

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: P270441

Luminaire Tested: **NAV-AF-03-D-UNV-SL4-7027**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P270441
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24284)
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-SL4-7027
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 70 CRI, 2700K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV
SPILL LIGHT ELIMINATOR OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 15013.7 lumens
Efficiency: N/A
Efficacy: 90.4 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B1 - U0 - G3

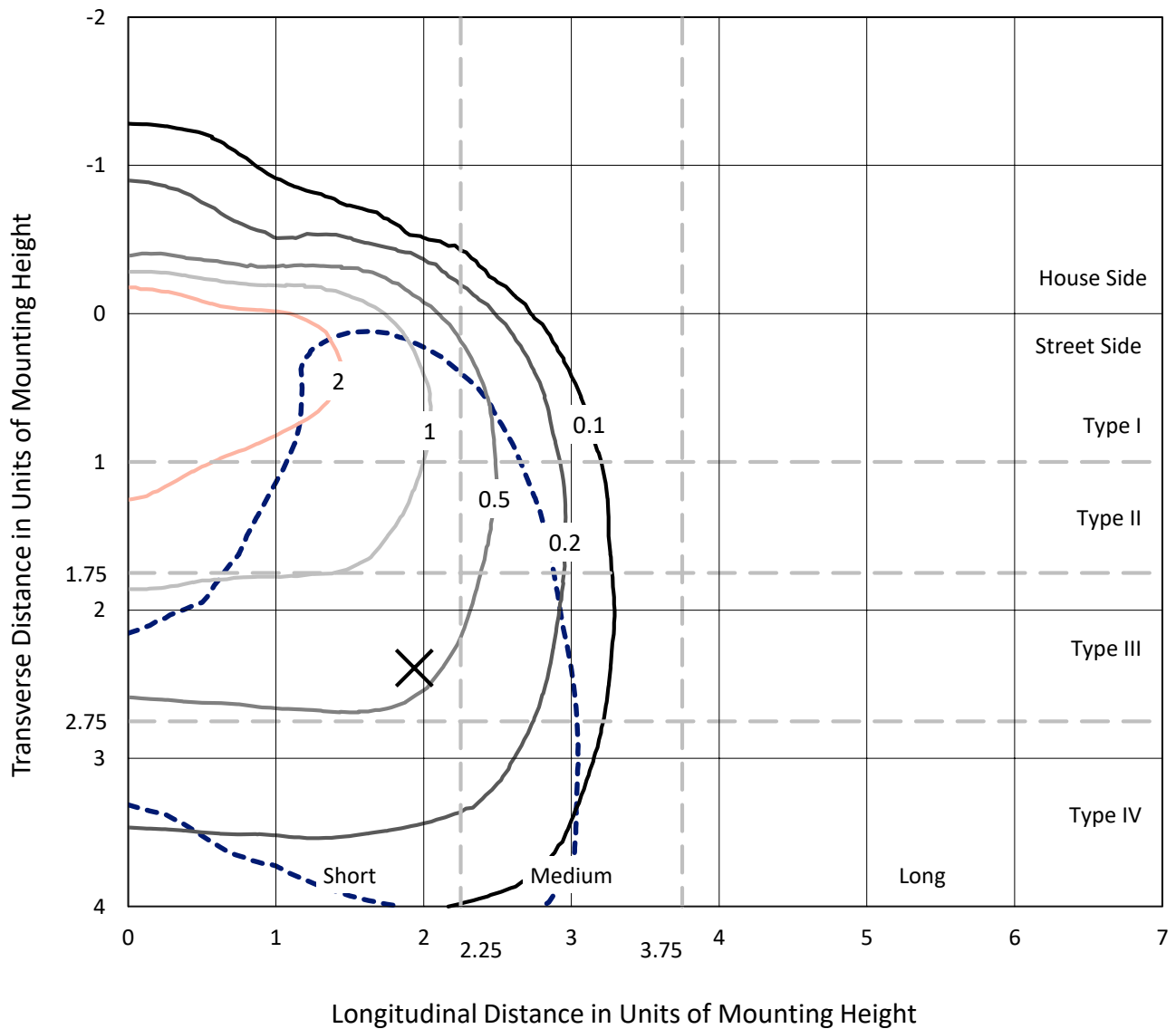
Input Watts (W): 166
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

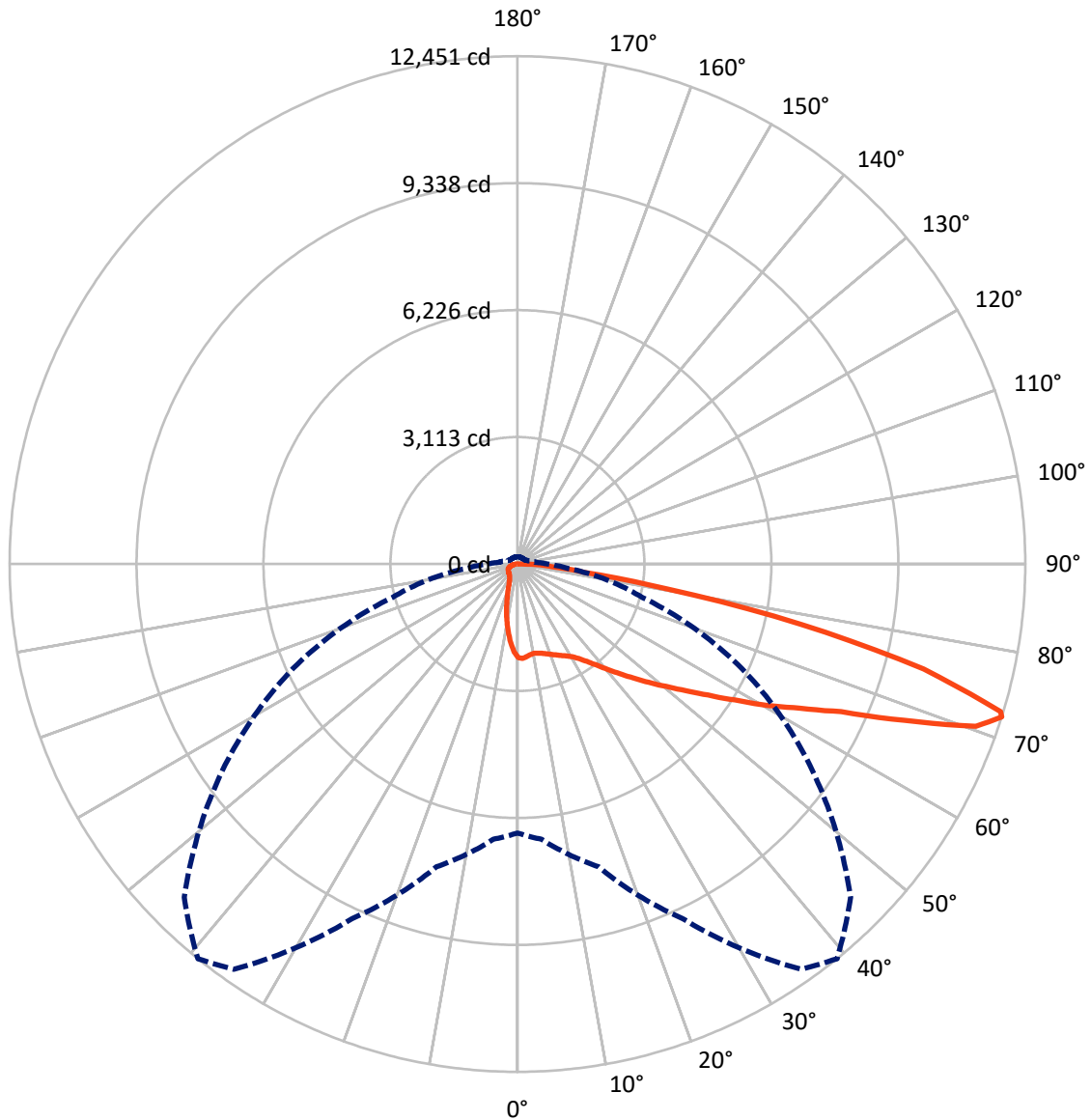
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.7 fc
 Type IV - Short - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 39-Deg Lateral - - - Horizontal Cone Through 72-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1721.5	0.0	1721.5
	% Fixture	11.5	0.0	11.5
Street Side	Lumens	13292.2	0.0	13292.2
	% Fixture	88.5	0.0	88.5
Total	Lumens	15013.7	0.0	15013.7
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	197.0	1.3
10°-20°	495.1	3.3
20°-30°	771.6	5.1
30°-40°	1188.0	7.9
40°-50°	1936.7	12.9
50°-60°	3009.5	20.0
60°-70°	4028.0	26.8
70°-80°	2896.7	19.3
80°-90°	491.1	3.3
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°	15013.7	100.0
0°-180°	15013.7	100.0



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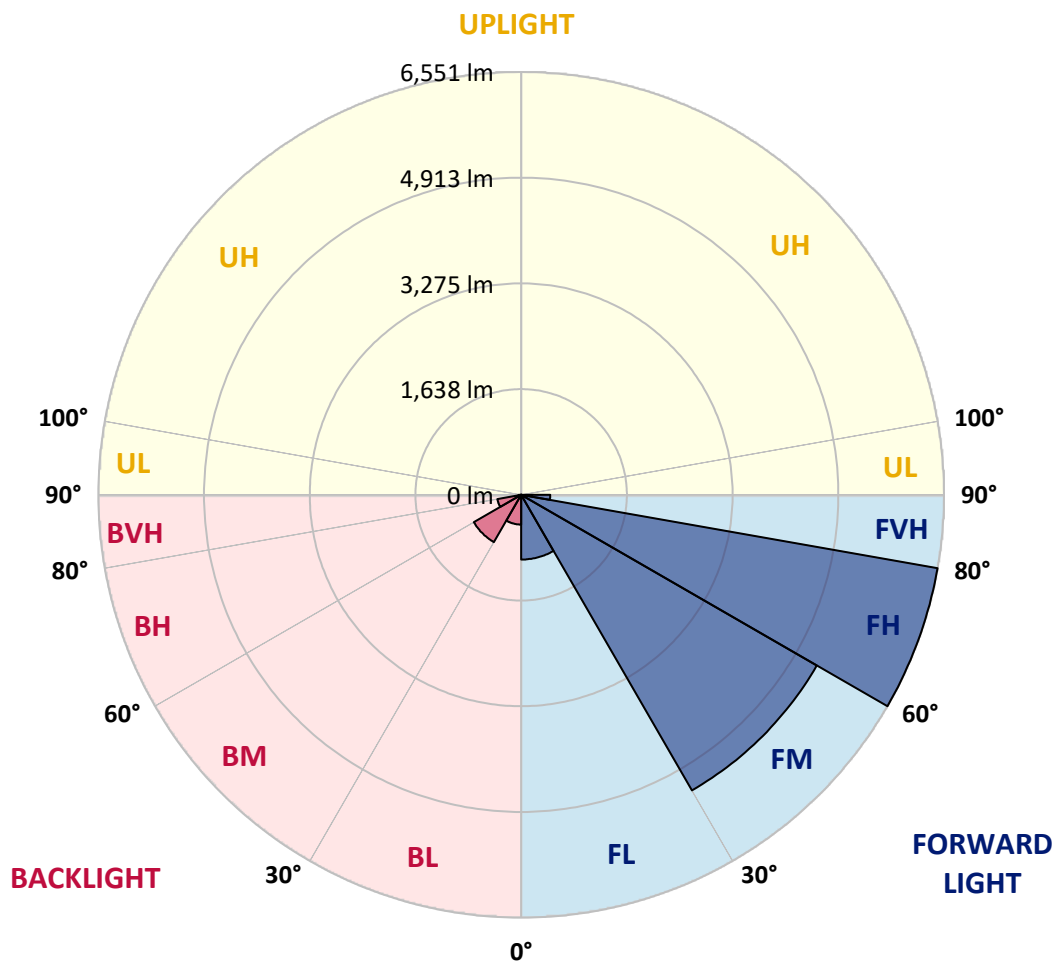
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1002.9	6.7			
FM	(30°-60°)	5288.1	35.2			
FH	(60°-80°)	6550.7	43.6			G3/7500
FVH	(80°-90°)	450.5	3.0			G3/500
BL	(0°-30°)	460.9	3.1	B1/500		
BM	(30°-60°)	846.1	5.6	B1/1000		
BH	(60°-80°)	374.0	2.5	B1/500		G1/500
BVH	(80°-90°)	40.6	0.3			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G3

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	39°	45°	55°	65°	75°	85°
0°	2292.8	2292.8	2292.8	2292.8	2292.8	2292.8	2292.8	2292.8	2292.8	2292.8	2292.8
2.5°	2342.2	2343.3	2340.3	2331.1	2323.0	2319.1	2312.0	2299.9	2283.9	2272.7	2263.5
5°	2320.1	2323.0	2321.1	2305.9	2291.8	2283.9	2272.7	2255.6	2234.4	2225.3	2204.3
7.5°	2303.0	2305.0	2298.9	2281.8	2254.6	2244.4	2224.4	2202.1	2183.1	2169.9	2144.8
10°	2290.9	2292.8	2287.9	2270.6	2240.5	2228.3	2204.3	2179.9	2154.8	2138.7	2110.5
12.5°	2273.7	2277.7	2277.7	2269.7	2249.5	2241.5	2217.2	2191.1	2167.9	2150.7	2115.5
15°	2270.6	2275.8	2284.7	2283.9	2277.7	2271.8	2252.6	2226.4	2206.1	2186.0	2142.6
17.5°	2295.9	2306.9	2325.2	2331.1	2327.1	2314.0	2291.8	2267.7	2245.6	2226.4	2172.9
20°	2359.4	2365.4	2392.6	2404.8	2384.6	2365.4	2336.2	2305.0	2284.7	2269.7	2201.1
22.5°	2455.2	2463.2	2485.4	2486.4	2444.1	2420.8	2383.6	2345.3	2326.2	2320.1	2239.5
25°	2608.3	2606.3	2612.4	2587.2	2510.6	2483.4	2438.0	2393.7	2380.6	2392.6	2295.9
27.5°	2791.8	2786.7	2767.6	2702.0	2586.1	2550.8	2496.5	2457.1	2457.1	2485.4	2372.5
30°	3003.5	2998.4	2935.9	2826.0	2675.8	2635.5	2578.0	2536.8	2558.0	2612.4	2476.3
32.5°	3227.2	3209.0	3121.3	2974.2	2803.8	2759.6	2704.1	2661.8	2702.0	2794.7	2625.4
35°	3437.8	3427.8	3319.9	3145.5	2969.2	2931.9	2893.5	2841.1	2905.7	3049.7	2836.0
37.5°	3655.6	3647.4	3515.3	3329.9	3170.7	3145.5	3113.3	3077.0	3180.8	3370.3	3121.3
40°	3898.4	3882.3	3716.0	3530.5	3405.6	3393.4	3376.3	3366.2	3533.6	3815.7	3482.1
42.5°	4173.5	4142.3	3927.6	3751.2	3661.5	3671.6	3662.5	3702.9	3958.8	4329.7	3911.5
45°	4487.9	4425.5	4138.2	3986.0	3944.7	3985.1	4004.1	4107.1	4461.7	4923.4	4391.3
47.5°	4782.2	4701.5	4369.0	4241.1	4264.3	4333.8	4388.2	4569.6	5013.0	5509.9	4881.0
50°	5053.3	4962.6	4616.0	4505.1	4617.9	4716.7	4829.6	5085.7	5599.7	6113.7	5330.5
52.5°	5253.9	5188.4	4862.9	4793.4	5024.1	5155.2	5335.6	5659.1	6192.2	6689.0	5731.6
55°	5409.1	5373.9	5103.8	5123.9	5483.8	5671.2	5889.8	6261.7	6819.2	7205.1	6054.1
57.5°	5588.5	5562.3	5379.0	5523.0	6054.1	6290.0	6548.0	6961.2	7415.8	7659.7	6307.1
60°	5778.0	5778.0	5685.4	6003.8	6767.7	7037.9	7294.9	7616.3	8010.5	8068.8	6409.9
62.5°	5921.2	5958.4	5991.6	6515.8	7445.1	7780.6	8062.8	8371.2	8626.2	8270.4	6168.0
65°	6128.7	6208.4	6395.8	7107.4	8283.5	8722.9	9104.0	9362.9	9125.2	8110.2	5379.0
67.5°	6485.6	6603.4	7002.6	7988.3	9567.6	10225.6	10595.6	10148.1	9027.3	7101.3	4120.0
70°	6807.0	6973.4	7655.6	9105.9	11236.5	11919.9	11749.6	9965.6	7862.2	5205.6	2534.7
72°	6593.4	6774.7	7685.9	9592.7	12128.5	12451.0	11553.0	8831.9	6075.3	3176.8	1249.7
72.5°	6453.2	6641.8	7588.2	9580.7	12152.7	12383.5	11279.8	8381.2	5515.0	2779.6	1010.9
75°	5391.0	5552.2	6524.7	8491.1	10709.5	10286.1	8802.6	5424.2	2534.7	897.9	520.1
77.5°	3520.5	3643.3	4499.0	5882.8	7501.4	7094.3	5357.8	2539.8	950.3	545.2	391.0
80°	1768.9	1856.4	2407.7	3093.1	4048.5	3725.0	2473.3	1228.6	636.0	394.0	307.4
82.5°	1230.6	1311.3	1657.9	1579.3	1692.1	1637.8	1163.0	1025.0	475.7	248.9	161.2
85°	1032.1	1115.7	1371.7	1125.8	921.2	839.6	833.4	968.6	314.4	123.0	136.1
87.5°	900.0	1027.0	1131.9	822.4	631.9	557.4	613.8	888.0	99.8	67.6	41.3
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°	2292.8	2292.8	2292.8	2292.8	2292.8	2292.8	2292.8	2292.8	2292.8	2292.8	2292.8
2.5°	2248.5	2245.6	2230.4	2207.1	2190.1	2179.0	2157.8	2156.8	2158.8	2140.8	2147.8
5°	2185.0	2172.9	2133.7	2080.3	2036.8	1995.6	1950.2	1935.0	1922.0	1894.7	1897.8
7.5°	2118.6	2097.4	2028.8	1941.1	1857.4	1780.9	1705.3	1668.1	1639.8	1604.6	1604.6
10°	2079.1	2045.9	1941.1	1813.0	1680.1	1568.3	1455.3	1387.8	1338.5	1293.1	1290.1
12.5°	2077.2	2026.8	1880.6	1704.3	1521.9	1364.6	1210.5	1106.6	1033.1	979.6	974.7
15°	2093.3	2022.8	1830.2	1602.4	1372.7	1168.1	977.6	845.6	751.8	692.5	686.3
17.5°	2107.5	2017.8	1775.8	1495.7	1227.5	978.7	767.0	629.9	541.1	492.8	487.8
20°	2120.4	2006.6	1706.3	1382.9	1067.4	801.3	599.7	488.8	430.4	403.1	400.1
22.5°	2139.7	1996.6	1633.7	1255.8	910.2	652.1	494.8	415.2	383.9	370.9	368.8
25°	2170.9	1997.7	1563.2	1125.8	766.0	543.3	428.3	378.9	361.7	352.8	352.8
27.5°	2216.3	2009.7	1493.6	993.7	644.1	468.6	389.1	359.9	348.7	341.6	339.6
30°	2282.9	2031.8	1420.1	868.8	547.2	417.3	365.9	347.7	338.7	332.6	331.6
32.5°	2379.5	2071.1	1342.4	754.8	473.6	381.1	348.7	337.7	330.5	325.5	324.6
35°	2523.7	2140.8	1266.9	658.1	421.2	354.8	334.6	325.5	321.6	319.4	318.4
37.5°	2735.2	2252.6	1195.4	582.6	387.0	337.7	320.4	315.5	313.5	313.5	313.5
40°	3001.3	2399.7	1130.7	529.1	367.9	324.6	310.5	306.4	306.4	307.4	307.4
42.5°	3324.8	2584.2	1075.5	492.8	356.7	315.5	303.4	301.3	300.4	300.4	301.3
45°	3700.8	2801.9	1041.1	464.7	348.7	310.5	298.3	297.2	293.2	291.3	291.3
47.5°	4078.8	3034.7	1039.1	448.6	338.7	304.3	293.2	293.2	285.2	281.2	282.2
50°	4431.5	3243.3	1061.3	444.4	332.6	295.4	288.3	289.3	278.1	273.2	272.1
52.5°	4715.7	3402.5	1088.4	449.5	332.6	287.3	279.2	284.3	272.1	266.1	265.1
55°	4935.5	3513.5	1098.5	460.7	336.7	280.2	271.1	279.2	270.1	262.0	262.0
57.5°	5092.8	3548.7	1055.1	465.6	342.7	279.2	263.1	278.1	273.2	263.1	263.1
60°	5035.2	3344.1	894.0	446.5	341.6	277.1	257.1	280.2	283.2	272.1	272.1
62.5°	4586.7	2797.9	717.6	403.1	324.6	270.1	250.0	278.1	290.2	286.2	284.3
65°	3734.1	2052.0	556.3	351.7	295.4	254.9	234.8	260.0	274.2	278.1	279.2
67.5°	2631.6	1299.0	432.4	299.3	259.0	232.8	217.7	229.7	234.8	236.9	240.8
70°	1439.3	703.6	343.7	252.0	221.7	210.7	199.6	200.5	198.5	196.5	198.5
72°	722.6	459.7	290.2	218.6	196.5	189.5	184.4	181.4	181.4	178.5	179.4
72.5°	621.8	427.4	280.2	210.7	190.5	184.4	180.4	177.3	176.3	174.4	175.3
75°	414.2	338.7	233.7	176.3	162.2	158.2	160.3	157.3	158.2	156.2	157.3
77.5°	334.6	291.3	198.5	149.2	139.1	132.9	137.1	138.1	140.0	138.1	137.1
80°	280.2	247.9	166.2	123.0	115.9	110.9	112.8	120.0	120.9	115.0	113.8
82.5°	181.4	199.6	131.1	95.8	88.8	86.6	91.6	98.8	100.8	92.7	90.6
85°	152.3	160.3	94.7	65.4	58.5	56.5	66.6	73.7	78.6	70.5	68.5
87.5°	42.3	78.6	46.4	31.3	26.2	26.2	32.2	38.3	45.4	46.4	46.4
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)