

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: P195651

Luminaire Tested: **NAV-AF-03-D-UNV-SL3-7050-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195651
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-SL3-7050-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 70 CRI, 5000K, 615mA 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: 11919 lumens
Efficiency: N/A
Efficacy: 124.2 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

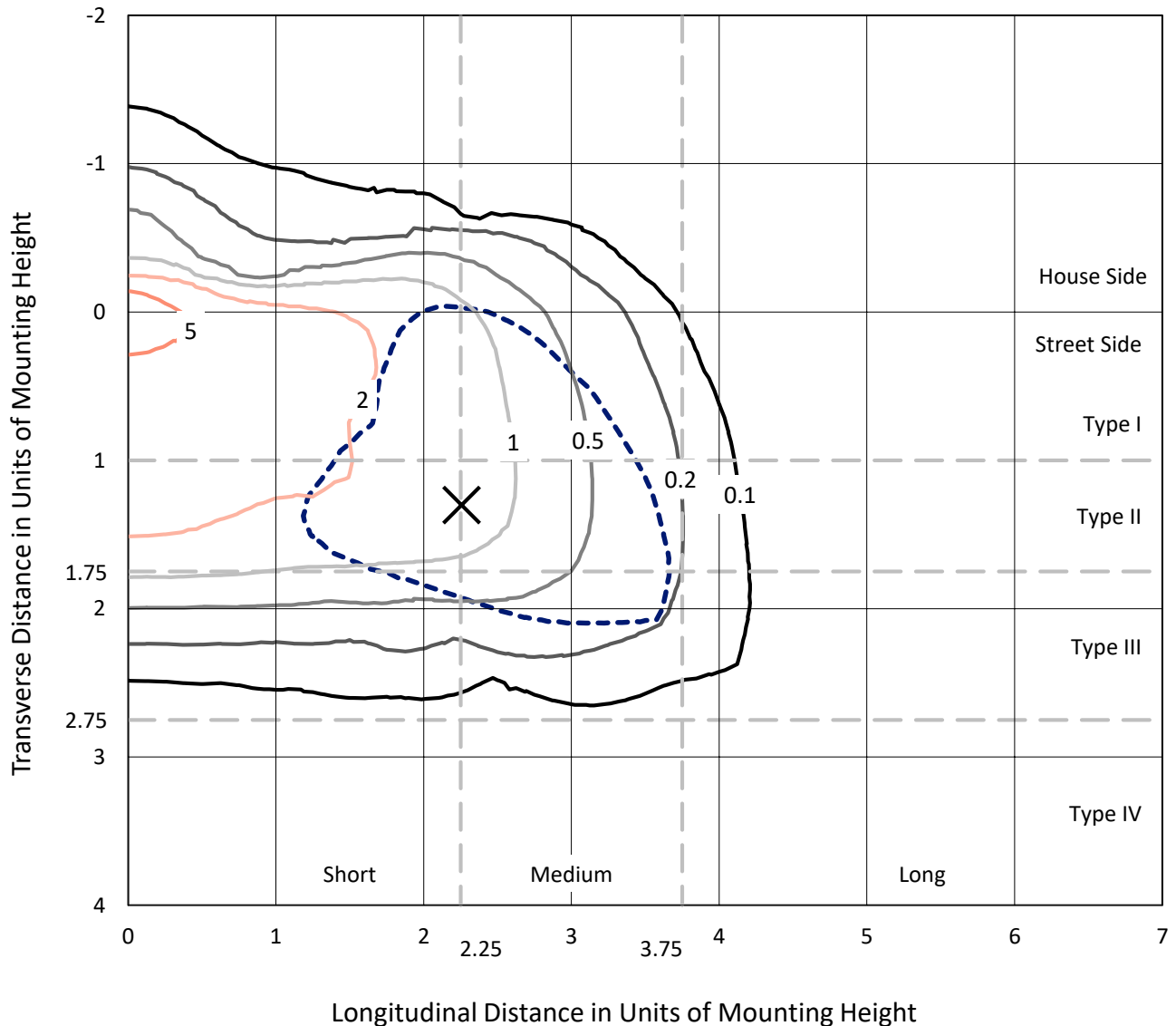
Input Watts (W): 96
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

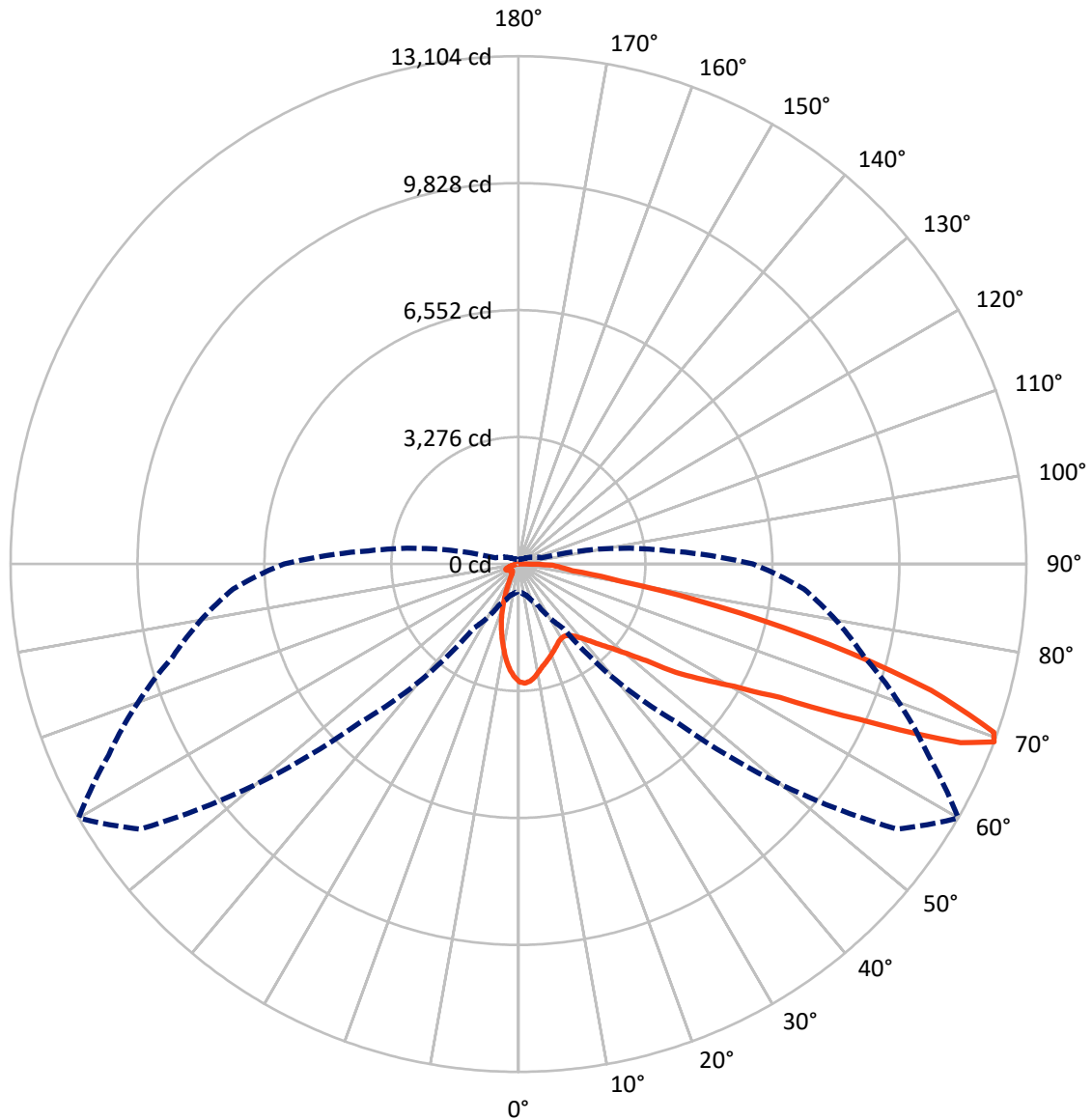
× Max cd
 - - - 1/2 Max cd



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	1700.1	0.0	1700.1
	% Fixture	14.3	0.0	14.3
Street Side	Lumens	10219.0	0.0	10219.0
	% Fixture	85.7	0.0	85.7
Total	Lumens	11919.0	0.0	11919.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	258.0	2.2
10°-20°	552.4	4.6
20°-30°	704.7	5.9
30°-40°	969.7	8.1
40°-50°	1570.8	13.2
50°-60°	2465.2	20.7
60°-70°	3286.6	27.6
70°-80°	1828.1	15.3
80°-90°	283.5	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°	11919.0	100.0
0°-180°	11919.0	100.0

Coefficient of Utilization



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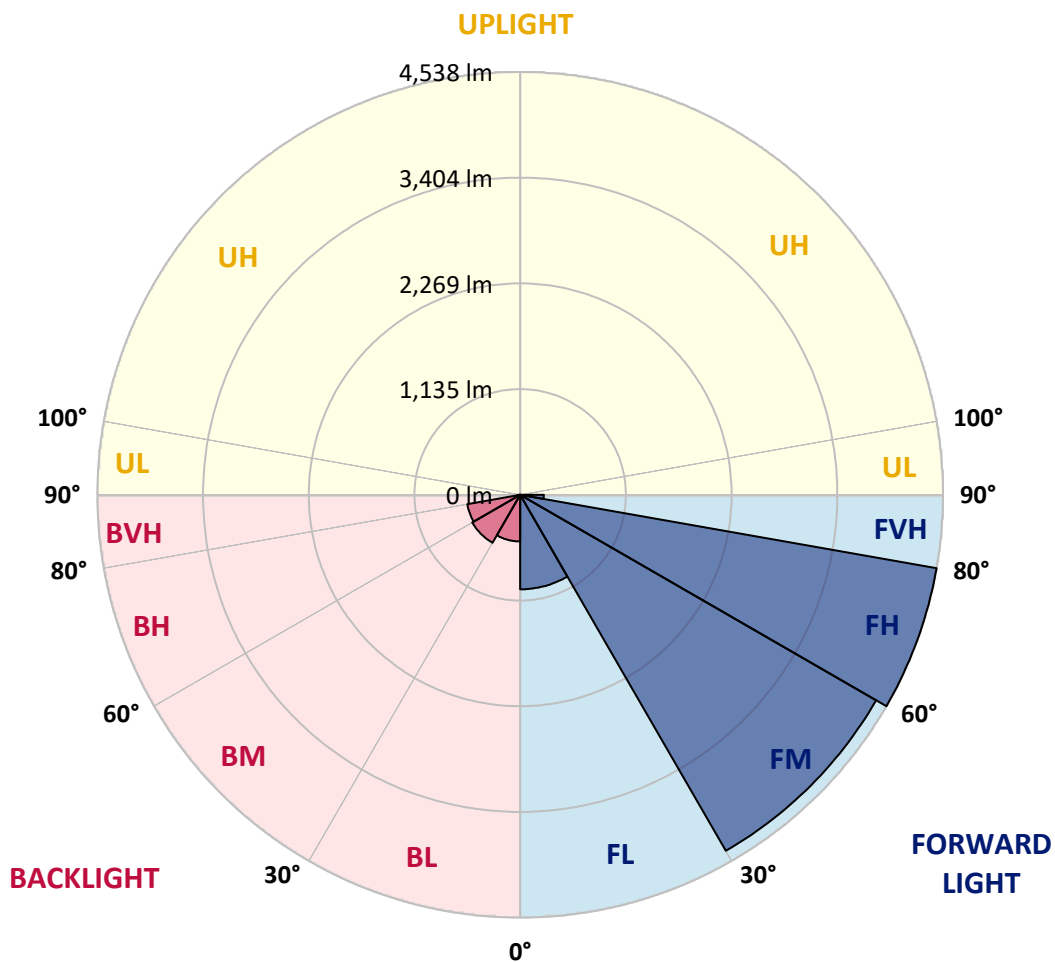
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1014.1	8.5			
FM	(30°-60°)	4411.8	37.0			
FH	(60°-80°)	4538.3	38.1			G2/5000
FVH	(80°-90°)	254.8	2.1			G3/500
BL	(0°-30°)	501.0	4.2	B2/1000		
BM	(30°-60°)	593.9	5.0	B1/1000		
BH	(60°-80°)	576.4	4.8	B2/1000		G2/1000
BVH	(80°-90°)	28.7	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°	3041.2	3041.2	3041.2	3041.2	3041.2	3041.2	3041.2	3041.2	3041.2	3041.2	3041.2
2.5°	3122.2	3130.6	3130.6	3123.7	3119.9	3097.7	3084.7	3075.6	3059.5	3029.7	3003.0
5°	3010.6	3026.6	3033.5	3036.6	3056.5	3049.6	3050.3	3044.2	3030.5	2998.4	2954.8
7.5°	2805.8	2808.8	2821.1	2841.7	2889.8	2923.5	2951.0	2956.3	2953.3	2929.6	2868.4
10°	2604.0	2609.3	2623.9	2659.0	2704.9	2753.0	2812.6	2837.1	2855.4	2847.8	2770.6
12.5°	2436.6	2437.4	2453.4	2493.9	2545.1	2605.5	2686.5	2724.7	2768.3	2785.9	2699.5
15°	2275.3	2286.0	2301.3	2350.2	2413.7	2490.1	2583.4	2636.1	2693.4	2743.9	2644.5
17.5°	2153.0	2161.5	2170.6	2211.1	2284.5	2380.0	2495.5	2552.0	2627.7	2704.9	2587.9
20°	2085.8	2088.8	2082.0	2101.8	2163.7	2266.9	2400.7	2468.7	2558.9	2667.4	2529.9
22.5°	2072.0	2072.0	2046.8	2043.0	2070.5	2157.6	2302.9	2386.2	2496.2	2641.4	2477.9
25°	2136.2	2131.6	2084.3	2040.7	2030.8	2075.1	2209.6	2312.0	2442.7	2640.7	2438.9
27.5°	2257.8	2251.6	2192.8	2119.4	2056.0	2036.9	2137.8	2242.5	2400.7	2666.7	2419.0
30°	2409.1	2406.8	2347.2	2255.5	2150.8	2052.2	2109.5	2206.5	2372.4	2714.8	2418.3
32.5°	2574.9	2564.2	2527.6	2435.8	2299.8	2137.0	2126.3	2208.1	2364.8	2785.1	2435.8
35°	2751.5	2743.9	2734.7	2642.2	2489.3	2286.8	2200.4	2260.8	2402.2	2883.0	2485.5
37.5°	2976.2	2967.8	2983.1	2882.2	2714.8	2483.2	2325.8	2366.3	2478.6	3025.1	2578.0
40°	3375.9	3351.5	3308.7	3153.5	2977.7	2724.0	2506.9	2513.0	2609.3	3215.4	2726.3
42.5°	4032.5	3953.8	3742.0	3457.0	3255.2	3003.7	2743.1	2714.0	2789.7	3466.9	2941.8
45°	4690.5	4601.9	4244.2	3787.9	3542.6	3304.1	3035.1	2965.5	3014.4	3759.6	3219.3
47.5°	5115.5	5071.9	4668.4	4118.8	3843.7	3631.2	3369.1	3254.4	3289.6	4091.3	3561.7
50°	5240.1	5202.6	4885.4	4377.9	4128.0	4026.4	3782.5	3630.4	3636.6	4478.8	3972.1
52.5°	5146.8	5131.5	4921.4	4538.4	4389.4	4442.9	4355.0	4143.3	4092.9	4903.8	4416.9
55°	5022.2	5027.6	4946.6	4699.7	4655.4	4831.2	5104.0	4933.6	4719.6	5346.3	4880.1
57.5°	4630.2	4634.0	4846.5	5007.0	5162.9	5375.4	5687.2	5615.4	5366.2	5824.0	5399.1
60°	3728.3	3758.1	4231.2	4943.5	5743.0	6447.7	6524.1	6400.3	6054.1	6374.3	6073.9
62.5°	2663.6	2690.4	3238.4	4291.6	5675.0	7661.4	8069.5	7577.3	6987.3	7197.5	7023.2
65°	1399.4	1394.9	1819.0	2965.5	4780.0	7942.7	10504.6	9666.9	8559.5	8329.4	7940.4
67.5°	781.9	807.1	971.4	1495.7	3115.3	6990.3	12060.0	12306.8	10745.4	9227.5	7900.6
69°	723.0	731.4	841.5	1156.4	2030.8	5767.4	11926.2	13104.0	11667.1	9231.3	7391.6
70°	702.4	711.6	811.7	1065.4	1705.9	4725.7	11439.4	13010.8	11891.1	9026.4	6928.4
72.5°	629.8	642.0	739.1	957.7	1437.7	2435.8	9214.5	11135.9	10771.4	7889.2	5372.3
75°	537.3	557.9	704.7	950.8	1362.0	1548.5	6145.0	8296.5	8016.8	5642.1	3048.0
77.5°	222.4	224.7	308.0	696.3	1429.3	1482.0	3302.6	5255.4	4652.3	2474.1	917.9
80°	155.2	152.1	153.6	203.3	1153.3	1491.9	1694.5	2672.8	2077.4	652.7	429.5
82.5°	130.7	129.2	135.3	127.6	390.6	1692.9	1417.0	1393.3	978.3	351.6	204.8
85°	86.4	84.1	110.8	116.2	185.7	1344.4	1524.0	1095.2	729.1	188.0	87.1
87.5°	42.0	42.8	63.4	78.7	98.6	425.7	1459.8	866.0	563.3	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°	3041.2	3041.2	3041.2	3041.2	3041.2	3041.2	3041.2	3041.2	3041.2	3041.2	3041.2
2.5°	2992.3	2969.3	2948.7	2922.7	2902.8	2886.0	2863.1	2862.3	2858.5	2863.9	2865.4
5°	2925.8	2887.5	2829.5	2764.5	2718.6	2658.3	2599.4	2579.5	2557.4	2555.1	2562.0
7.5°	2825.6	2766.0	2666.7	2567.3	2467.9	2366.3	2270.0	2221.1	2173.7	2159.2	2166.0
10°	2714.0	2638.4	2486.3	2324.3	2184.4	2033.1	1886.3	1791.5	1705.2	1668.5	1677.7
12.5°	2626.9	2530.6	2316.6	2106.4	1897.0	1679.9	1486.6	1299.3	1157.9	1094.5	1098.3
15°	2552.0	2429.0	2157.6	1877.9	1615.7	1318.4	1050.2	833.1	709.3	663.4	661.9
17.5°	2471.0	2322.0	1991.8	1665.4	1325.3	957.7	703.2	574.8	525.8	510.6	510.6
20°	2384.6	2211.9	1818.3	1433.8	1019.6	668.8	528.9	479.2	460.9	456.3	455.5
22.5°	2304.4	2104.1	1644.0	1187.0	737.6	507.5	450.2	431.1	428.0	431.8	431.8
25°	2240.9	2009.4	1467.5	927.1	536.5	425.0	400.5	398.2	409.7	423.4	425.7
27.5°	2193.6	1924.5	1293.2	677.2	421.9	369.9	361.5	371.5	398.2	425.7	431.1
30°	2160.7	1851.9	1084.5	486.9	351.6	324.1	327.9	345.5	386.0	428.0	439.5
32.5°	2146.2	1793.1	874.4	373.7	300.4	285.1	295.0	318.0	360.0	402.0	415.8
35°	2159.9	1750.3	680.2	310.3	262.9	251.5	262.9	286.6	314.1	334.8	343.2
37.5°	2209.6	1735.0	512.1	275.1	238.5	227.0	236.2	252.2	264.4	272.1	275.9
40°	2314.3	1751.0	401.3	256.8	224.7	211.7	214.0	221.6	230.1	236.2	236.9
42.5°	2480.9	1803.8	356.9	249.9	216.3	199.5	195.7	201.0	210.2	218.6	220.1
45°	2702.6	1891.7	352.3	252.2	212.5	189.5	181.9	187.3	199.5	213.2	215.5
47.5°	2989.2	2030.8	373.7	264.4	214.8	184.2	172.7	178.1	194.1	212.5	215.5
50°	3328.5	2223.4	413.5	282.8	225.5	184.2	168.9	173.5	190.3	210.9	214.0
52.5°	3728.3	2491.6	454.8	301.1	240.8	191.1	170.4	169.7	185.0	204.1	207.9
55°	4169.3	2824.9	494.5	317.2	249.2	200.2	174.3	165.1	177.3	192.6	195.7
57.5°	4688.2	3281.2	564.1	332.5	253.7	207.1	178.8	160.5	167.4	178.1	180.4
60°	5392.2	3951.5	699.3	358.5	262.2	210.2	179.6	155.9	155.2	162.8	163.6
62.5°	6310.1	4736.4	828.5	389.0	279.0	210.9	176.6	152.9	145.2	147.5	147.5
65°	6962.8	5025.3	791.1	415.0	294.3	210.2	173.5	150.6	137.6	133.8	133.8
67.5°	6591.4	4439.1	671.8	421.9	295.8	201.8	166.6	145.2	130.7	121.5	121.5
69°	6045.7	3891.1	616.8	409.7	283.6	191.8	159.0	139.9	126.1	115.4	115.4
70°	5600.8	3476.1	583.2	395.1	269.0	183.4	152.1	134.5	121.5	112.4	111.6
72.5°	4181.5	2319.7	498.3	340.9	220.9	155.2	133.0	120.0	109.3	103.2	103.2
75°	2206.5	1162.5	408.1	278.2	170.4	123.8	109.3	100.9	94.8	94.0	93.2
77.5°	723.0	525.8	293.5	209.4	125.3	96.3	87.1	81.8	81.0	84.1	84.1
80°	390.6	314.1	188.8	141.4	87.1	71.8	67.3	66.5	68.8	73.4	73.4
82.5°	189.5	155.2	112.4	87.1	59.6	52.7	52.7	53.5	56.6	61.9	61.9
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	29.0	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)