

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: P196496

Luminaire Tested: **NAV-AF-02-D-UNV-AFL-7030-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196496
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24160)
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-7030-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 70 CRI, 3000K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND AUTOMOTIVE FRONTLINE OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9751.4 lumens
Efficiency: N/A
Efficacy: 114.7 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): 85
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

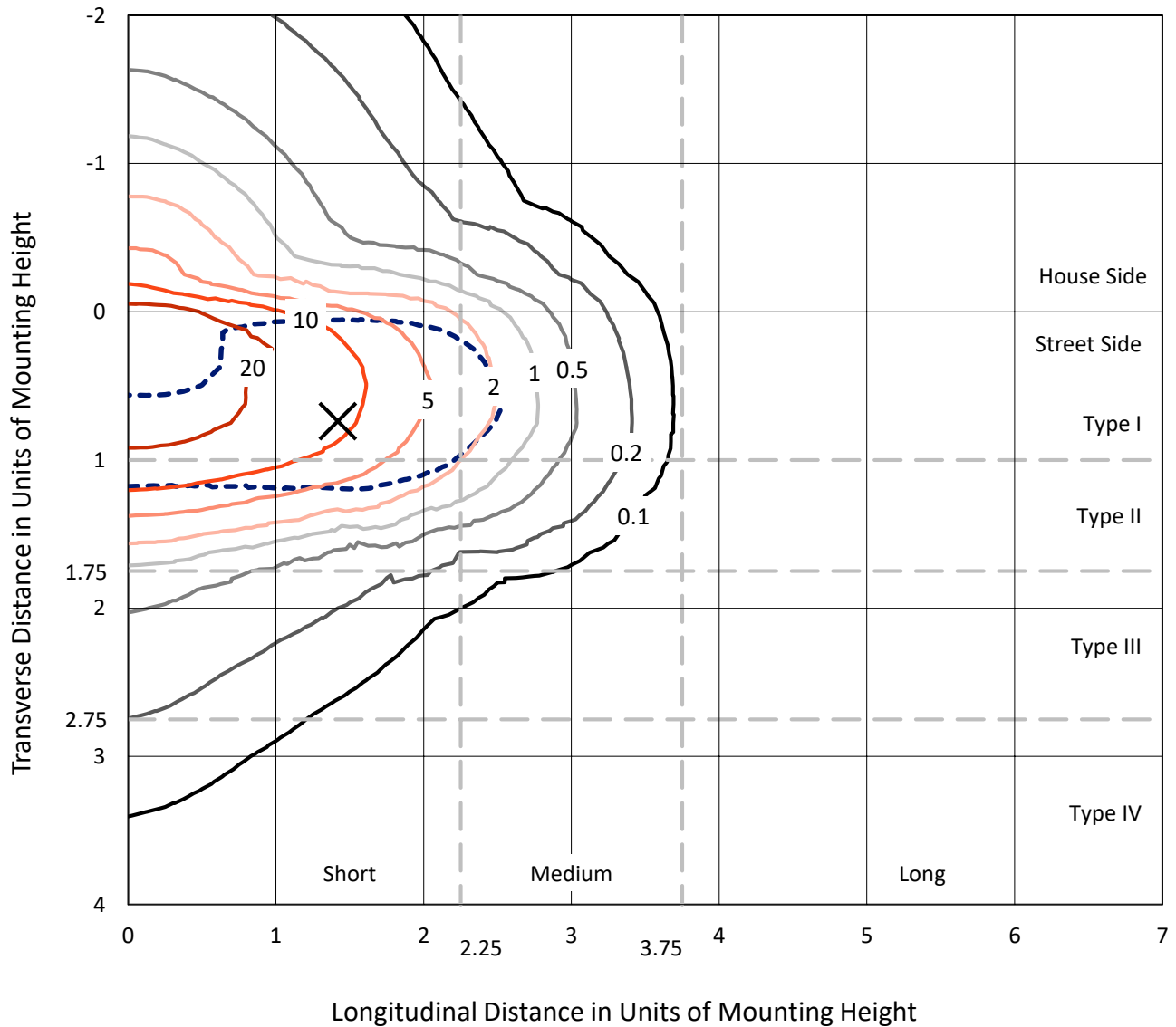


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Iso-Footcandle Lines of Horizontal Illumination

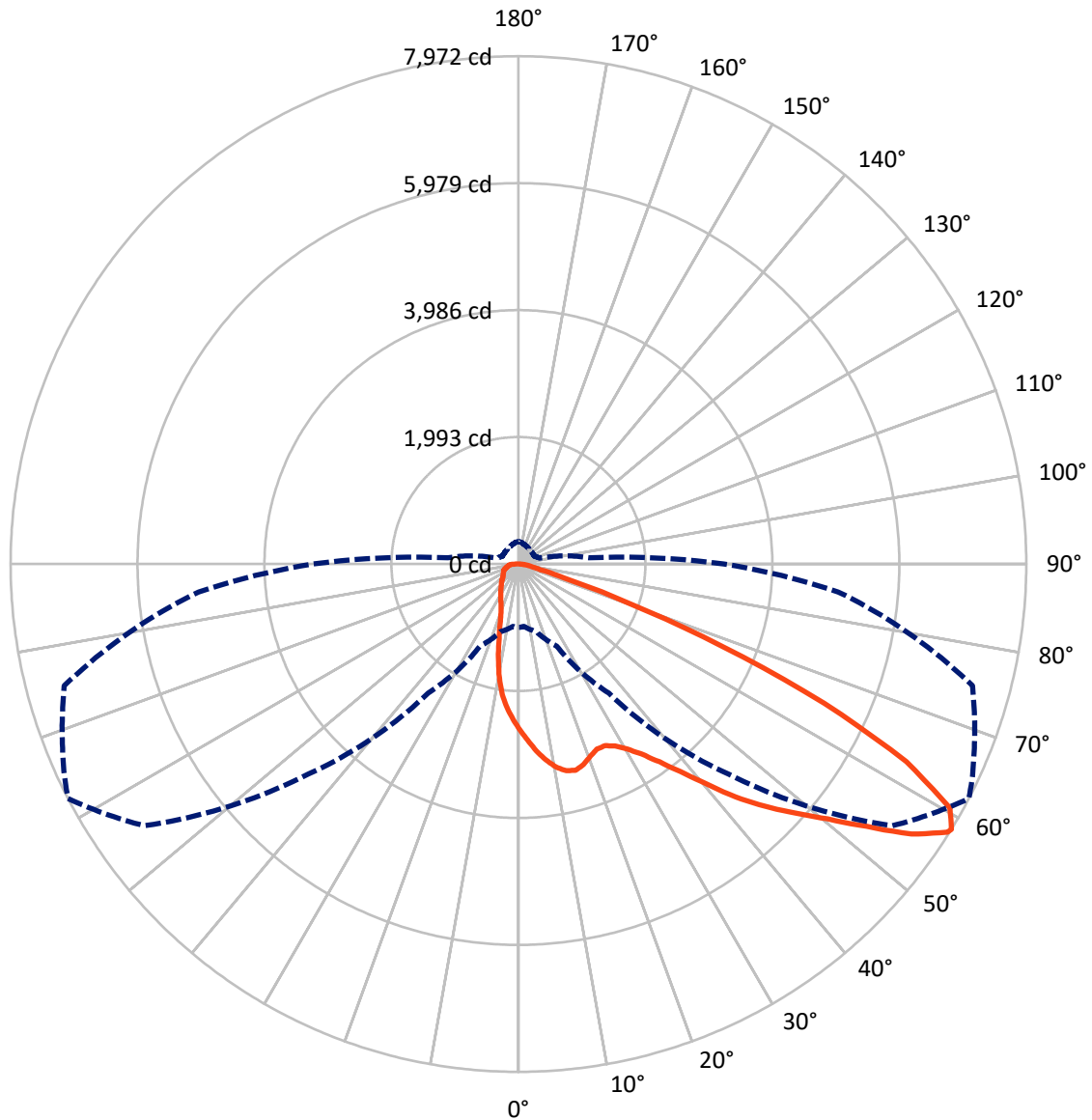
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 30.5 fc
 Type II - Short - Full Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 62.5-Deg Lateral - - - Horizontal Cone Through 58-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1497.2	0.0	1497.2
	% Fixture	15.4	0.0	15.4
Street Side	Lumens	8254.2	0.0	8254.2
	% Fixture	84.6	0.0	84.6
Total	Lumens	9751.4	0.0	9751.4
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	232.7	2.4
10°-20°	587.3	6.0
20°-30°	951.8	9.8
30°-40°	1519.6	15.6
40°-50°	2210.4	22.7
50°-60°	2313.0	23.7
60°-70°	1410.1	14.5
70°-80°	394.3	4.0
80°-90°	132.2	1.4
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°	9751.4	100.0
0°-180°	9751.4	100.0



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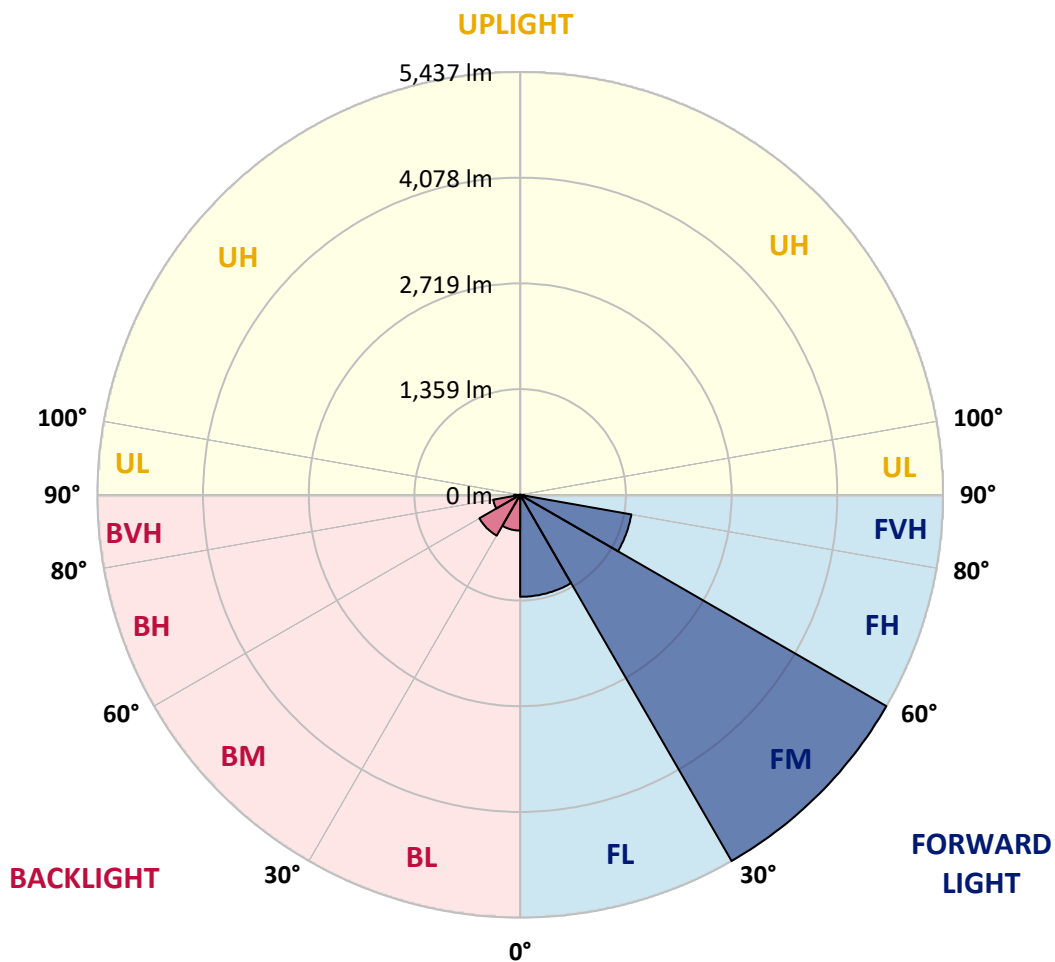
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1311.6	13.5			
FM	(30°-60°)	5437.5	55.8			
FH	(60°-80°)	1451.9	14.9			G1/1800
FVH	(80°-90°)	53.2	0.5			G1/100
BL	(0°-30°)	460.2	4.7	B1/500		
BM	(30°-60°)	605.5	6.2	B1/1000		
BH	(60°-80°)	352.5	3.6	B1/500		G1/500
BVH	(80°-90°)	79.0	0.8			G1/100
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





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	62.5°	65°	75°	85°
0°	2603.5	2603.5	2603.5	2603.5	2603.5	2603.5	2603.5	2603.5	2603.5	2603.5	2603.5
2.5°	2955.3	2953.4	2928.3	2912.0	2892.4	2847.3	2802.3	2768.7	2751.7	2686.4	2623.1
5°	3199.5	3192.3	3178.3	3160.6	3134.9	3078.3	3007.1	2945.4	2921.0	2805.2	2688.9
7.5°	3070.4	3081.9	3125.3	3174.0	3225.3	3228.8	3178.3	3105.1	3078.3	2923.6	2752.9
10°	2712.7	2707.8	2762.0	2857.1	3025.9	3192.9	3276.3	3240.4	3212.4	3035.7	2816.8
12.5°	2604.2	2603.0	2612.1	2636.4	2742.5	2971.7	3251.4	3329.4	3319.7	3154.6	2885.1
15°	2637.1	2638.3	2637.7	2640.7	2670.0	2779.1	3111.8	3359.2	3389.8	3272.1	2954.6
17.5°	2742.5	2738.2	2724.8	2710.1	2714.4	2753.5	2961.3	3308.1	3399.5	3376.9	3013.2
20°	2905.2	2905.2	2869.2	2828.4	2801.6	2810.1	2898.5	3220.3	3354.4	3465.9	3057.0
22.5°	3109.4	3112.5	3059.4	2985.1	2924.1	2901.0	2934.4	3155.1	3299.5	3548.2	3096.0
25°	3362.9	3362.4	3284.9	3178.3	3081.9	3026.5	3025.9	3158.1	3282.4	3644.5	3136.9
27.5°	3676.8	3648.1	3557.9	3406.1	3270.2	3185.6	3147.2	3234.9	3318.4	3762.7	3191.7
30°	4030.9	4001.6	3883.4	3688.4	3504.3	3380.6	3317.2	3367.8	3428.1	3913.2	3274.6
32.5°	4381.3	4388.1	4249.1	4029.1	3792.6	3618.3	3524.4	3555.6	3597.6	4097.3	3386.7
35°	4894.5	4893.8	4712.3	4437.3	4156.4	3915.1	3796.2	3812.7	3851.1	4356.9	3544.0
37.5°	5277.2	5271.1	5154.1	4910.8	4594.6	4305.2	4133.3	4135.7	4168.6	4683.0	3751.2
40°	5316.2	5315.0	5314.4	5279.6	5063.3	4790.3	4575.1	4530.7	4544.0	5029.2	3971.1
42.5°	5018.2	5062.6	5190.7	5386.9	5447.2	5304.0	5100.4	5001.2	4971.9	5426.5	4204.0
45°	4593.4	4615.9	4840.1	5281.5	5640.4	5786.7	5633.7	5424.0	5374.1	5812.9	4393.6
47.5°	4395.9	4386.2	4516.0	4996.9	5621.5	6170.6	6181.7	5837.9	5753.1	6146.3	4555.0
50°	3972.3	3959.5	4123.6	4578.2	5415.6	6361.4	6744.1	6288.9	6132.2	6463.2	4701.3
52.5°	3128.3	3116.1	3336.1	3921.8	4954.8	6290.0	7218.3	6842.3	6575.3	6768.5	4837.8
55°	2035.5	2036.8	2246.4	2850.3	4009.6	5874.5	7440.8	7481.5	7182.3	7073.9	4948.2
57.5°	1120.8	1110.4	1259.8	1630.9	2758.4	4930.5	7255.5	7942.3	7786.3	7335.8	5027.9
58°	996.5	984.2	1099.4	1419.4	2473.1	4664.1	7162.3	7971.5	7863.7	7379.2	5039.5
60°	709.9	689.3	671.6	800.3	1424.8	3362.9	6540.6	7782.0	7886.3	7465.6	5028.5
62.5°	598.5	574.7	511.4	506.4	671.0	1644.9	5172.4	6834.3	7126.2	7266.4	4851.7
65°	555.8	532.1	448.5	418.7	455.3	709.9	3198.3	5277.2	5667.3	6573.5	4406.9
67.5°	525.3	497.3	407.7	368.8	376.1	424.8	1357.2	3451.3	3903.5	5126.0	3535.4
70°	497.9	466.9	375.5	330.3	324.2	323.0	530.2	1802.1	2237.8	3354.4	2368.3
72.5°	466.9	436.4	346.8	298.6	285.1	262.1	318.7	744.7	1020.8	1644.3	1085.4
75°	421.7	396.7	315.1	272.4	249.2	212.7	235.2	357.2	440.0	629.6	504.0
77.5°	371.2	351.0	282.8	250.5	219.4	173.7	179.8	241.9	271.8	354.6	291.9
80°	262.7	270.0	246.8	220.6	193.2	140.2	138.3	177.3	195.0	238.3	196.2
82.5°	181.1	186.5	201.1	174.3	156.0	109.0	101.8	123.1	132.2	143.7	95.0
85°	129.3	125.5	139.6	124.9	114.6	69.5	65.2	78.0	83.5	87.7	45.7
87.5°	78.6	78.0	80.5	64.6	59.8	35.4	32.3	37.1	39.7	38.4	22.0
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°	2603.5	2603.5	2603.5	2603.5	2603.5	2603.5	2603.5	2603.5	2603.5	2603.5	2603.5
2.5°	2599.3	2569.4	2504.2	2451.8	2395.1	2351.8	2308.5	2284.2	2257.4	2242.1	2240.4
5°	2627.9	2566.9	2428.1	2298.9	2165.9	2046.5	1929.5	1842.9	1772.3	1732.1	1729.6
7.5°	2659.6	2564.0	2349.4	2125.7	1889.3	1654.0	1446.3	1299.3	1204.9	1161.0	1157.9
10°	2684.0	2551.1	2253.7	1905.7	1530.9	1220.1	1031.2	944.6	916.0	908.7	907.5
12.5°	2713.2	2542.0	2133.1	1623.6	1170.1	928.8	871.6	866.0	872.1	875.8	876.4
15°	2740.7	2524.3	1970.4	1310.9	916.0	830.1	831.3	842.8	855.1	860.5	861.2
17.5°	2753.5	2481.1	1756.5	1033.0	801.4	785.6	799.6	814.8	825.8	830.1	830.1
20°	2753.5	2411.6	1508.5	836.8	741.7	744.7	761.7	773.3	775.8	772.1	770.4
22.5°	2741.9	2325.7	1267.1	730.1	692.9	704.5	718.0	709.9	681.3	659.4	655.1
25°	2731.6	2223.9	1034.8	665.0	650.3	665.5	660.0	605.9	561.9	539.4	535.7
27.5°	2714.4	2100.7	841.1	611.3	608.8	621.0	566.8	514.4	492.4	480.2	477.8
30°	2710.1	1967.3	703.9	563.8	568.0	551.0	488.8	471.7	466.9	460.1	457.0
32.5°	2724.3	1833.8	618.0	524.8	529.1	473.0	449.2	451.6	451.0	442.5	439.4
35°	2762.6	1704.0	563.1	489.4	477.3	423.6	426.6	434.0	434.0	423.6	419.9
37.5°	2829.7	1583.3	528.4	459.6	417.5	397.9	405.9	415.6	415.6	408.3	405.3
40°	2901.0	1465.7	502.1	435.7	379.6	380.3	388.2	395.5	398.6	399.8	397.3
42.5°	2965.6	1343.8	474.1	410.2	362.6	366.9	370.5	376.1	388.9	397.3	396.2
45°	3003.3	1221.3	443.7	378.5	351.0	352.9	351.6	361.4	376.6	389.4	389.4
47.5°	3038.1	1120.8	418.7	346.8	339.5	339.5	335.8	345.6	359.6	374.8	376.1
50°	3071.0	1055.6	401.0	322.5	324.8	323.0	321.8	330.9	349.8	368.1	371.2
52.5°	3104.5	1033.6	385.1	304.8	309.6	307.1	308.3	321.2	342.5	361.4	364.5
55°	3151.5	1047.7	368.8	292.5	295.0	294.4	299.3	313.9	332.8	351.6	352.9
57.5°	3209.4	1098.8	354.6	283.4	280.9	284.6	292.5	306.6	324.8	347.3	349.2
58°	3221.0	1111.0	352.3	280.9	277.9	283.4	291.2	304.8	323.6	347.3	349.2
60°	3238.6	1154.4	346.2	276.1	267.5	277.3	287.1	300.5	321.2	350.4	354.1
62.5°	3153.3	1162.8	344.3	270.6	256.5	268.8	280.4	295.5	318.7	360.8	368.8
65°	2857.6	1075.1	331.5	261.4	247.5	262.1	274.2	291.9	326.0	391.9	395.5
67.5°	2294.0	892.8	300.5	247.5	237.1	254.1	269.4	291.9	329.1	396.7	399.3
70°	1577.2	671.0	261.4	232.1	224.8	244.4	267.5	298.6	318.7	375.5	368.1
72.5°	824.0	466.9	229.1	214.4	210.3	235.9	285.1	291.9	306.6	350.4	343.1
75°	415.0	317.5	201.7	194.4	193.8	232.8	319.4	280.9	293.8	329.8	345.6
77.5°	245.0	248.7	179.8	175.5	178.5	227.4	319.9	270.0	279.1	303.5	320.5
80°	167.6	205.4	162.7	161.4	163.9	209.0	295.0	256.5	262.1	287.1	305.4
82.5°	94.5	113.4	142.6	150.6	149.3	171.2	254.8	233.4	240.2	339.5	358.9
85°	45.7	68.3	119.4	140.8	127.4	113.9	207.3	207.3	209.0	243.2	246.3
87.5°	17.1	30.5	80.5	111.6	88.9	68.3	140.8	146.9	163.4	168.3	171.9
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)