

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: P197097

Luminaire Tested: **NAV-AF-03-D-UNV-SL3-8030-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P197097
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24262)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-AF-03-D-UNV-SL3-8030-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 80 CRI, 3000K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III
SPILL LIGHT ELIMINATOR OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 11927 lumens
Efficiency: N/A
Efficacy: 96.2 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')
IES Classification: Type III - Medium - Non-Cutoff
BUG Rating: B2 - U0 - G3

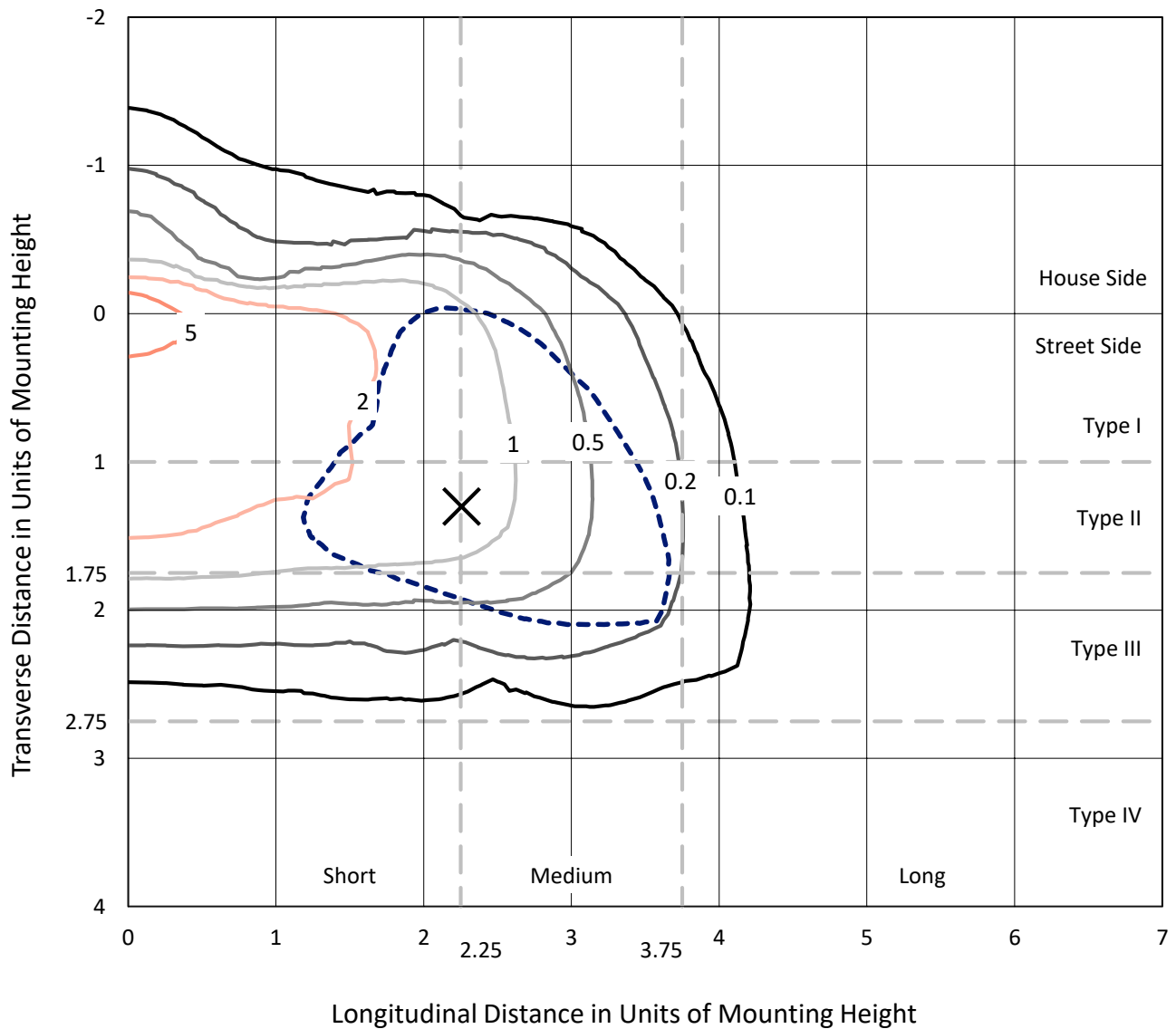
Input Watts (W): 124
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

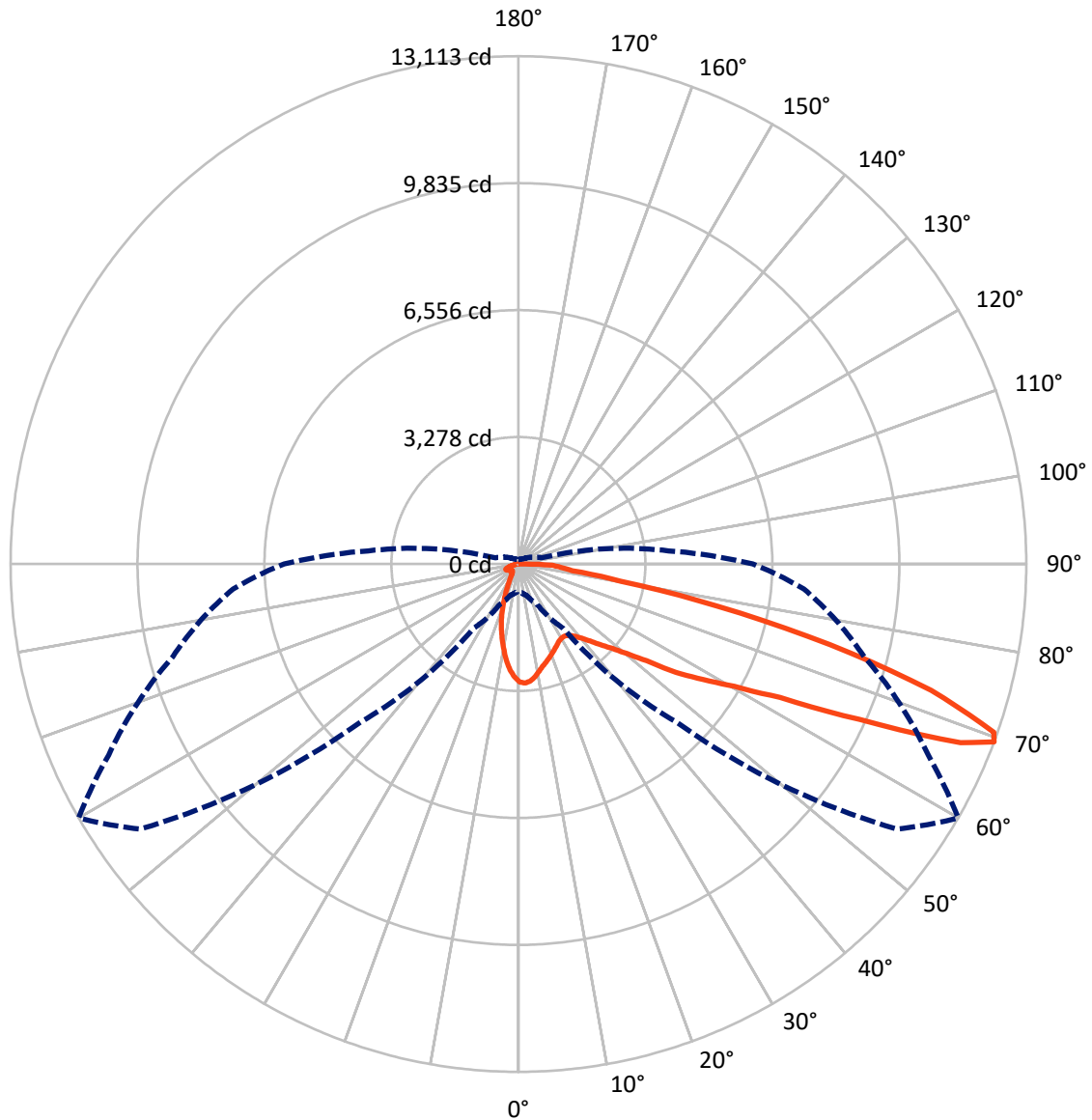
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 7.6 fc
 Type III - Medium - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 60-Deg Lateral - - - Horizontal Cone Through 69-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1701.2	0.0	1701.2
	% Fixture	14.3	0.0	14.3
Street Side	Lumens	10225.8	0.0	10225.8
	% Fixture	85.7	0.0	85.7
Total	Lumens	11927.0	0.0	11927.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	258.2	2.2
10°-20°	552.8	4.6
20°-30°	705.2	5.9
30°-40°	970.4	8.1
40°-50°	1571.8	13.2
50°-60°	2466.9	20.7
60°-70°	3288.8	27.6
70°-80°	1829.3	15.3
80°-90°	283.7	2.4
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°	11927.0	100.0
0°-180°	11927.0	100.0

Coefficient of Utilization



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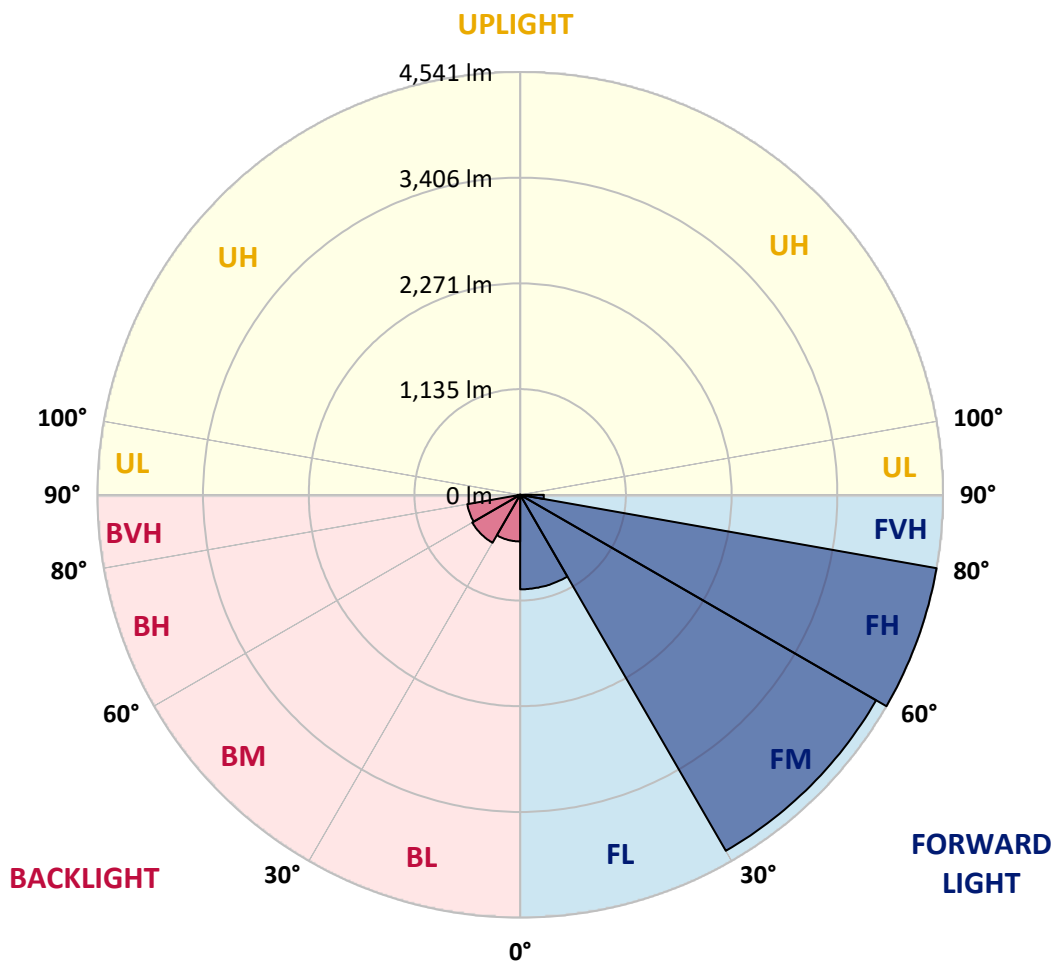
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1014.8	8.5			
FM	(30°-60°)	4414.8	37.0			
FH	(60°-80°)	4541.3	38.1			G2/5000
FVH	(80°-90°)	255.0	2.1			G3/500
BL	(0°-30°)	501.3	4.2	B2/1000		
BM	(30°-60°)	594.3	5.0	B1/1000		
BH	(60°-80°)	576.8	4.8	B2/1000		G2/1000
BVH	(80°-90°)	28.8	0.2			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 III Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	60°	65°	75°	85°
0°	3043.2	3043.2	3043.2	3043.2	3043.2	3043.2	3043.2	3043.2	3043.2	3043.2	3043.2
2.5°	3124.3	3132.7	3132.7	3125.8	3122.0	3099.8	3086.8	3077.6	3061.6	3031.7	3005.0
5°	3012.6	3028.7	3035.6	3038.6	3058.5	3051.6	3052.4	3046.3	3032.5	3000.4	2956.8
7.5°	2807.6	2810.7	2822.9	2843.6	2891.8	2925.4	2953.0	2958.3	2955.3	2931.5	2870.4
10°	2605.7	2611.1	2625.6	2660.8	2706.7	2754.9	2814.5	2839.0	2857.4	2849.7	2772.5
12.5°	2438.2	2439.0	2455.1	2495.6	2546.8	2607.3	2688.3	2726.6	2770.2	2787.8	2701.3
15°	2276.9	2287.6	2302.9	2351.8	2415.3	2491.8	2585.1	2637.9	2695.2	2745.7	2646.3
17.5°	2154.5	2162.9	2172.1	2212.6	2286.0	2381.6	2497.1	2553.7	2629.4	2706.7	2589.7
20°	2087.2	2090.2	2083.4	2103.3	2165.2	2268.5	2402.3	2470.4	2560.6	2669.2	2531.5
22.5°	2073.4	2073.4	2048.2	2044.4	2071.9	2159.1	2304.4	2387.8	2497.9	2643.2	2479.5
25°	2137.7	2133.1	2085.7	2042.1	2032.1	2076.5	2211.1	2313.6	2444.4	2642.4	2440.5
27.5°	2259.3	2253.2	2194.3	2120.8	2057.4	2038.2	2139.2	2244.0	2402.3	2668.5	2420.6
30°	2410.7	2408.4	2348.8	2257.0	2152.2	2053.5	2110.9	2208.0	2374.0	2716.6	2419.9
32.5°	2576.7	2566.0	2529.3	2437.5	2301.3	2138.4	2127.7	2209.6	2366.3	2787.0	2437.5
35°	2753.3	2745.7	2736.5	2644.0	2491.0	2288.3	2201.9	2262.3	2403.8	2884.9	2487.2
37.5°	2978.2	2969.8	2985.1	2884.1	2716.6	2484.9	2327.3	2367.9	2480.3	3027.2	2579.7
40°	3378.2	3353.7	3310.9	3155.6	2979.7	2725.8	2508.6	2514.7	2611.1	3217.6	2728.1
42.5°	4035.2	3956.4	3744.6	3459.3	3257.4	3005.7	2744.9	2715.9	2791.6	3469.2	2943.8
45°	4693.7	4605.0	4247.0	3790.4	3544.9	3306.3	3037.1	2967.5	3016.4	3762.1	3221.4
47.5°	5118.9	5075.3	4671.5	4121.6	3846.3	3633.7	3371.3	3256.6	3291.8	4094.1	3564.1
50°	5243.6	5206.1	4888.7	4380.9	4130.8	4029.1	3785.1	3632.9	3639.0	4481.8	3974.8
52.5°	5150.3	5135.0	4924.7	4541.5	4392.4	4445.9	4357.9	4146.1	4095.6	4907.1	4419.9
55°	5025.6	5031.0	4949.9	4702.9	4658.5	4834.4	5107.5	4936.9	4722.8	5349.9	4883.4
57.5°	4633.3	4637.1	4849.7	5010.3	5166.3	5379.0	5691.0	5619.1	5369.8	5827.9	5402.7
60°	3730.8	3760.6	4234.0	4946.8	5746.8	6452.0	6528.5	6404.6	6058.1	6378.6	6078.0
62.5°	2665.4	2692.2	3240.5	4294.5	5678.8	7666.5	8075.0	7582.4	6992.0	7202.3	7027.9
65°	1400.4	1395.8	1820.3	2967.5	4783.2	7948.0	10511.7	9673.4	8565.2	8335.0	7945.7
67.5°	782.4	807.6	972.1	1496.7	3117.4	6995.0	12068.1	12315.1	10752.6	9233.7	7905.9
69°	723.5	731.9	842.1	1157.2	2032.1	5771.3	11934.2	13112.8	11675.0	9237.5	7396.6
70°	702.9	712.0	812.2	1066.2	1707.1	4728.9	11447.0	13019.5	11899.0	9032.5	6933.1
72.5°	630.2	642.4	739.6	958.3	1438.6	2437.5	9220.6	11143.4	10778.6	7894.5	5375.9
75°	537.7	558.3	705.2	951.4	1362.9	1549.5	6149.1	8302.1	8022.2	5645.9	3050.1
77.5°	222.6	224.9	308.2	696.7	1430.2	1483.0	3304.8	5258.9	4655.4	2475.7	918.5
80°	155.3	152.2	153.7	203.4	1154.1	1492.9	1695.6	2674.6	2078.8	653.2	429.8
82.5°	130.8	129.3	135.4	127.7	390.8	1694.1	1418.0	1394.3	979.0	351.8	205.0
85°	86.4	84.1	110.9	116.3	185.9	1345.3	1525.0	1096.0	729.6	188.1	87.2
87.5°	42.1	42.8	63.5	78.8	98.7	426.0	1460.8	866.5	563.7	81.8	35.2
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°	3043.2	3043.2	3043.2	3043.2	3043.2	3043.2	3043.2	3043.2	3043.2	3043.2	3043.2
2.5°	2994.3	2971.3	2950.7	2924.7	2904.8	2888.0	2865.0	2864.2	2860.4	2865.8	2867.3
5°	2927.7	2889.5	2831.4	2766.3	2720.5	2660.0	2601.1	2581.3	2559.1	2556.8	2563.7
7.5°	2827.5	2767.9	2668.5	2569.0	2469.6	2367.9	2271.5	2222.6	2175.1	2160.6	2167.5
10°	2715.9	2640.2	2488.0	2325.8	2185.9	2034.4	1887.6	1792.7	1706.3	1669.6	1678.8
12.5°	2628.7	2532.3	2318.2	2107.8	1898.3	1681.1	1487.6	1300.2	1158.7	1095.2	1099.0
15°	2553.7	2430.6	2159.1	1879.2	1616.8	1319.3	1050.9	833.7	709.8	663.9	662.3
17.5°	2472.7	2323.5	1993.1	1666.5	1326.2	958.3	703.6	575.1	526.2	510.9	510.9
20°	2386.2	2213.4	1819.5	1434.8	1020.3	669.2	529.3	479.5	461.2	456.6	455.8
22.5°	2305.9	2105.5	1645.1	1187.8	738.0	507.8	450.5	431.4	428.3	432.1	432.1
25°	2242.4	2010.7	1468.5	927.7	536.9	425.2	400.8	398.5	409.9	423.7	426.0
27.5°	2195.0	1925.8	1294.1	677.6	422.2	370.2	361.8	371.7	398.5	426.0	431.4
30°	2162.1	1853.2	1085.3	487.2	351.8	324.3	328.1	345.7	386.2	428.3	439.8
32.5°	2147.6	1794.3	875.0	374.0	300.6	285.3	295.2	318.2	360.2	402.3	416.1
35°	2161.4	1751.4	680.7	310.5	263.1	251.6	263.1	286.8	314.3	335.0	343.4
37.5°	2211.1	1736.1	512.4	275.3	238.6	227.2	236.3	252.4	264.6	272.3	276.1
40°	2315.9	1752.2	401.5	257.0	224.9	211.9	214.1	221.8	230.2	236.3	237.1
42.5°	2482.6	1805.0	357.2	250.1	216.4	199.6	195.8	201.1	210.3	218.7	220.3
45°	2704.4	1892.9	352.6	252.4	212.6	189.7	182.0	187.4	199.6	213.4	215.7
47.5°	2991.2	2032.1	374.0	264.6	214.9	184.3	172.8	178.2	194.3	212.6	215.7
50°	3330.8	2224.9	413.8	283.0	225.6	184.3	169.0	173.6	190.4	211.1	214.1
52.5°	3730.8	2493.3	455.1	301.3	240.9	191.2	170.6	169.8	185.1	204.2	208.0
55°	4172.1	2826.8	494.8	317.4	249.3	200.4	174.4	165.2	177.4	192.7	195.8
57.5°	4691.4	3283.4	564.4	332.7	253.9	207.3	179.0	160.6	167.5	178.2	180.5
60°	5395.8	3954.1	699.8	358.7	262.3	210.3	179.7	156.0	155.3	162.9	163.7
62.5°	6314.3	4739.6	829.1	389.3	279.2	211.1	176.7	153.0	145.3	147.6	147.6
65°	6967.5	5028.7	791.6	415.3	294.5	210.3	173.6	150.7	137.7	133.8	133.8
67.5°	6595.8	4442.1	672.3	422.2	296.0	201.9	166.7	145.3	130.8	121.6	121.6
69°	6049.7	3893.7	617.2	409.9	283.7	192.0	159.1	140.0	126.2	115.5	115.5
70°	5604.6	3478.4	583.6	395.4	269.2	183.6	152.2	134.6	121.6	112.4	111.7
72.5°	4184.3	2321.2	498.7	341.1	221.0	155.3	133.1	120.1	109.4	103.3	103.3
75°	2208.0	1163.3	408.4	278.4	170.6	123.9	109.4	101.0	94.8	94.1	93.3
77.5°	723.5	526.2	293.7	209.6	125.4	96.4	87.2	81.8	81.1	84.1	84.1
80°	390.8	314.3	188.9	141.5	87.2	71.9	67.3	66.5	68.8	73.4	73.4
82.5°	189.7	155.3	112.4	87.2	59.7	52.8	52.8	53.5	56.6	62.0	62.0
85°	81.8	73.4	65.0	48.9	36.7	32.9	37.5	41.3	43.6	47.4	48.9
87.5°	39.0	34.4	29.8	19.1	16.1	16.8	19.9	24.5	29.1	32.1	32.9
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)