.3	72.7	74.4	74.4	71.0
85°	146.3	128.3	82.1	52.2	45.4	42.8	50.5	54.8	55.6	54.8	52.2
87.5°	82.1	72.7	43.6	24.8	20.5	21.4	26.5	32.5	35.1	34.2	32.5
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)