

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: P196089

Luminaire Tested: **NAV-AF-03-D-UNV-SL2-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196089
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24257)
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-SL2-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 70 CRI, 4000K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II SPILL
LIGHT ELIMINATOR OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 14677.3 lumens
Efficiency: N/A
Efficacy: 118.4 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')
IES Classification: Type II - Medium - Semi-Cutoff
BUG Rating: B2 - U0 - G3

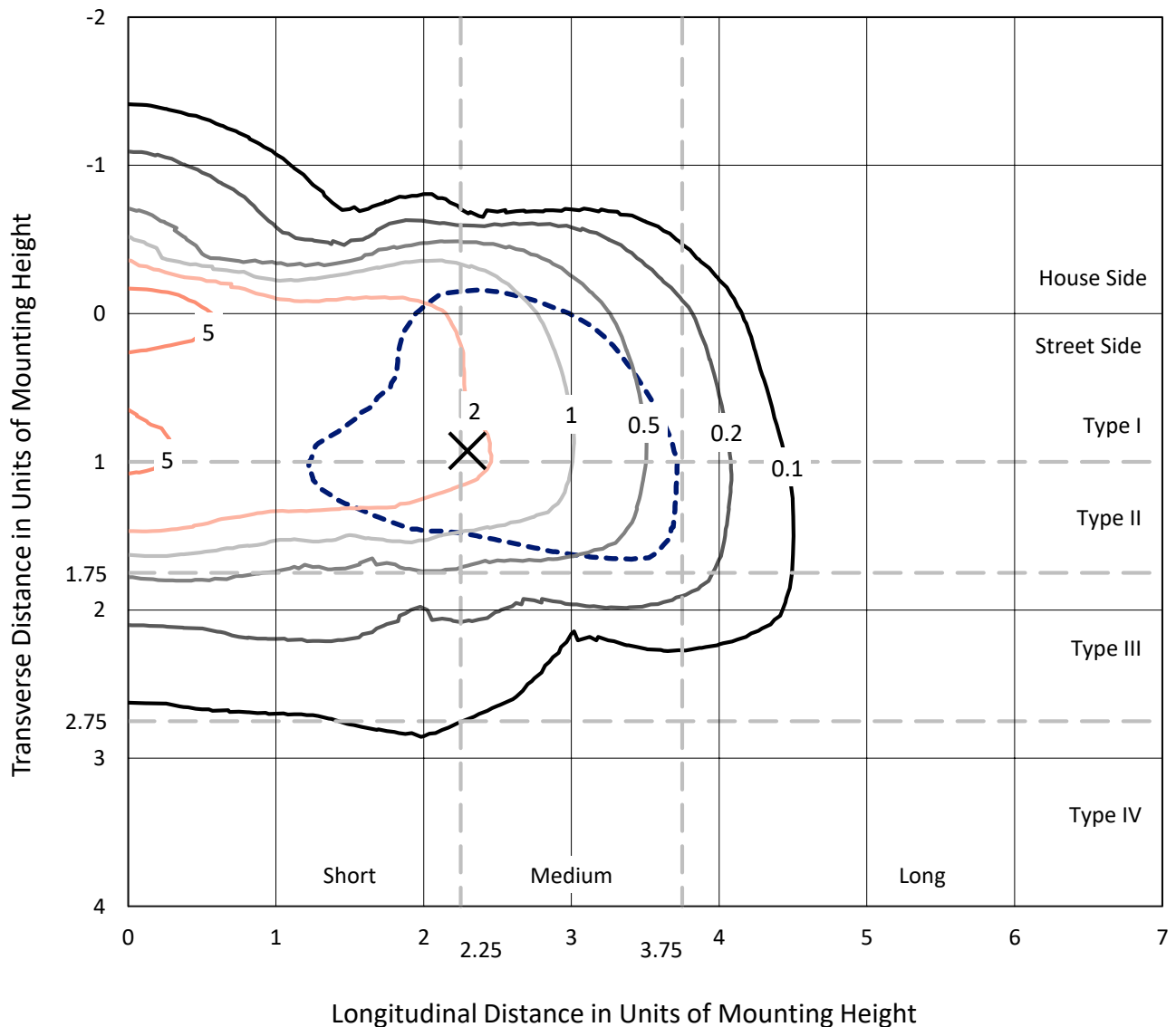
Input Watts (W): 124
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

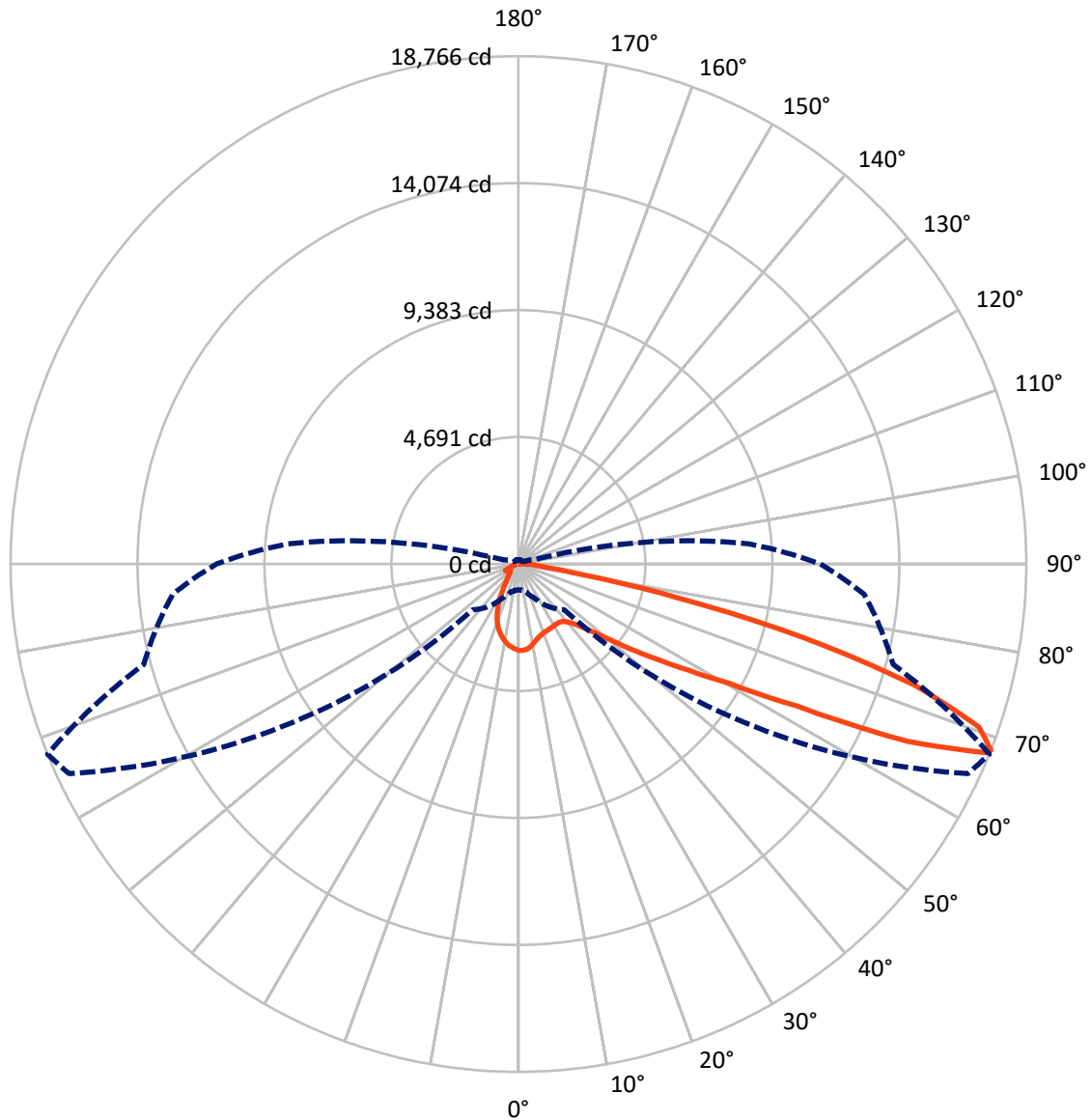
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 8 fc
 Type II - Medium - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 68-Deg Lateral - - - Horizontal Cone Through 68-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2401.2	0.0	2401.2
	% Fixture	16.4	0.0	16.4
Street Side	Lumens	12276.0	0.0	12276.0
	% Fixture	83.6	0.0	83.6
Total	Lumens	14677.3	0.0	14677.3
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	273.6	1.9
10°-20°	634.7	4.3
20°-30°	858.4	5.8
30°-40°	1210.3	8.2
40°-50°	1990.1	13.6
50°-60°	3084.9	21.0
60°-70°	3999.8	27.3
70°-80°	2295.3	15.6
80°-90°	330.2	2.3
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°	14677.3	100.0
0°-180°	14677.3	100.0

Coefficient of Utilization



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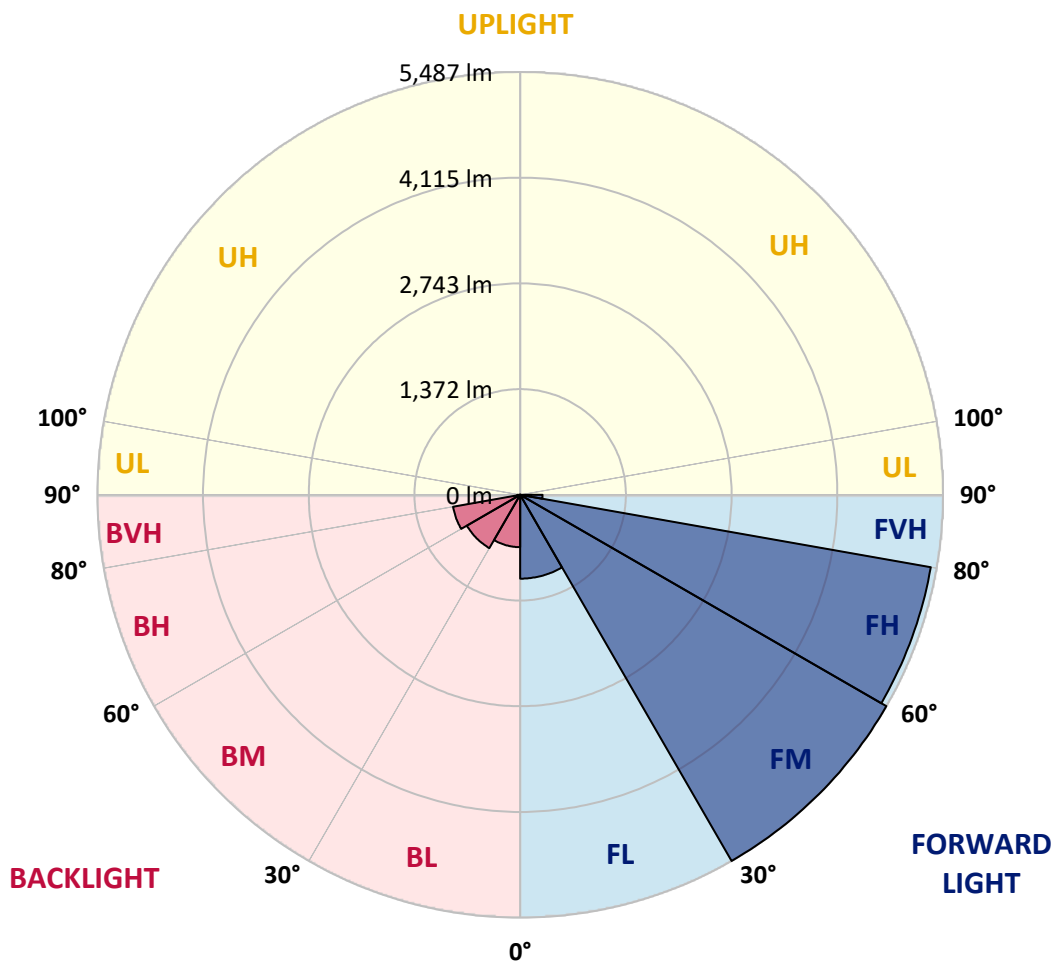
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1087.8	7.4			
FM	(30°-60°)	5486.6	37.4			
FH	(60°-80°)	5410.7	36.9			G3/7500
FVH	(80°-90°)	290.9	2.0			G3/500
BL	(0°-30°)	678.9	4.6	B2/1000		
BM	(30°-60°)	798.7	5.4	B1/1000		
BH	(60°-80°)	884.3	6.0	B2/1000		G2/1000
BVH	(80°-90°)	39.4	0.3			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 II Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	68°	75°	85°
0°	3193.7	3193.7	3193.7	3193.7	3193.7	3193.7	3193.7	3193.7	3193.7	3193.7	3193.7
2.5°	3108.3	3133.2	3133.2	3151.5	3167.8	3181.2	3192.7	3192.7	3192.7	3185.1	3178.3
5°	2781.4	2815.0	2819.8	2865.8	2926.2	3000.0	3082.5	3155.3	3169.7	3196.5	3207.1
7.5°	2554.1	2564.7	2583.0	2614.6	2675.9	2767.0	2896.4	3059.4	3098.7	3183.1	3227.2
10°	2393.1	2401.7	2417.0	2448.6	2504.3	2586.7	2714.3	2926.2	2991.3	3140.9	3228.1
12.5°	2275.1	2281.9	2296.2	2325.0	2381.5	2455.4	2585.8	2806.3	2886.9	3098.7	3241.6
15°	2183.1	2194.6	2206.1	2233.9	2291.4	2362.4	2494.7	2719.1	2806.3	3065.2	3266.5
17.5°	2146.7	2152.4	2154.3	2168.8	2220.5	2292.4	2424.7	2657.7	2747.9	3038.4	3285.7
20°	2169.7	2170.6	2151.5	2141.9	2171.6	2237.8	2366.2	2611.7	2703.8	3014.3	3293.4
22.5°	2270.3	2270.3	2220.5	2178.3	2158.2	2199.4	2326.9	2580.1	2679.7	2996.1	3293.4
25°	2462.1	2453.4	2375.8	2292.4	2203.2	2185.9	2301.9	2559.9	2661.5	2986.5	3280.9
27.5°	2714.3	2706.6	2607.8	2484.1	2323.1	2214.8	2293.4	2543.6	2643.3	2972.2	3254.0
30°	3021.1	3014.3	2902.2	2740.2	2502.3	2305.8	2313.5	2532.1	2629.0	2948.2	3209.0
32.5°	3326.9	3323.1	3234.0	3068.0	2749.7	2460.2	2366.2	2530.2	2621.3	2919.4	3154.4
35°	3634.6	3634.6	3580.0	3440.1	3082.5	2692.2	2476.5	2565.7	2635.6	2904.1	3107.3
37.5°	4089.1	4070.9	3969.3	3824.5	3501.5	2993.3	2654.9	2640.4	2691.3	2930.0	3092.0
40°	4792.8	4740.1	4486.0	4242.6	3958.7	3378.7	2915.6	2785.2	2815.9	3018.2	3128.5
42.5°	5529.3	5445.8	5109.2	4720.0	4431.4	3854.3	3257.9	3020.2	3019.1	3188.8	3244.5
45°	6161.0	6117.9	5753.6	5259.8	4971.2	4389.3	3690.3	3369.1	3334.6	3453.5	3467.9
47.5°	6528.3	6499.5	6279.9	5831.2	5611.7	5021.1	4238.7	3853.3	3788.1	3859.1	3837.0
50°	6426.6	6454.4	6391.1	6161.9	6300.0	5908.9	4937.7	4516.7	4393.1	4464.1	4410.4
52.5°	5891.6	5966.4	6022.9	6067.1	6696.0	7096.8	5815.9	5345.1	5242.5	5230.0	5178.3
55°	4928.1	5046.9	5225.2	5549.3	6589.6	8050.7	7349.9	6347.0	6197.4	6118.9	6138.9
57.5°	3353.7	3534.0	3918.5	4534.9	6036.4	8457.2	9618.3	7641.3	7388.3	7108.3	7173.4
60°	1847.6	1998.0	2455.4	3076.7	4773.7	8396.9	11628.9	9744.9	8948.2	8206.1	8340.3
62.5°	1195.6	1228.2	1568.5	2101.7	2930.0	7413.2	12745.9	13260.7	11572.3	9653.8	9842.7
65°	960.7	983.7	1150.5	1695.1	2041.2	4768.9	12795.7	16907.8	15794.7	11621.2	11627.0
67.5°	938.7	949.2	1046.0	1425.7	1914.7	2596.4	11060.3	18346.0	18603.9	13943.3	12820.6
68°	952.1	964.5	1062.3	1381.6	1913.7	2393.1	10222.3	18323.9	18765.9	14331.6	12820.6
70°	839.8	855.2	1083.4	1429.5	1832.2	2057.5	7000.0	17350.8	18062.1	15224.3	12164.8
72.5°	439.2	426.7	535.9	1128.4	2062.3	2143.8	3698.0	14495.6	15325.8	14099.6	10510.0
75°	342.3	311.6	300.1	445.8	1814.0	2223.4	2147.7	10302.9	10929.9	10163.8	7024.9
77.5°	322.1	284.8	262.7	263.6	798.6	2313.5	1737.3	6063.2	6063.2	4848.5	2241.6
80°	258.9	224.3	210.0	239.7	385.4	2132.3	1813.0	2763.2	2356.7	1253.1	617.5
82.5°	170.6	152.4	153.4	194.7	292.5	1423.7	2099.7	1364.3	1024.9	555.2	363.4
85°	108.3	93.0	103.5	136.2	218.6	634.7	2078.6	948.2	678.8	311.6	181.2
87.5°	54.6	42.1	51.8	71.0	133.3	182.2	1711.4	846.6	503.4	129.4	98.7
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°	3193.7	3193.7	3193.7	3193.7	3193.7	3193.7	3193.7	3193.7	3193.7	3193.7	3193.7
2.5°	3178.3	3157.2	3146.7	3129.4	3108.3	3087.3	3072.8	3066.1	3062.3	3064.2	3063.2
5°	3201.3	3173.5	3128.5	3064.2	2998.1	2928.1	2874.4	2833.2	2807.3	2799.6	2797.7
7.5°	3218.6	3178.3	3093.9	2977.0	2863.9	2741.1	2636.7	2553.2	2496.6	2470.7	2469.8
10°	3215.7	3163.9	3030.7	2858.1	2692.2	2512.0	2348.0	2208.0	2106.4	2057.5	2055.6
12.5°	3218.6	3147.6	2953.0	2719.1	2481.3	2223.4	1979.8	1762.2	1610.7	1538.8	1536.0
15°	3230.1	3130.3	2873.5	2563.7	2234.8	1870.6	1522.6	1249.2	1111.2	1064.3	1064.3
17.5°	3229.1	3101.6	2781.4	2383.5	1942.5	1454.4	1039.3	870.5	857.1	900.3	906.9
20°	3209.9	3055.6	2662.5	2169.7	1599.2	1006.7	704.7	680.8	788.1	906.9	920.5
22.5°	3180.3	2996.1	2525.4	1921.4	1199.4	655.8	543.6	580.0	725.8	873.4	894.6
25°	3139.0	2924.2	2368.1	1632.7	797.7	471.7	453.5	498.6	601.2	699.9	715.2
27.5°	3078.6	2833.2	2196.6	1320.2	509.1	388.3	395.0	426.7	470.8	512.9	521.6
30°	3002.9	2726.8	2009.6	974.2	386.4	347.1	358.5	377.8	396.9	423.8	429.5
32.5°	2926.2	2618.3	1814.9	669.2	337.5	325.0	336.6	347.1	363.4	381.6	385.4
35°	2857.1	2517.7	1614.5	466.9	316.4	310.7	316.4	323.2	339.4	357.6	359.6
37.5°	2807.3	2435.2	1405.5	369.1	303.9	298.2	301.1	303.9	323.2	350.0	352.8
40°	2800.5	2380.6	1193.7	331.7	294.3	286.6	284.8	286.6	311.6	342.3	345.1
42.5°	2865.8	2383.5	986.5	316.4	286.6	278.0	270.4	274.3	296.2	320.2	322.1
45°	3020.2	2450.6	807.3	309.6	280.0	273.2	261.8	263.6	274.3	286.6	288.6
47.5°	3292.4	2597.3	670.1	305.9	274.3	268.4	254.1	248.3	249.3	255.9	255.9
50°	3727.6	2842.8	586.8	302.0	269.4	258.9	242.5	231.1	228.2	232.0	233.0
52.5°	4376.8	3263.6	546.5	294.3	260.8	246.4	228.2	216.7	211.9	215.7	215.7
55°	5254.1	3935.7	527.3	283.8	250.2	231.1	214.7	205.2	201.3	204.2	204.2
57.5°	6254.0	4809.2	560.0	269.4	236.8	214.7	203.3	196.5	193.6	196.5	197.5
60°	7442.0	5952.0	784.3	251.2	222.4	200.4	193.6	189.9	187.9	190.8	190.8
62.5°	9021.0	7472.7	1213.8	236.8	207.0	187.0	185.1	183.1	181.2	184.1	184.1
65°	10725.7	8856.1	1249.2	228.2	193.6	175.4	176.5	176.5	174.5	177.4	177.4
67.5°	11268.4	8736.3	698.0	217.7	177.4	164.0	167.8	167.8	166.8	169.7	168.8
68°	11153.3	8546.4	607.8	214.7	174.5	161.1	164.9	165.8	164.9	167.8	166.8
70°	10296.2	7503.3	399.8	198.5	162.0	151.5	157.2	158.1	157.2	161.1	160.1
72.5°	8499.5	5628.0	295.3	173.5	146.7	139.0	144.7	145.8	146.7	150.5	149.6
75°	5397.8	3108.3	233.0	147.6	131.3	124.6	130.4	133.3	135.2	141.0	138.1
77.5°	1478.4	943.5	188.8	125.6	113.1	110.3	114.1	117.9	119.9	126.5	121.7
80°	517.7	417.1	157.2	106.4	94.0	93.0	96.9	100.7	102.6	108.3	102.6
82.5°	314.5	272.3	125.6	83.4	73.9	72.8	77.6	81.5	83.4	83.4	79.6
85°	164.0	143.8	92.1	58.5	50.8	48.0	56.6	61.4	62.3	61.4	58.5
87.5°	92.1	81.5	48.9	27.8	23.0	23.9	29.8	36.4	39.3	38.4	36.4
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)