

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: P270358

Luminaire Tested: **NAV-AF-02-D-UNV-SL3-7027-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P270358
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-02-D-UNV-SL3-7027-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 70 CRI, 2700K, 1200mA 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: 11594.3 lumens
Efficiency: N/A
Efficacy: 89.9 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type III - Medium - Non-Cutoff
BUG Rating: B2 - U0 - G3

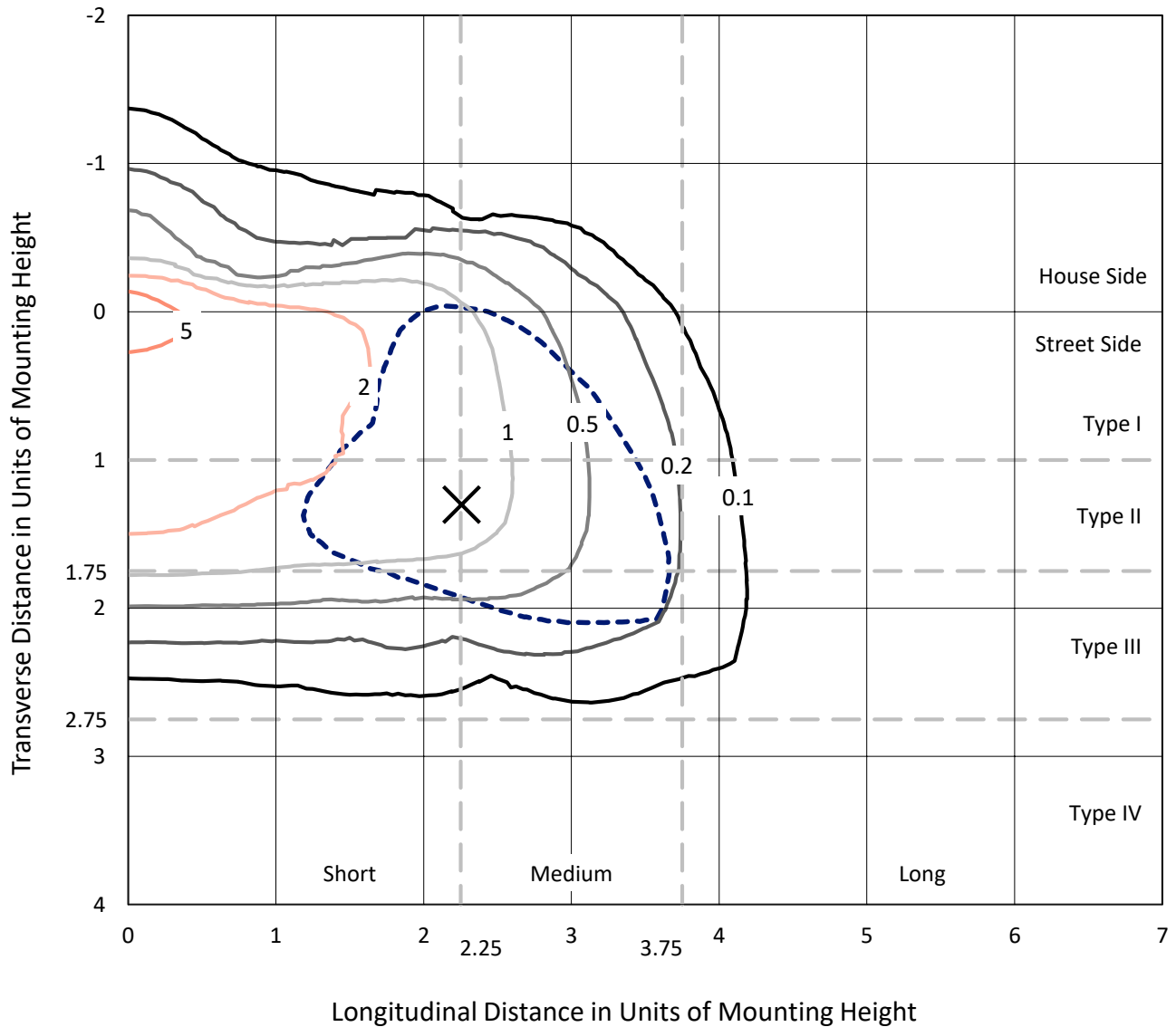
Input Watts (W): 129
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

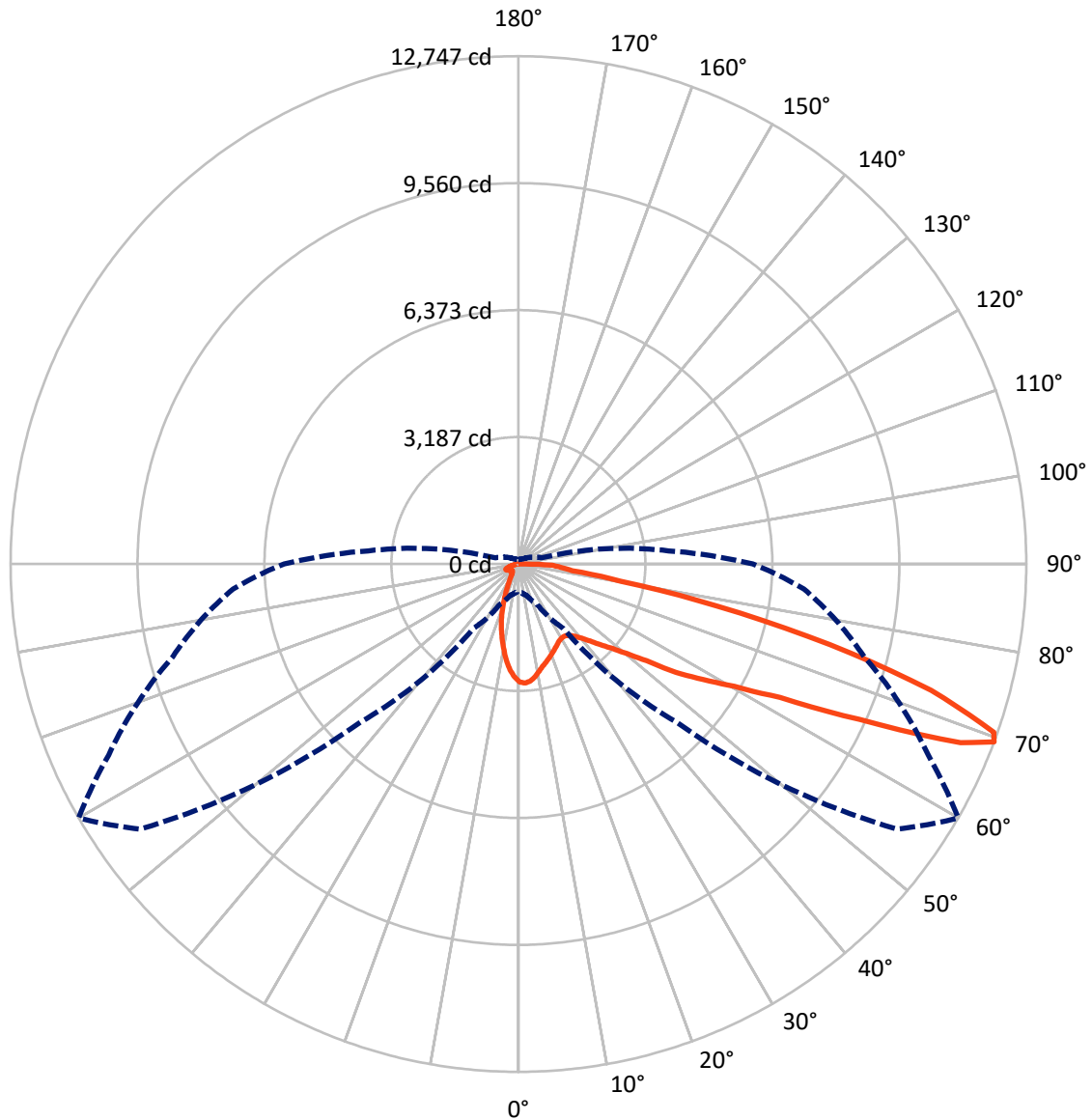
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 7.4 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	1653.7	0.0	1653.7
	% Fixture	14.3	0.0	14.3
Street Side	Lumens	9940.5	0.0	9940.5
	% Fixture	85.7	0.0	85.7
Total	Lumens	11594.3	0.0	11594.3
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	251.0	2.2
10°-20°	537.3	4.6
20°-30°	685.5	5.9
30°-40°	943.3	8.1
40°-50°	1528.0	13.2
50°-60°	2398.1	20.7
60°-70°	3197.0	27.6
70°-80°	1778.3	15.3
80°-90°	275.8	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°	11594.3	100.0
0°-180°	11594.3	100.0

Coefficient of Utilization



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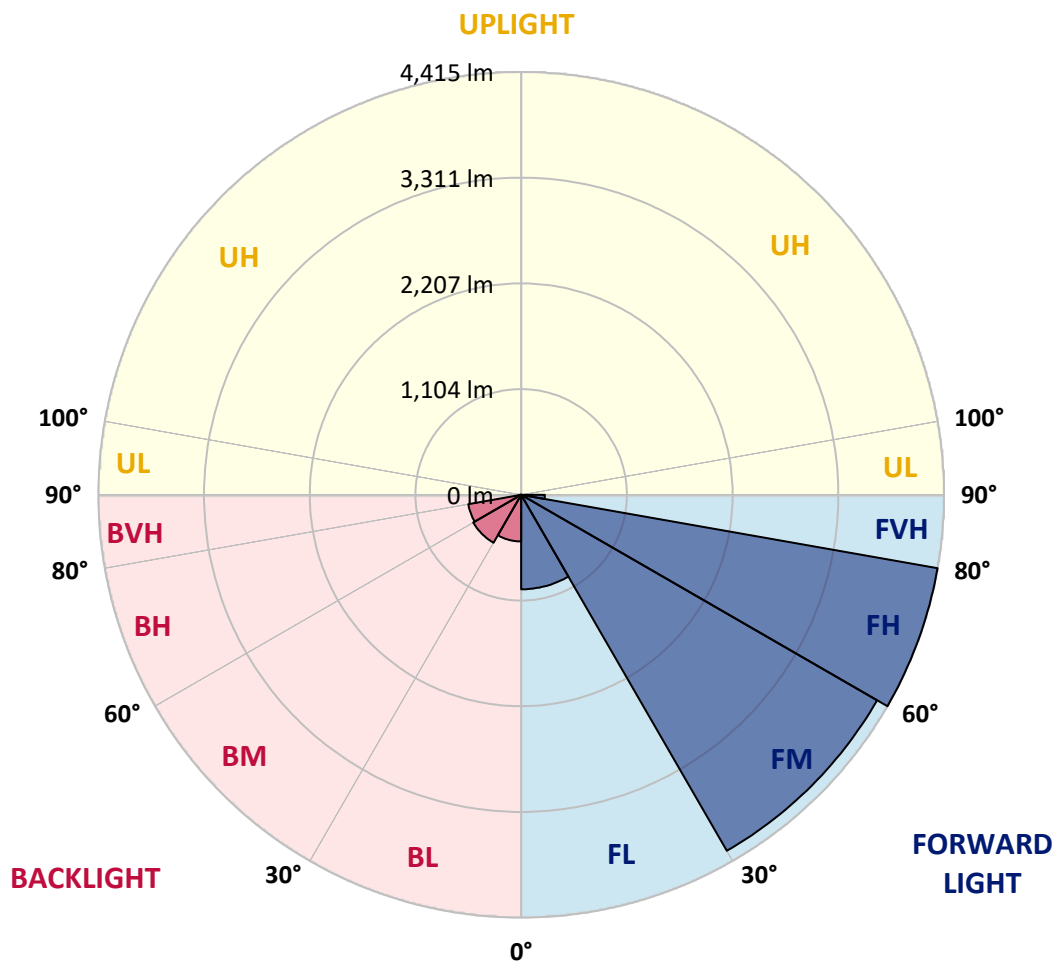
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	986.4	8.5			
FM	(30°-60°)	4291.6	37.0			
FH	(60°-80°)	4414.6	38.1			G2/5000
FVH	(80°-90°)	247.9	2.1			G3/500
BL	(0°-30°)	487.4	4.2	B1/500		
BM	(30°-60°)	577.7	5.0	B1/1000		
BH	(60°-80°)	560.7	4.8	B2/1000		G2/1000
BVH	(80°-90°)	28.0	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°	2958.3	2958.3	2958.3	2958.3	2958.3	2958.3	2958.3	2958.3	2958.3	2958.3	2958.3
2.5°	3037.1	3045.3	3045.3	3038.5	3034.8	3013.4	3000.7	2991.7	2976.2	2947.2	2921.1
5°	2928.6	2944.1	2950.8	2953.8	2973.2	2966.6	2967.2	2961.4	2947.9	2916.6	2874.2
7.5°	2729.3	2732.3	2744.2	2764.3	2811.1	2843.9	2870.5	2875.7	2872.8	2849.8	2790.2
10°	2533.0	2538.3	2552.4	2586.6	2631.1	2677.9	2736.0	2759.9	2777.6	2770.3	2695.2
12.5°	2370.2	2370.9	2386.5	2426.0	2475.8	2534.5	2613.3	2650.4	2692.8	2709.9	2625.9
15°	2213.3	2223.8	2238.7	2286.1	2347.9	2422.3	2513.0	2564.2	2620.0	2669.1	2572.4
17.5°	2094.4	2102.6	2111.5	2150.9	2222.2	2315.2	2427.5	2482.5	2556.0	2631.1	2517.4
20°	2028.9	2032.0	2025.3	2044.5	2104.8	2205.2	2335.2	2401.4	2489.2	2594.8	2460.9
22.5°	2015.5	2015.5	1991.1	1987.3	2014.1	2098.8	2240.2	2321.1	2428.2	2569.4	2410.3
25°	2078.0	2073.6	2027.5	1985.1	1975.5	2018.5	2149.5	2249.0	2376.1	2568.8	2372.5
27.5°	2196.3	2190.2	2133.0	2061.7	1999.9	1981.4	2079.4	2181.4	2335.2	2593.9	2353.1
30°	2343.5	2341.3	2283.2	2194.0	2092.2	1996.3	2052.0	2146.4	2307.7	2640.8	2352.4
32.5°	2504.7	2494.4	2458.8	2369.5	2237.0	2078.8	2068.3	2147.8	2300.3	2709.3	2369.5
35°	2676.5	2669.1	2660.2	2570.2	2421.6	2224.6	2140.5	2199.2	2336.8	2804.4	2417.8
37.5°	2895.1	2887.0	2901.9	2803.7	2640.8	2415.5	2262.4	2301.7	2411.1	2942.7	2507.8
40°	3283.9	3260.2	3218.5	3067.6	2896.7	2649.8	2438.5	2444.6	2538.3	3127.8	2651.9
42.5°	3922.5	3846.1	3640.1	3362.7	3166.4	2921.8	2668.3	2640.1	2713.7	3372.4	2861.6
45°	4562.8	4476.6	4128.5	3684.7	3446.0	3214.0	2952.4	2884.6	2932.2	3657.2	3131.5
47.5°	4976.2	4933.8	4541.2	4006.6	3738.9	3532.2	3277.2	3165.7	3199.9	3979.9	3464.7
50°	5097.3	5061.0	4752.4	4258.7	4015.6	3916.7	3679.5	3531.5	3537.4	4356.8	3863.9
52.5°	5006.7	4991.7	4787.2	4414.8	4269.9	4321.8	4236.3	4030.4	3981.4	4770.2	4296.6
55°	4885.4	4890.6	4811.9	4571.7	4528.5	4699.6	4964.9	4799.1	4591.0	5200.6	4747.2
57.5°	4504.0	4507.8	4714.5	4870.5	5022.2	5228.9	5532.2	5462.4	5220.1	5665.3	5251.9
60°	3626.6	3655.7	4115.9	4808.8	5586.5	6272.0	6346.3	6226.0	5889.1	6200.6	5908.4
62.5°	2591.0	2617.0	3150.1	4174.7	5520.4	7452.7	7849.7	7370.9	6796.8	7001.4	6831.8
65°	1361.3	1356.9	1769.5	2884.6	4649.7	7726.2	10218.4	9403.5	8326.2	8102.4	7724.0
67.5°	760.5	785.1	944.9	1455.0	3030.4	6799.9	11731.3	11971.5	10452.6	8976.0	7685.4
69°	703.4	711.5	818.5	1124.9	1975.5	5610.4	11601.3	12746.9	11349.2	8979.7	7190.3
70°	683.3	692.1	789.6	1036.5	1659.4	4596.9	11127.7	12656.3	11567.0	8780.6	6739.7
72.5°	612.6	624.5	719.0	931.6	1398.5	2369.5	8963.4	10832.5	10477.9	7674.2	5225.9
75°	522.6	542.8	685.4	924.9	1324.9	1506.3	5977.6	8070.5	7798.4	5488.4	2964.9
77.5°	216.3	218.6	299.7	677.3	1390.2	1441.6	3212.6	5112.2	4525.7	2406.6	892.9
80°	150.9	148.0	149.5	197.7	1122.0	1451.3	1648.3	2600.0	2020.7	634.9	417.8
82.5°	127.1	125.7	131.6	124.1	380.0	1646.9	1378.4	1355.4	951.7	342.1	199.2
85°	84.0	81.7	107.7	112.9	180.6	1307.8	1482.6	1065.4	709.3	182.8	84.8
87.5°	41.0	41.6	61.8	76.5	95.8	414.1	1420.0	842.4	548.0	79.6	34.1
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°	2958.3	2958.3	2958.3	2958.3	2958.3	2958.3	2958.3	2958.3	2958.3	2958.3	2958.3
2.5°	2910.7	2888.4	2868.4	2843.0	2823.7	2807.5	2785.0	2784.3	2780.7	2785.9	2787.4
5°	2846.0	2808.9	2752.3	2689.2	2644.6	2585.9	2528.5	2509.2	2487.6	2485.4	2492.2
7.5°	2748.6	2690.7	2593.9	2497.4	2400.7	2301.7	2208.2	2160.6	2114.5	2100.3	2107.1
10°	2640.1	2566.5	2418.5	2260.9	2124.9	1977.7	1834.9	1742.7	1658.7	1623.0	1632.0
12.5°	2555.4	2461.6	2253.5	2049.0	1845.3	1634.1	1446.1	1263.9	1126.4	1064.8	1068.4
15°	2482.5	2362.8	2098.8	1826.8	1571.8	1282.5	1021.6	810.5	690.0	645.3	643.8
17.5°	2403.7	2258.7	1937.6	1620.1	1289.2	931.6	684.0	559.0	511.6	496.7	496.7
20°	2319.7	2151.6	1768.8	1394.8	991.8	650.6	514.5	466.2	448.3	443.9	443.1
22.5°	2241.6	2046.8	1599.3	1154.6	717.4	493.7	438.0	419.2	416.4	420.0	420.0
25°	2179.8	1954.6	1427.4	901.9	521.9	413.4	389.5	387.3	398.5	412.0	414.1
27.5°	2133.7	1872.1	1257.9	658.7	410.3	359.9	351.6	361.3	387.3	414.1	419.2
30°	2101.9	1801.5	1055.0	473.5	342.1	315.2	319.0	336.1	375.4	416.4	427.6
32.5°	2087.8	1744.1	850.5	363.5	292.2	277.3	287.0	309.2	350.2	391.0	404.4
35°	2101.0	1702.6	661.7	301.8	255.7	244.6	255.7	278.8	305.6	325.6	333.8
37.5°	2149.5	1687.6	498.1	267.6	231.9	220.9	229.7	245.3	257.3	264.7	268.5
40°	2251.2	1703.4	390.4	249.8	218.6	205.9	208.1	215.7	223.8	229.7	230.4
42.5°	2413.3	1754.6	347.3	243.1	210.5	194.0	190.4	195.6	204.5	212.5	214.2
45°	2628.9	1840.1	342.8	245.3	206.7	184.4	177.0	182.1	194.0	207.4	209.7
47.5°	2907.8	1975.5	363.5	257.3	208.9	179.2	168.1	173.3	188.9	206.7	209.7
50°	3237.9	2162.8	402.3	275.2	219.4	179.2	164.3	168.8	185.1	205.3	208.1
52.5°	3626.6	2423.7	442.3	292.9	234.2	185.9	165.7	165.1	179.9	198.5	202.2
55°	4055.7	2747.8	481.0	308.6	242.4	194.8	169.5	160.5	172.5	187.3	190.4
57.5°	4560.5	3191.8	548.7	323.4	246.9	201.5	174.0	156.1	162.9	173.3	175.4
60°	5245.3	3843.8	680.2	348.7	254.9	204.5	174.7	151.6	150.9	158.3	159.1
62.5°	6138.2	4607.3	805.9	378.5	271.4	205.3	171.8	148.7	141.3	143.5	143.5
65°	6773.1	4888.3	769.5	403.7	286.2	204.5	168.8	146.5	133.8	130.2	130.2
67.5°	6411.7	4318.2	653.4	410.3	287.7	196.3	162.1	141.3	127.1	118.1	118.1
69°	5880.9	3785.1	600.0	398.5	275.8	186.6	154.7	136.1	122.7	112.3	112.3
70°	5448.2	3381.3	567.3	384.4	261.6	178.5	148.0	130.9	118.1	109.4	108.5
72.5°	4067.5	2256.5	484.7	331.6	214.9	150.9	129.4	116.7	106.3	100.4	100.4
75°	2146.4	1130.8	397.1	270.6	165.7	120.5	106.3	98.2	92.2	91.4	90.6
77.5°	703.4	511.6	285.5	203.7	121.9	93.7	84.8	79.6	78.8	81.7	81.7
80°	380.0	305.6	183.7	137.5	84.8	69.9	65.4	64.7	67.0	71.3	71.3
82.5°	184.4	150.9	109.4	84.8	58.0	51.4	51.4	52.0	55.1	60.2	60.2
85°	79.6	71.3	63.2	47.6	35.8	32.0	36.4	40.2	42.4	46.2	47.6
87.5°	37.9	33.4	28.9	18.5	15.6	16.3	19.4	23.7	28.2	31.3	32.0
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)