

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: P195050

Luminaire Tested: **NAV-AF-02-D-UNV-AFL-7060-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195050
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-7060-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 70 CRI, 5700K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND AUTOMOTIVE FRONTLINE OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8223 lumens
Efficiency: N/A
Efficacy: 124.6 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): 66
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

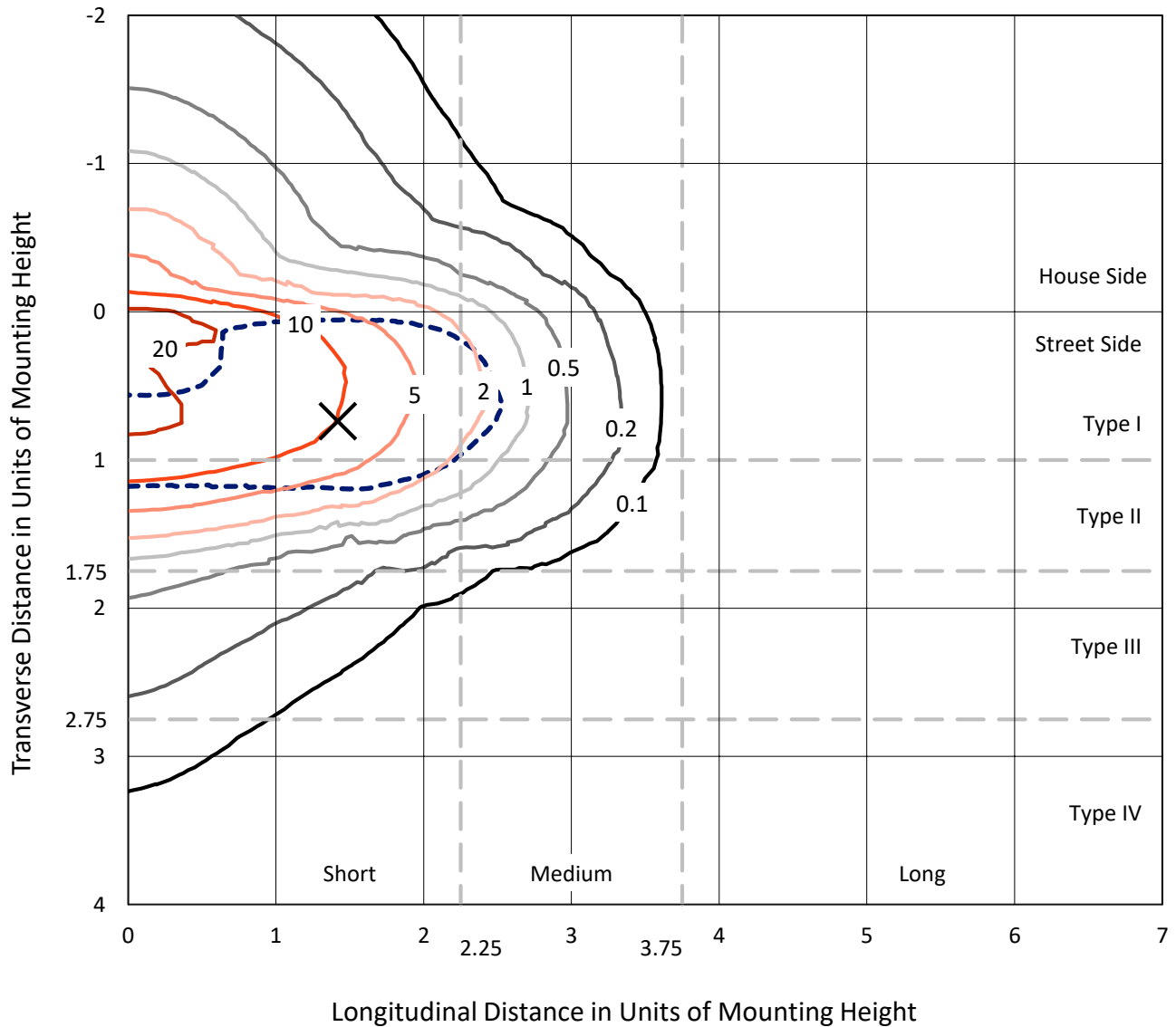


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Iso-Footcandle Lines of Horizontal Illumination

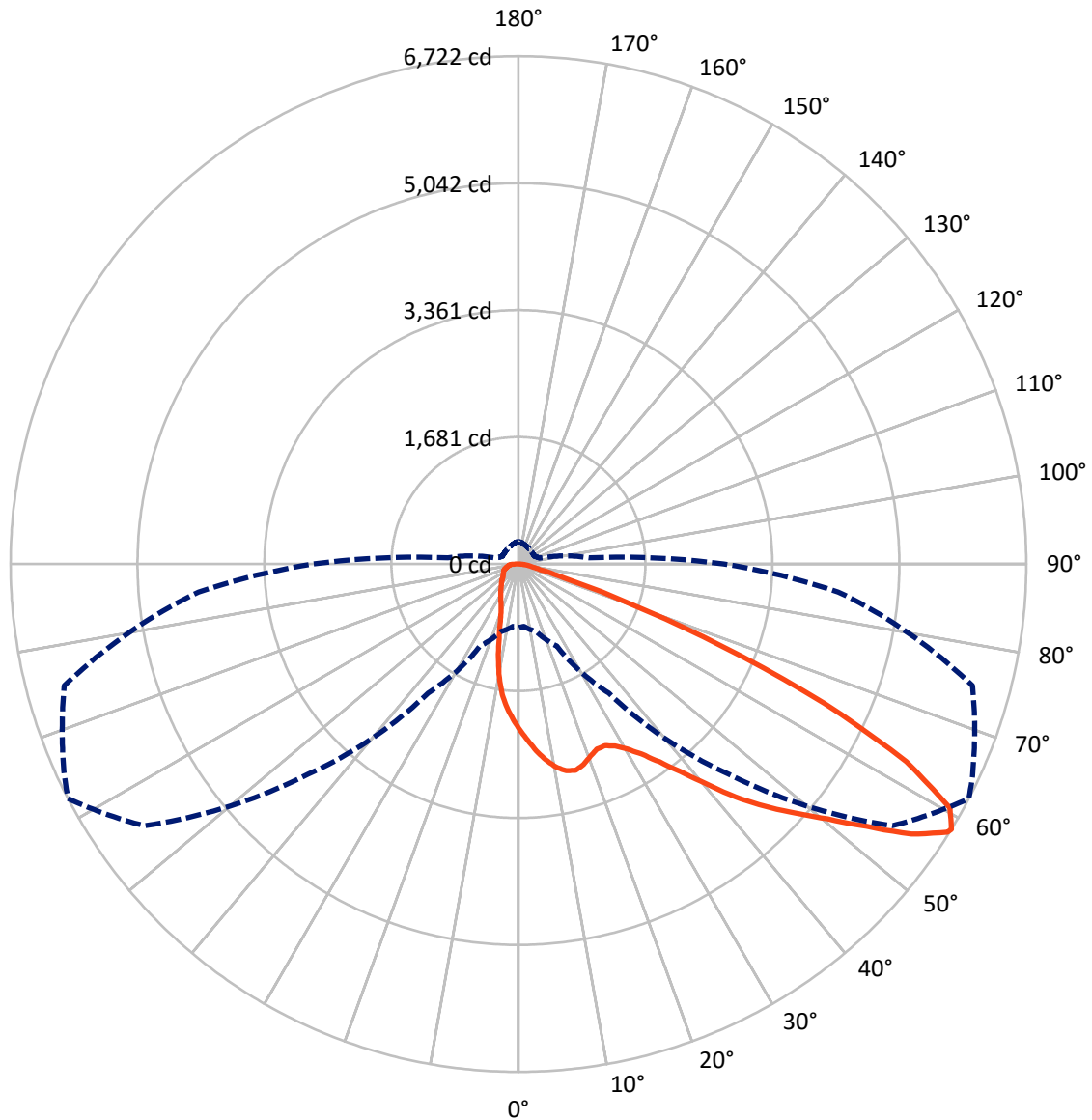
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 25.7 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	1262.5	0.0	1262.5
	% Fixture	15.4	0.0	15.4
Street Side	Lumens	6960.5	0.0	6960.5
	% Fixture	84.6	0.0	84.6
Total	Lumens	8223.0	0.0	8223.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	196.2	2.4
10°-20°	495.3	6.0
20°-30°	802.6	9.8
30°-40°	1281.5	15.6
40°-50°	1863.9	22.7
50°-60°	1950.4	23.7
60°-70°	1189.1	14.5
70°-80°	332.5	4.0
80°-90°	111.5	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°	8223.0	100.0
0°-180°	8223.0	100.0



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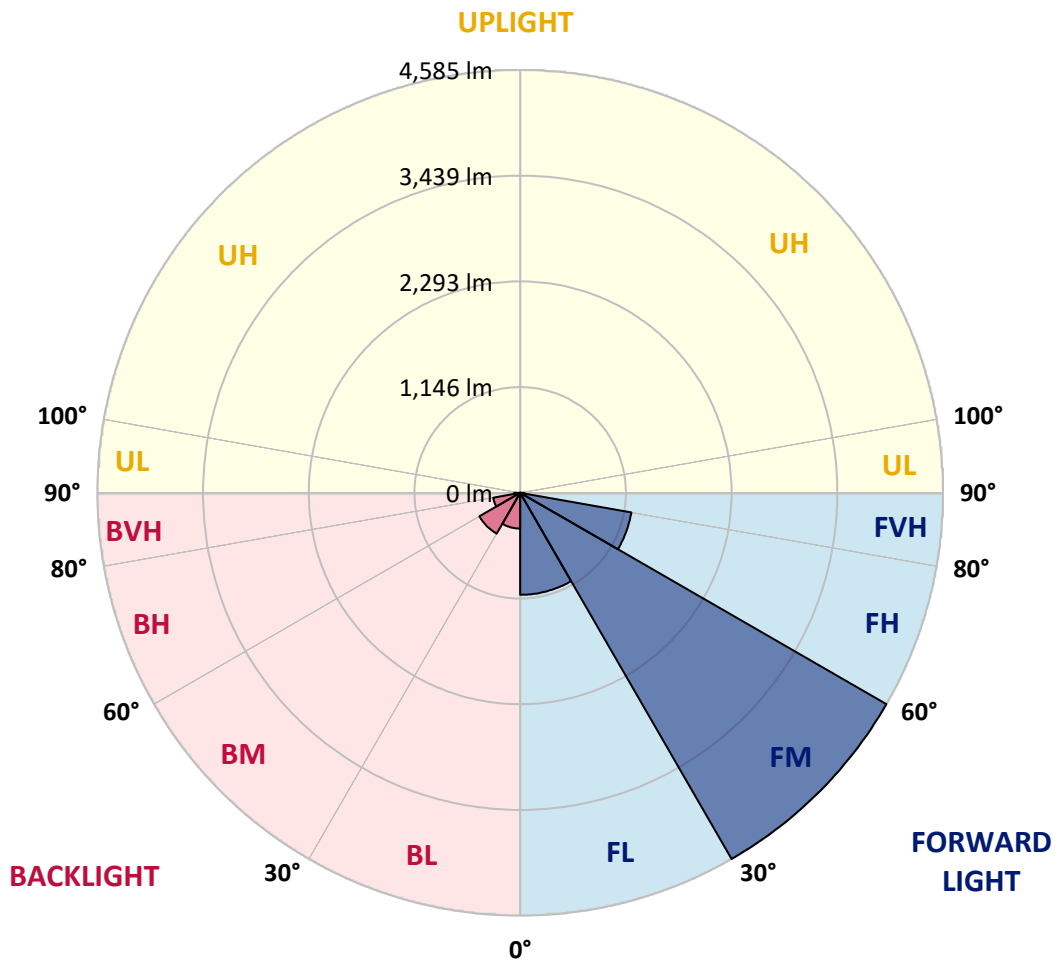
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1106.0	13.5			
FM	(30°-60°)	4585.2	55.8			
FH	(60°-80°)	1224.4	14.9			G1/1800
FVH	(80°-90°)	44.8	0.5			G1/100
BL	(0°-30°)	388.1	4.7	B1/500		
BM	(30°-60°)	510.6	6.2	B1/1000		
BH	(60°-80°)	297.2	3.6	B1/500		G1/500
BVH	(80°-90°)	66.6	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°	2195.5	2195.5	2195.5	2195.5	2195.5	2195.5	2195.5	2195.5	2195.5	2195.5	2195.5
2.5°	2492.0	2490.5	2469.4	2455.5	2439.1	2401.1	2363.0	2334.8	2320.4	2265.4	2211.9
5°	2698.1	2691.9	2680.1	2665.2	2643.6	2595.8	2535.7	2483.8	2463.2	2365.6	2267.4
7.5°	2589.2	2598.9	2635.4	2676.5	2719.7	2722.8	2680.1	2618.4	2595.8	2465.3	2321.4
10°	2287.5	2283.4	2329.1	2409.3	2551.6	2692.5	2762.9	2732.5	2708.9	2559.9	2375.4
12.5°	2196.0	2195.0	2202.7	2223.2	2312.7	2505.9	2741.8	2807.6	2799.3	2660.1	2432.9
15°	2223.8	2224.8	2224.3	2226.8	2251.5	2343.5	2624.1	2832.8	2858.5	2759.3	2491.5
17.5°	2312.7	2309.1	2297.8	2285.4	2289.0	2321.9	2497.2	2789.6	2866.7	2847.7	2540.8
20°	2449.9	2449.9	2419.6	2385.1	2362.5	2369.7	2444.2	2715.6	2828.6	2922.7	2577.8
22.5°	2622.0	2624.6	2579.9	2517.2	2465.8	2446.3	2474.5	2660.6	2782.4	2992.1	2610.7
25°	2835.8	2835.3	2770.1	2680.1	2598.9	2552.2	2551.6	2663.2	2768.0	3073.3	2645.2
27.5°	3100.5	3076.4	3000.3	2872.3	2757.7	2686.3	2653.9	2727.9	2798.3	3173.0	2691.4
30°	3399.1	3374.4	3274.7	3110.3	2955.1	2850.7	2797.3	2839.9	2890.8	3299.9	2761.3
32.5°	3694.6	3700.3	3583.1	3397.6	3198.2	3051.2	2972.0	2998.2	3033.7	3455.1	2855.9
35°	4127.3	4126.8	3973.7	3741.9	3505.0	3301.5	3201.2	3215.1	3247.5	3674.0	2988.5
37.5°	4450.1	4444.9	4346.3	4141.2	3874.5	3630.4	3485.4	3487.5	3515.2	3949.0	3163.2
40°	4483.0	4481.9	4481.4	4452.1	4269.7	4039.4	3858.0	3820.5	3831.8	4240.9	3348.7
42.5°	4231.7	4269.2	4377.1	4542.6	4593.5	4472.7	4301.0	4217.3	4192.6	4576.0	3545.1
45°	3873.5	3892.5	4081.6	4453.7	4756.4	4879.7	4750.7	4573.9	4531.8	4901.8	3704.9
47.5°	3706.9	3698.7	3808.2	4213.7	4740.4	5203.5	5212.7	4922.9	4851.5	5182.9	3841.1
50°	3349.8	3339.0	3477.2	3860.6	4566.7	5364.3	5687.1	5303.2	5171.1	5450.2	3964.4
52.5°	2638.0	2627.7	2813.2	3307.1	4178.2	5304.2	6086.9	5769.8	5544.7	5707.6	4079.5
55°	1716.5	1717.5	1894.3	2403.6	3381.1	4953.7	6274.5	6308.9	6056.6	5965.1	4172.6
57.5°	945.1	936.4	1062.3	1375.3	2326.0	4157.7	6118.3	6697.5	6565.9	6186.1	4239.9
58°	840.3	830.0	927.1	1196.9	2085.5	3933.1	6039.6	6722.1	6631.2	6222.6	4249.6
60°	598.7	581.2	566.3	674.8	1201.6	2835.8	5515.4	6562.3	6650.2	6295.6	4240.4
62.5°	504.7	484.6	431.2	427.1	565.8	1387.1	4361.7	5763.2	6009.3	6127.5	4091.4
65°	468.7	448.7	378.2	353.1	383.9	598.7	2697.1	4450.1	4779.0	5543.2	3716.2
67.5°	443.0	419.4	343.8	310.9	317.1	358.2	1144.5	2910.4	3291.7	4322.6	2981.3
70°	419.9	393.7	316.6	278.5	273.4	272.4	447.1	1519.7	1887.1	2828.6	1997.1
72.5°	393.7	368.0	292.4	251.8	240.5	221.0	268.8	628.0	860.8	1386.6	915.3
75°	355.6	334.6	265.7	229.7	210.2	179.4	198.4	301.2	371.1	530.9	425.0
77.5°	313.0	296.0	238.5	211.2	185.0	146.5	151.6	204.0	229.2	299.1	246.2
80°	221.5	227.7	208.1	186.0	162.9	118.2	116.7	149.6	164.5	200.9	165.5
82.5°	152.6	157.3	169.6	147.0	131.6	92.0	85.8	103.8	111.5	121.3	80.2
85°	109.0	105.9	117.7	105.4	96.6	58.6	55.0	65.8	70.4	74.0	38.5
87.5°	66.3	65.8	67.8	54.5	50.4	29.8	27.2	31.3	33.4	32.4	18.5
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°	2195.5	2195.5	2195.5	2195.5	2195.5	2195.5	2195.5	2195.5	2195.5	2195.5	2195.5
2.5°	2191.9	2166.7	2111.7	2067.5	2019.7	1983.2	1946.7	1926.2	1903.6	1890.7	1889.2
5°	2216.0	2164.7	2047.5	1938.5	1826.5	1725.8	1627.1	1554.1	1494.5	1460.6	1458.5
7.5°	2242.8	2162.1	1981.2	1792.6	1593.2	1394.8	1219.5	1095.7	1016.0	979.0	976.5
10°	2263.3	2151.3	1900.5	1607.0	1291.0	1028.9	869.6	796.6	772.4	766.3	765.2
12.5°	2288.0	2143.6	1798.7	1369.1	986.7	783.2	734.9	730.3	735.4	738.5	739.0
15°	2311.1	2128.7	1661.5	1105.5	772.4	700.0	701.0	710.8	721.0	725.7	726.2
17.5°	2321.9	2092.2	1481.1	871.1	675.8	662.4	674.3	687.1	696.4	700.0	700.0
20°	2321.9	2033.6	1272.0	705.6	625.4	628.0	642.4	652.2	654.2	651.1	649.6
22.5°	2312.1	1961.1	1068.4	615.7	584.3	594.1	605.4	598.7	574.6	556.1	552.5
25°	2303.4	1875.3	872.6	560.7	548.4	561.2	556.6	510.8	473.8	454.8	451.7
27.5°	2289.0	1771.5	709.2	515.5	513.4	523.7	478.0	433.8	415.3	405.0	402.9
30°	2285.4	1658.9	593.6	475.4	479.0	464.6	412.2	397.8	393.7	388.0	385.4
32.5°	2297.2	1546.4	521.1	442.5	446.1	398.8	378.8	380.8	380.3	373.1	370.5
35°	2329.6	1436.9	474.9	412.7	402.4	357.2	359.7	365.9	365.9	357.2	354.1
37.5°	2386.2	1335.2	445.6	387.5	352.0	335.6	342.3	350.5	350.5	344.3	341.8
40°	2446.3	1236.0	423.5	367.5	320.2	320.7	327.4	333.5	336.1	337.1	335.1
42.5°	2500.8	1133.2	399.8	345.9	305.8	309.4	312.5	317.1	327.9	335.1	334.1
45°	2532.6	1029.9	374.1	319.1	296.0	297.6	296.5	304.8	317.6	328.4	328.4
47.5°	2561.9	945.1	353.1	292.4	286.3	286.3	283.2	291.4	303.2	316.1	317.1
50°	2589.7	890.1	338.2	271.9	273.9	272.4	271.4	279.1	295.0	310.4	313.0
52.5°	2617.9	871.6	324.8	257.0	261.1	259.0	260.0	270.8	288.8	304.8	307.3
55°	2657.5	883.4	310.9	246.7	248.7	248.2	252.3	264.7	280.6	296.5	297.6
57.5°	2706.3	926.6	299.1	239.0	236.9	240.0	246.7	258.5	273.9	292.9	294.5
58°	2716.1	936.9	297.0	236.9	234.3	239.0	245.7	257.0	272.9	292.9	294.5
60°	2731.0	973.4	291.9	232.8	225.6	233.8	242.1	253.4	270.8	295.5	298.6
62.5°	2659.0	980.6	290.4	228.2	216.4	226.6	236.4	249.3	268.8	304.2	310.9
65°	2409.8	906.6	279.6	220.5	208.7	221.0	231.3	246.2	274.9	330.5	333.5
67.5°	1934.4	752.9	253.4	208.7	199.9	214.3	227.2	246.2	277.5	334.6	336.6
70°	1330.0	565.8	220.5	195.8	189.6	206.1	225.6	251.8	268.8	316.6	310.4
72.5°	694.8	393.7	193.2	180.9	177.3	198.9	240.5	246.2	258.5	295.5	289.3
75°	350.0	267.8	170.1	163.9	163.4	196.3	269.3	236.9	247.7	278.0	291.4
77.5°	206.6	209.7	151.6	148.0	150.6	191.7	269.8	227.7	235.4	255.9	270.3
80°	141.3	173.2	137.2	136.2	138.2	176.3	248.7	216.4	221.0	242.1	257.5
82.5°	79.7	95.6	120.3	126.9	125.9	144.4	214.8	196.8	202.5	286.3	302.7
85°	38.5	57.6	100.7	118.7	107.4	96.1	174.7	174.7	176.3	205.1	207.6
87.5°	14.4	25.7	67.8	94.0	75.0	57.6	118.7	123.9	137.7	141.8	144.9
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)