

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: P197055

Luminaire Tested: **NAV-AF-03-D-UNV-SL2-8030**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P197055
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-SL2-8030
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 80 CRI, 3000K, 1050mA 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: 14491 lumens
Efficiency: N/A
Efficacy: 87.3 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

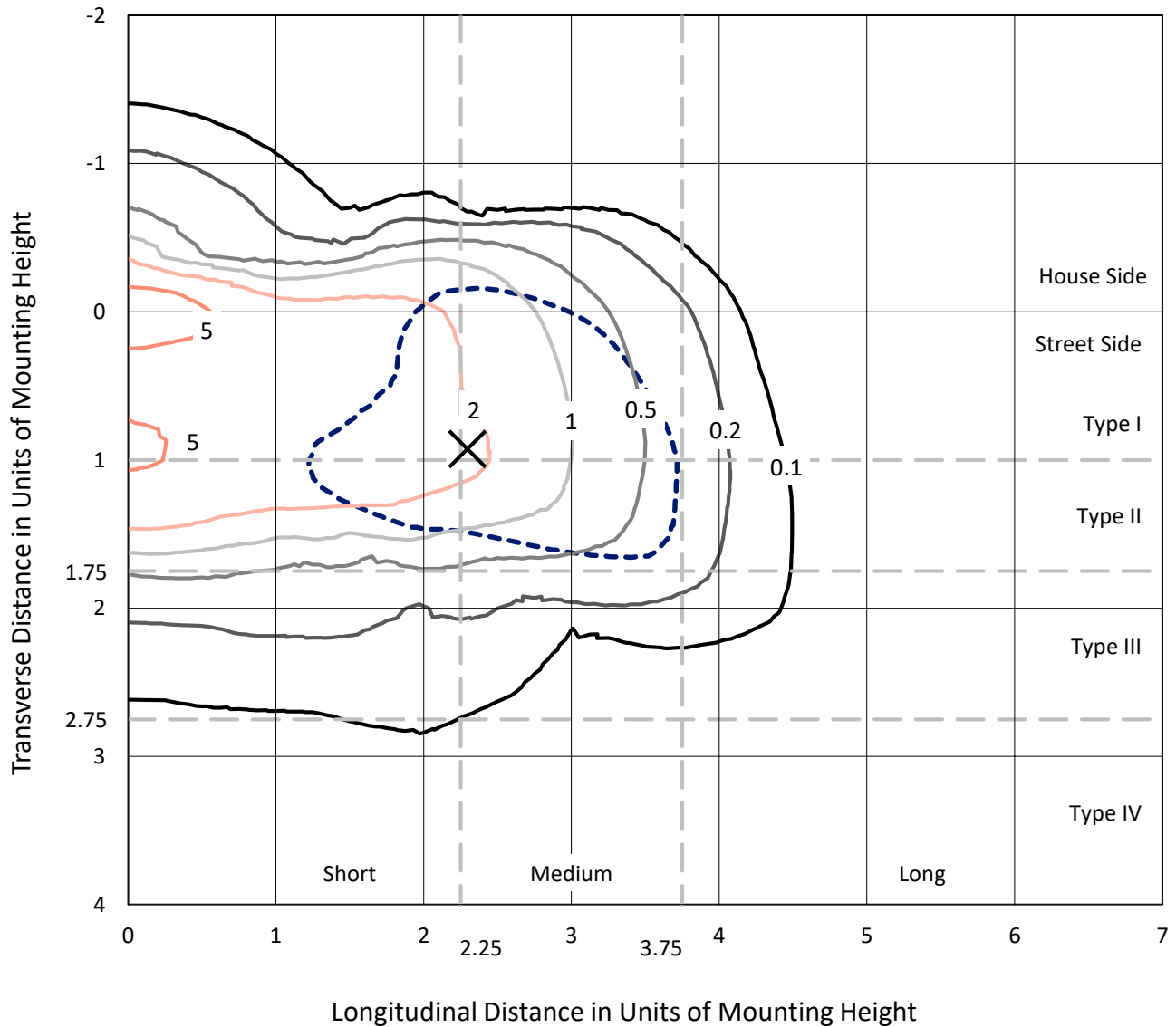
Input Watts (W): 166
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

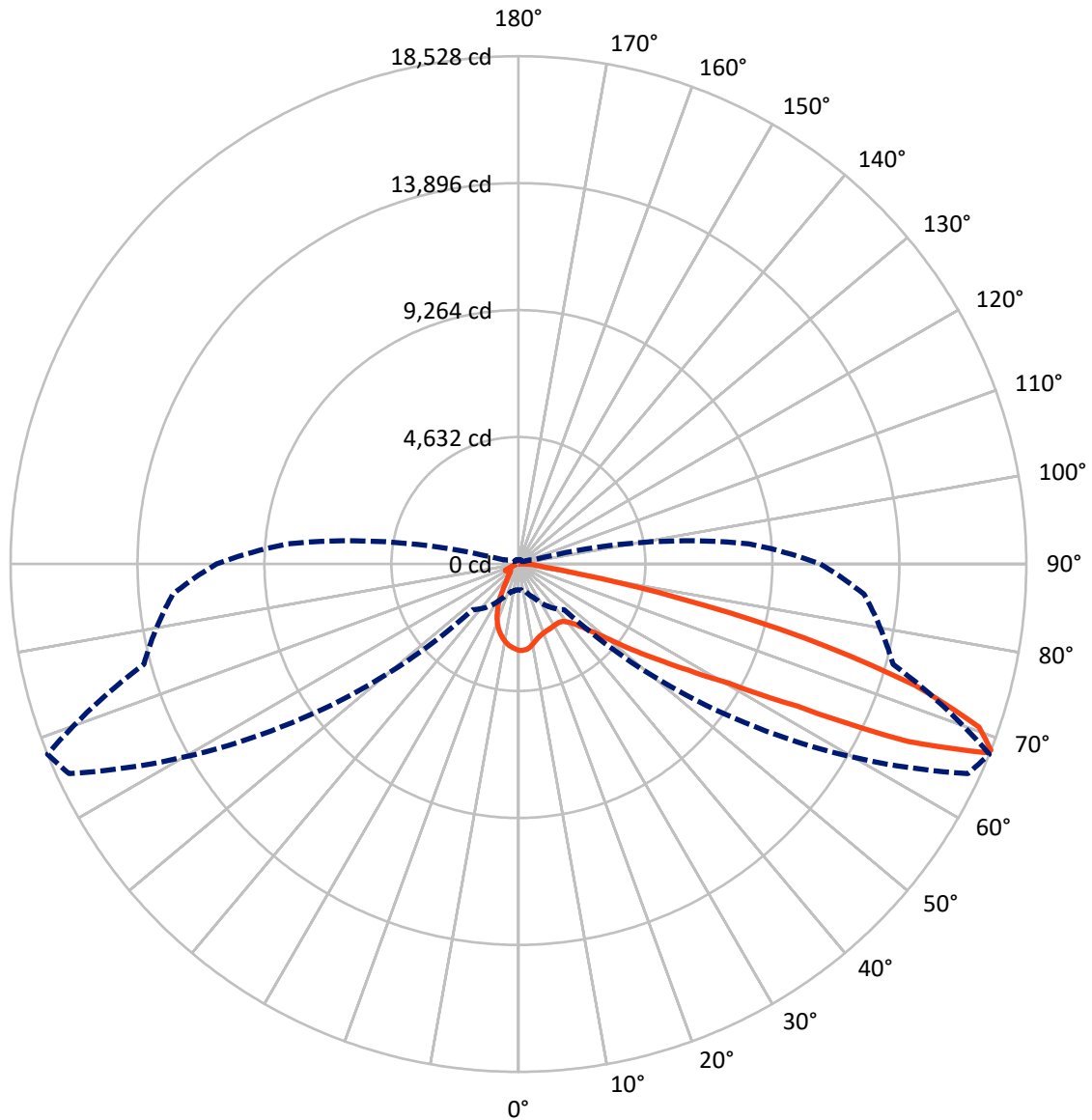
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 7.9 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	2370.8	0.0	2370.8
	% Fixture	16.4	0.0	16.4
Street Side	Lumens	12120.2	0.0	12120.2
	% Fixture	83.6	0.0	83.6
Total	Lumens	14491.0	0.0	14491.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	270.2	1.9
10°-20°	626.6	4.3
20°-30°	847.5	5.8
30°-40°	1194.9	8.2
40°-50°	1964.9	13.6
50°-60°	3045.7	21.0
60°-70°	3949.0	27.3
70°-80°	2266.2	15.6
80°-90°	326.1	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°	14491.0	100.0
0°-180°	14491.0	100.0



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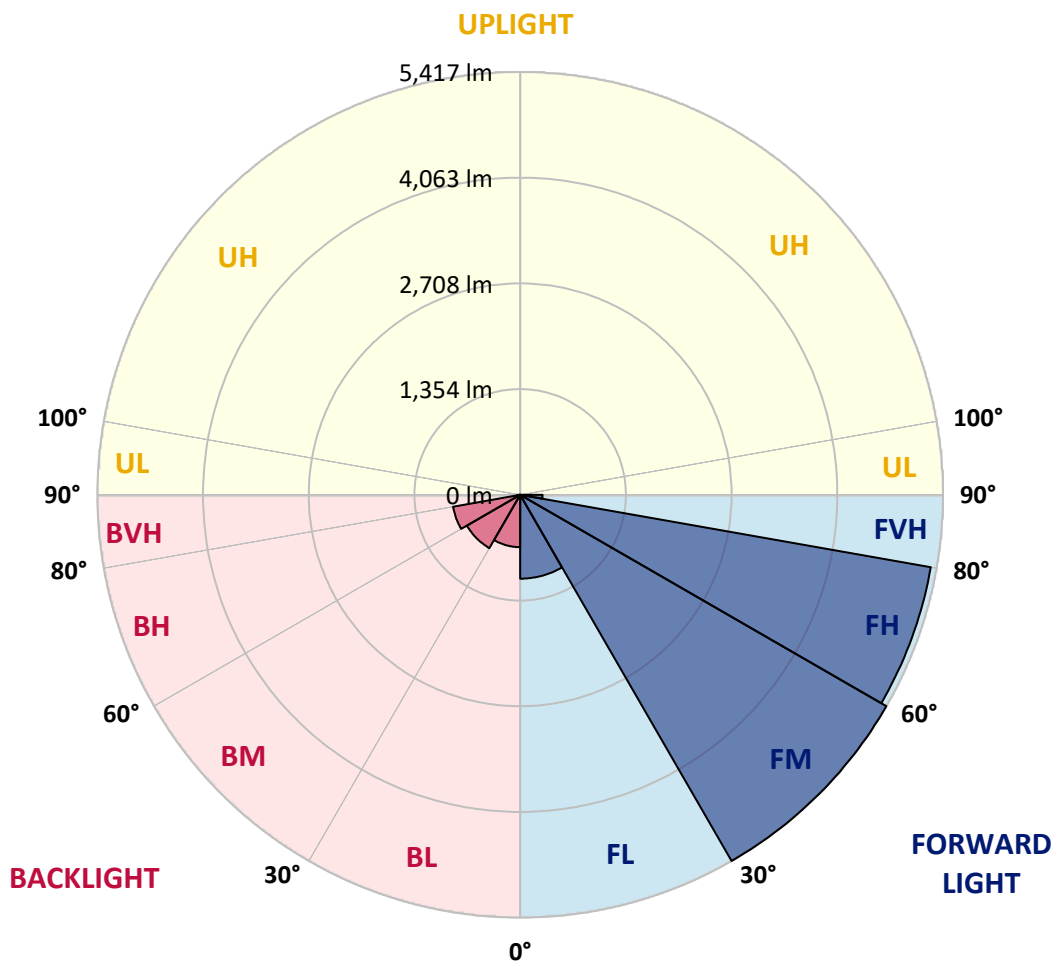
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1074.0	7.4			
FM	(30°-60°)	5417.0	37.4			
FH	(60°-80°)	5342.0	36.9			G3/7500
FVH	(80°-90°)	287.2	2.0			G3/500
BL	(0°-30°)	670.2	4.6	B2/1000		
BM	(30°-60°)	788.5	5.4	B1/1000		
BH	(60°-80°)	873.1	6.0	B2/1000		G2/1000
BVH	(80°-90°)	38.9	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°	3153.1	3153.1	3153.1	3153.1	3153.1	3153.1	3153.1	3153.1	3153.1	3153.1	3153.1
2.5°	3068.9	3093.5	3093.5	3111.5	3127.6	3140.8	3152.2	3152.2	3152.2	3144.6	3138.0
5°	2746.1	2779.2	2783.9	2829.4	2889.0	2961.9	3043.3	3115.2	3129.4	3156.0	3166.4
7.5°	2521.7	2532.1	2550.1	2581.4	2642.0	2731.9	2859.7	3020.6	3059.4	3142.7	3186.2
10°	2362.7	2371.2	2386.4	2417.6	2472.5	2553.9	2679.8	2889.0	2953.4	3101.0	3187.2
12.5°	2246.3	2252.9	2267.1	2295.5	2351.3	2424.2	2553.0	2770.7	2850.2	3059.4	3200.4
15°	2155.4	2166.8	2178.1	2205.6	2262.4	2332.4	2463.0	2684.5	2770.7	3026.3	3225.1
17.5°	2119.4	2125.1	2127.0	2141.2	2192.3	2263.3	2393.9	2624.0	2712.9	2999.8	3244.0
20°	2142.1	2143.1	2124.2	2114.7	2144.0	2209.4	2336.2	2578.5	2669.4	2976.1	3251.6
22.5°	2241.5	2241.5	2192.3	2150.7	2130.8	2171.5	2297.4	2547.3	2645.7	2958.1	3251.6
25°	2430.9	2422.3	2345.7	2263.3	2175.3	2158.2	2272.8	2527.4	2627.8	2948.6	3239.3
27.5°	2679.8	2672.2	2574.7	2452.6	2293.6	2186.6	2264.3	2511.3	2609.8	2934.4	3212.7
30°	2982.7	2976.1	2865.3	2705.4	2470.6	2276.6	2284.1	2500.0	2595.6	2910.8	3168.3
32.5°	3284.7	3280.9	3192.9	3029.1	2714.8	2429.0	2336.2	2498.1	2588.0	2882.4	3114.3
35°	3588.5	3588.5	3534.6	3396.4	3043.3	2658.0	2445.1	2533.1	2602.2	2867.2	3067.9
37.5°	4037.2	4019.2	3918.9	3776.0	3457.0	2955.3	2621.1	2606.9	2657.1	2892.8	3052.8
40°	4732.0	4680.0	4429.1	4188.7	3908.5	3335.8	2878.6	2749.9	2780.2	2979.9	3088.7
42.5°	5459.0	5376.7	5044.4	4660.1	4375.2	3805.3	3216.5	2981.8	2980.8	3148.4	3203.3
45°	6082.8	6040.2	5680.5	5193.0	4908.1	4333.5	3643.4	3326.3	3292.3	3409.6	3423.8
47.5°	6445.4	6417.0	6200.2	5757.2	5540.4	4957.3	4184.9	3804.4	3740.0	3810.1	3788.3
50°	6345.0	6372.5	6310.0	6083.8	6220.1	5833.9	4875.0	4459.4	4337.3	4407.4	4354.3
52.5°	5816.8	5890.7	5946.5	5990.1	6611.0	7006.7	5742.1	5277.3	5176.0	5163.7	5112.6
55°	4865.5	4982.9	5158.9	5478.9	6506.0	7948.6	7256.6	6266.5	6118.8	6041.2	6061.1
57.5°	3311.2	3489.2	3868.7	4477.4	5959.8	8349.9	9496.3	7544.4	7294.5	7018.1	7082.4
60°	1824.1	1972.7	2424.2	3037.6	4713.1	8290.3	11481.3	9621.2	8834.6	8101.9	8234.4
62.5°	1180.4	1212.6	1548.6	2074.9	2892.8	7319.1	12584.1	13092.4	11425.4	9531.3	9717.8
65°	948.5	971.2	1135.9	1673.6	2015.3	4708.4	12633.3	16693.2	15594.2	11473.7	11479.4
67.5°	926.7	937.1	1032.7	1407.6	1890.4	2563.4	10919.9	18113.1	18367.8	13766.4	12657.9
68°	940.0	952.3	1048.8	1364.0	1889.4	2362.7	10092.6	18091.3	18527.7	14149.7	12657.9
70°	829.2	844.4	1069.7	1411.4	1808.9	2031.4	6911.1	17130.6	17832.9	15031.0	12010.4
72.5°	433.5	421.2	529.1	1114.1	2036.1	2116.6	3651.0	14311.6	15131.3	13920.6	10376.6
75°	337.9	307.6	296.3	440.2	1791.0	2195.2	2120.4	10172.1	10791.2	10034.9	6935.7
77.5°	318.1	281.1	259.4	260.3	788.5	2284.1	1715.2	5986.3	5986.3	4786.9	2213.1
80°	255.6	221.5	207.3	236.6	380.5	2105.2	1790.0	2728.1	2326.7	1237.2	609.6
82.5°	168.5	150.5	151.5	192.2	288.7	1405.7	2073.0	1347.0	1011.9	548.1	358.8
85°	107.0	91.8	102.2	134.4	215.8	626.6	2052.2	936.2	670.2	307.6	178.9
87.5°	54.0	41.7	51.1	70.0	131.6	179.9	1689.7	835.8	497.0	127.8	97.5
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°	3153.1	3153.1	3153.1	3153.1	3153.1	3153.1	3153.1	3153.1	3153.1	3153.1	3153.1
2.5°	3138.0	3117.1	3106.7	3089.7	3068.9	3048.0	3033.8	3027.2	3023.4	3025.3	3024.4
5°	3160.7	3133.2	3088.7	3025.3	2960.0	2890.9	2837.9	2797.2	2771.6	2764.1	2762.2
7.5°	3177.7	3138.0	3054.7	2939.2	2827.5	2706.3	2603.1	2520.8	2464.9	2439.4	2438.4
10°	3174.9	3123.8	2992.2	2821.8	2658.0	2480.1	2318.2	2180.0	2079.7	2031.4	2029.5
12.5°	3177.7	3107.7	2915.5	2684.5	2449.8	2195.2	1954.7	1739.8	1590.3	1519.3	1516.4
15°	3189.1	3090.6	2836.9	2531.2	2206.5	1846.8	1503.2	1233.4	1097.1	1050.7	1050.7
17.5°	3188.1	3062.2	2746.1	2353.2	1917.8	1436.0	1026.1	859.5	846.3	888.9	895.5
20°	3169.2	3016.8	2628.7	2142.1	1578.9	993.9	695.7	672.1	778.1	895.5	908.7
22.5°	3139.9	2958.1	2493.3	1897.0	1184.2	647.5	536.7	572.7	716.6	862.3	883.2
25°	3099.2	2887.1	2338.1	1612.1	787.6	465.7	447.7	492.2	593.5	691.0	706.2
27.5°	3039.5	2797.2	2168.7	1303.5	502.6	383.4	390.0	421.2	464.8	506.4	514.9
30°	2964.7	2692.1	1984.1	961.7	381.5	342.7	354.0	373.0	391.9	418.4	424.1
32.5°	2889.0	2585.2	1791.9	660.7	333.2	320.9	332.3	342.7	358.8	376.7	380.5
35°	2820.9	2485.8	1594.1	461.0	312.4	306.7	312.4	319.0	335.1	353.1	355.0
37.5°	2771.6	2404.4	1387.7	364.4	300.1	294.4	297.2	300.1	319.0	345.5	348.3
40°	2765.0	2350.4	1178.5	327.5	290.6	283.0	281.1	283.0	307.6	337.9	340.8
42.5°	2829.4	2353.2	974.0	312.4	283.0	274.5	266.9	270.7	292.5	316.2	318.1
45°	2981.8	2419.5	797.0	305.8	276.4	269.8	258.4	260.3	270.7	283.0	284.9
47.5°	3250.6	2564.3	661.7	302.0	270.7	265.0	250.8	245.2	246.1	252.7	252.7
50°	3680.4	2806.7	579.3	298.2	266.0	255.6	239.5	228.1	225.3	229.1	230.0
52.5°	4321.2	3222.2	539.6	290.6	257.5	243.3	225.3	213.9	209.2	213.0	213.0
55°	5187.3	3885.8	520.6	280.2	247.1	228.1	212.0	202.6	198.8	201.6	201.6
57.5°	6174.6	4748.1	552.8	266.0	233.8	212.0	200.7	194.1	191.2	194.1	195.0
60°	7347.5	5876.5	774.3	248.0	219.6	197.8	191.2	187.4	185.5	188.4	188.4
62.5°	8906.5	7377.8	1198.4	233.8	204.5	184.6	182.7	180.8	178.9	181.7	181.7
65°	10589.6	8743.7	1233.4	225.3	191.2	173.2	174.2	174.2	172.3	175.1	175.1
67.5°	11125.3	8625.4	689.1	214.9	175.1	161.9	165.7	165.7	164.7	167.5	166.6
68°	11011.8	8438.0	600.1	212.0	172.3	159.0	162.8	163.8	162.8	165.7	164.7
70°	10165.5	7408.1	394.7	195.9	160.0	149.6	155.2	156.2	155.2	159.0	158.1
72.5°	8391.6	5556.5	291.6	171.3	144.8	137.3	142.9	143.9	144.8	148.6	147.7
75°	5329.3	3068.9	230.0	145.8	129.7	123.1	128.7	131.6	133.5	139.1	136.3
77.5°	1459.7	931.5	186.5	124.0	111.7	108.9	112.6	116.4	118.3	125.0	120.2
80°	511.2	411.8	155.2	105.1	92.8	91.8	95.6	99.4	101.3	107.0	101.3
82.5°	310.5	268.8	124.0	82.4	72.9	71.9	76.7	80.5	82.4	82.4	78.6
85°	161.9	142.0	90.9	57.7	50.2	47.3	55.8	60.6	61.5	60.6	57.7
87.5°	90.9	80.5	48.3	27.5	22.7	23.7	29.3	36.0	38.8	37.9	36.0
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)