

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: P196804

Luminaire Tested: **NAV-AF-04-D-UNV-T3R-7030-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196804
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24250)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-AF-04-D-UNV-T3R-7030-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 3000K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III
ROADWAY OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 15813.1 lumens
Efficiency: N/A
Efficacy: 122.6 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type III - Medium - Full Cutoff
BUG Rating: B2 - U0 - G3

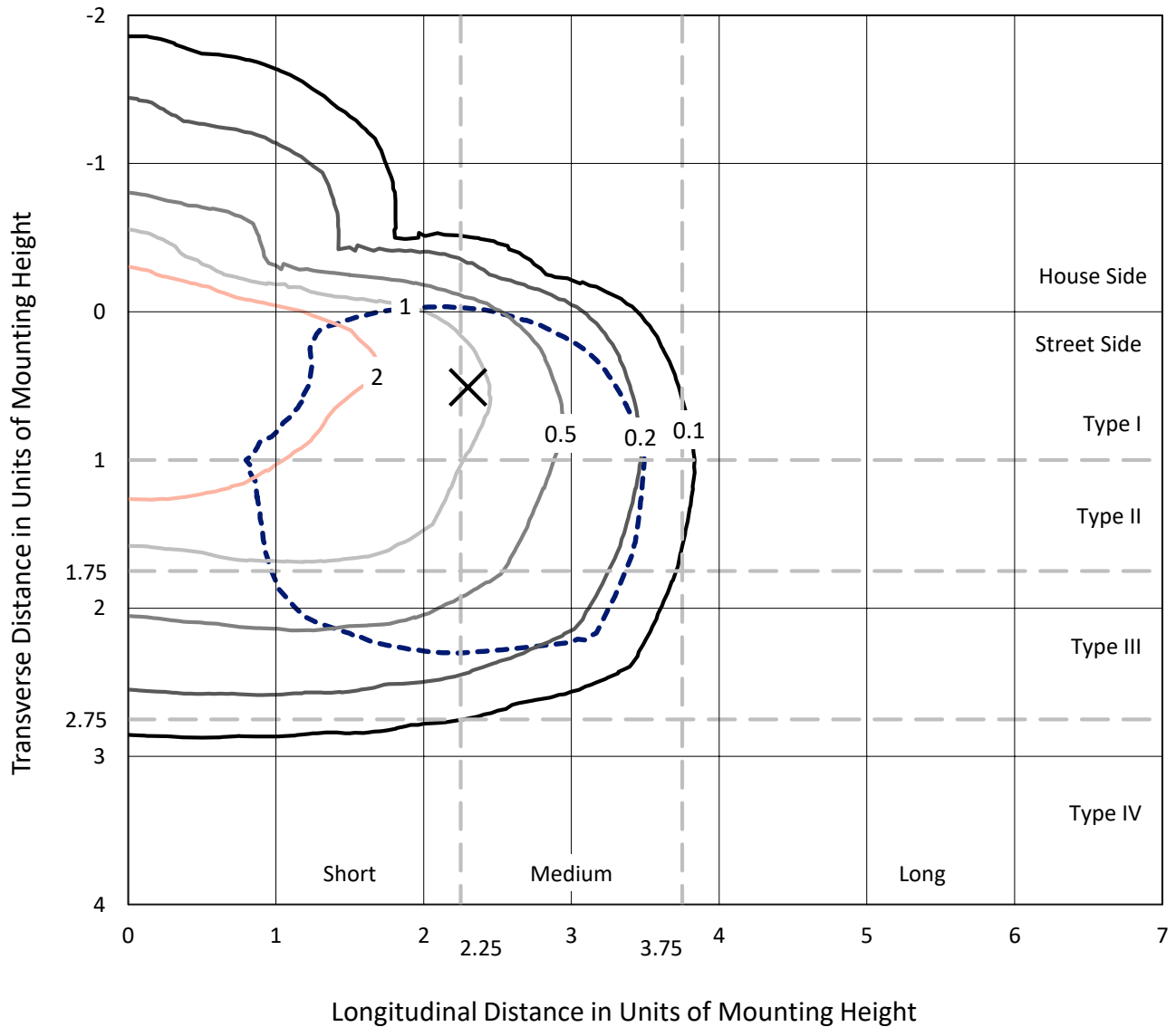
Input Watts (W): 129
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

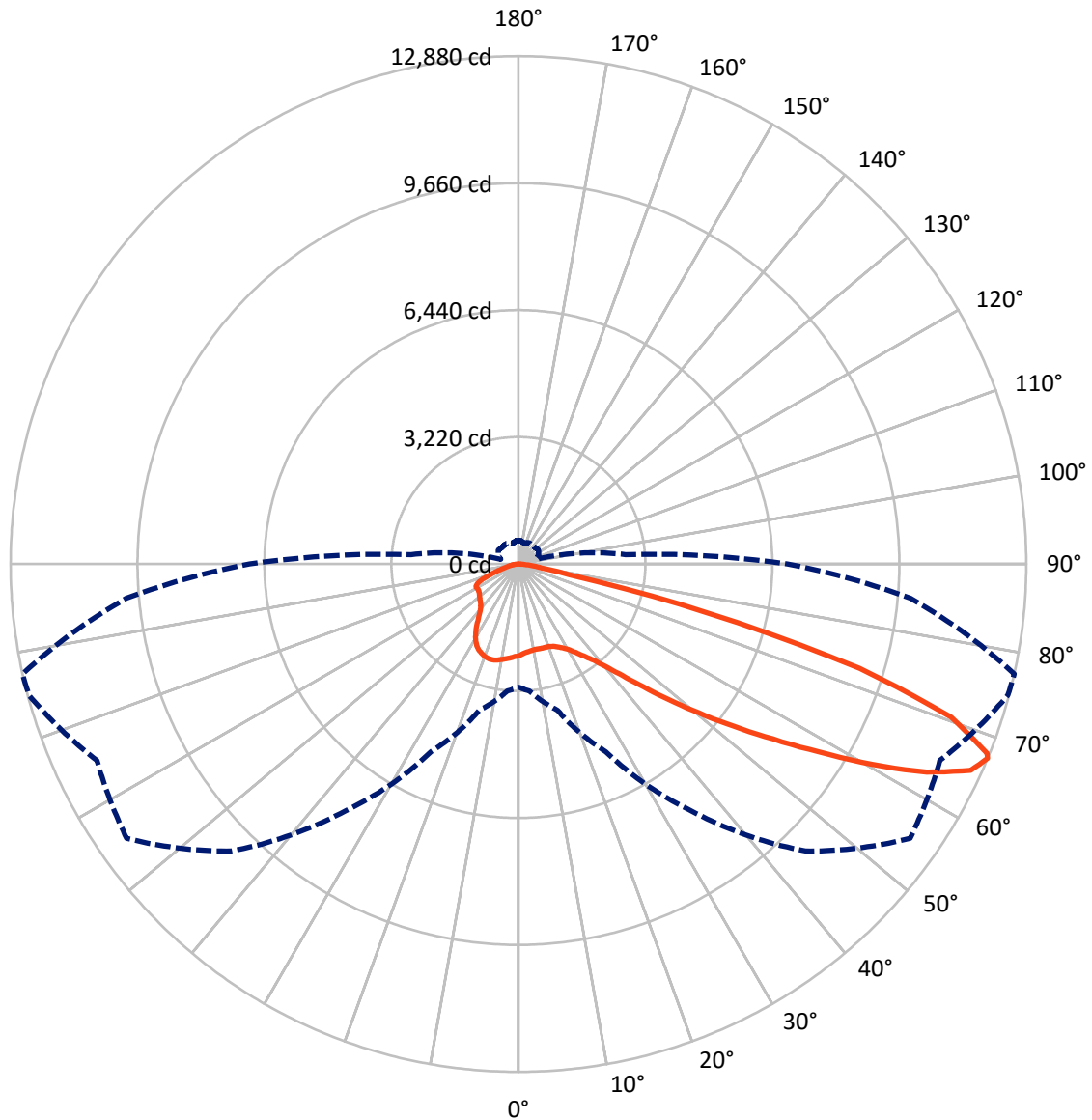
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.5 fc
 Type III - Medium - Full Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 77.5-Deg Lateral - - - Horizontal Cone Through 67-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2717.5	0.0	2717.5
	% Fixture	17.2	0.0	17.2
Street Side	Lumens	13095.6	0.0	13095.6
	% Fixture	82.8	0.0	82.8
Total	Lumens	15813.1	0.0	15813.1
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	207.3	1.3
10°-20°	574.0	3.6
20°-30°	975.3	6.2
30°-40°	1560.3	9.9
40°-50°	2402.1	15.2
50°-60°	3332.6	21.1
60°-70°	4445.5	28.1
70°-80°	2115.6	13.4
80°-90°	200.3	1.3
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°	15813.1	100.0
0°-180°	15813.1	100.0



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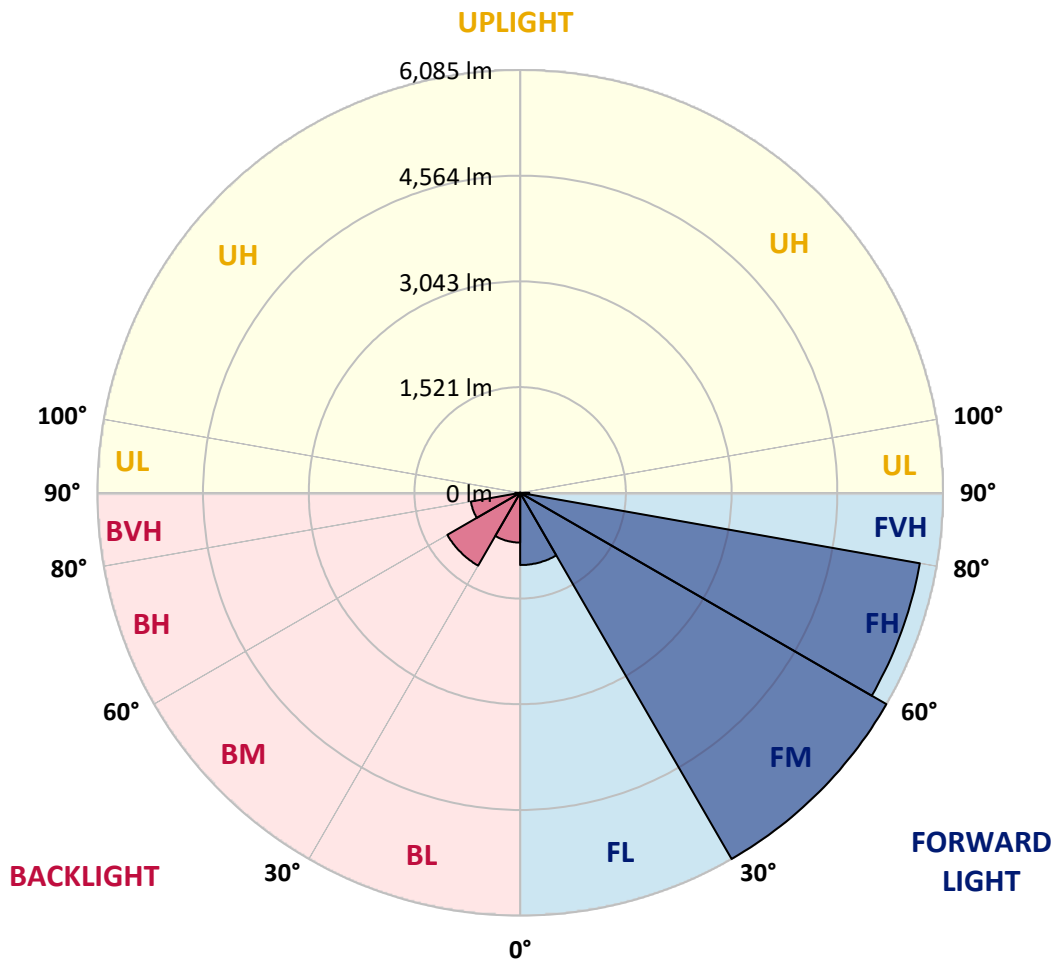
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1039.9	6.6			
FM (30°-60°)	6085.0	38.5			
FH (60°-80°)	5840.6	36.9			G3/7500
FVH (80°-90°)	130.1	0.8			G2/225
BL (0°-30°)	716.8	4.5	B2/1000		
BM (30°-60°)	1210.0	7.7	B2/2500		
BH (60°-80°)	720.5	4.6	B2/1000		G2/1000
BVH (80°-90°)	70.2	0.4			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 III Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	77.5°	85°
0°	2327.2	2327.2	2327.2	2327.2	2327.2	2327.2	2327.2	2327.2	2327.2	2327.2	2327.2
2.5°	2086.9	2096.5	2097.6	2125.9	2138.6	2170.9	2206.1	2237.3	2264.7	2274.4	2292.0
5°	1877.6	1877.6	1880.6	1899.2	1935.3	1987.1	2060.4	2140.6	2224.6	2245.2	2296.9
7.5°	1768.2	1770.1	1772.0	1790.6	1819.0	1864.9	1938.3	2047.7	2187.5	2221.7	2312.6
10°	1777.9	1775.0	1765.2	1761.4	1773.1	1802.3	1865.9	1978.3	2156.2	2209.0	2341.0
12.5°	1931.3	1925.5	1893.3	1846.4	1803.4	1792.6	1836.6	1943.1	2141.6	2209.0	2388.9
15°	2194.4	2198.3	2134.7	2036.9	1924.6	1848.3	1842.4	1930.4	2136.7	2214.9	2444.5
17.5°	2536.5	2538.4	2450.4	2308.6	2122.1	1964.6	1882.5	1930.4	2136.7	2220.7	2498.3
20°	2900.1	2886.4	2786.6	2608.8	2366.3	2125.9	1955.8	1942.2	2142.6	2229.6	2549.1
22.5°	3211.9	3199.1	3094.5	2907.8	2630.3	2316.6	2054.6	1981.3	2174.8	2265.7	2620.5
25°	3484.6	3492.4	3390.8	3180.5	2893.1	2531.5	2202.1	2071.2	2242.2	2331.1	2708.4
27.5°	3815.9	3801.2	3684.0	3483.6	3163.9	2754.4	2386.9	2184.5	2322.5	2410.4	2815.9
30°	4199.1	4192.2	4033.9	3827.7	3462.1	3003.6	2569.7	2306.8	2426.9	2518.9	2950.9
32.5°	4664.3	4663.3	4493.3	4240.2	3797.3	3285.2	2785.7	2473.8	2579.5	2672.3	3129.7
35°	5191.1	5190.2	5014.2	4680.0	4183.4	3597.0	3039.8	2677.2	2768.1	2865.9	3342.8
37.5°	5556.7	5550.8	5458.9	5134.4	4610.5	3959.5	3357.5	2950.9	2982.1	3091.6	3599.9
40°	5627.1	5662.3	5741.5	5549.9	5076.8	4362.2	3676.1	3245.1	3274.4	3415.1	3923.4
42.5°	5550.8	5596.8	5859.7	5913.4	5543.0	4850.0	4075.0	3652.6	3689.8	3864.8	4303.6
45°	5484.4	5524.4	5853.9	6114.8	6003.4	5381.8	4572.4	4150.2	4220.5	4437.6	4737.6
47.5°	5370.9	5408.2	5738.6	6151.0	6266.3	5893.9	5171.6	4748.4	4869.5	5132.6	5232.2
50°	5365.1	5381.8	5581.2	6029.8	6357.2	6283.0	5835.3	5448.2	5634.0	5936.9	5779.6
52.5°	5216.6	5332.8	5513.7	5836.3	6359.2	6509.6	6489.2	6215.5	6501.9	6837.1	6379.7
55°	4307.5	4441.5	5288.9	5741.5	6347.4	6704.2	7086.4	7031.7	7479.4	7832.1	7052.1
57.5°	4022.2	4078.8	4639.9	5769.8	6445.2	7025.8	7683.6	7908.4	8597.5	8982.6	7858.6
60°	3943.9	4003.6	4509.9	5783.5	6710.0	7611.3	8494.0	8898.5	9912.2	10320.7	8774.4
62.5°	3857.0	3934.2	4519.6	5796.2	7175.4	8477.3	9569.0	9972.7	11262.0	11626.6	9632.7
65°	3602.9	3705.4	4338.8	5716.0	7684.6	9564.2	10990.3	11092.9	12377.2	12608.9	10150.6
67°	3121.0	3233.3	3842.3	5252.7	7637.7	10296.3	12127.0	11793.8	12851.3	12879.7	9982.6
67.5°	2968.5	3084.8	3674.2	5060.3	7503.8	10392.0	12328.4	11890.4	12847.4	12816.1	9826.1
70°	1998.9	2129.8	2601.9	3715.3	6019.1	9671.7	12279.5	11592.4	12004.9	11646.2	8442.1
72.5°	992.1	996.0	1298.0	2035.1	3646.8	6936.9	10243.5	9917.0	9731.2	9054.0	6195.0
75°	478.0	486.7	612.8	899.2	1537.5	3581.3	6985.7	6691.5	5697.5	4933.2	3100.4
77.5°	364.6	373.3	476.1	585.5	641.3	1168.0	3460.1	2796.5	1650.9	1318.5	873.8
80°	281.5	298.2	401.7	449.6	424.3	468.1	1087.9	856.3	642.2	589.4	433.0
82.5°	219.9	229.7	341.1	341.1	293.3	313.8	506.3	494.6	398.8	359.7	232.6
85°	155.3	175.0	274.7	254.1	192.6	194.5	302.9	290.3	205.3	165.2	90.9
87.5°	69.4	88.9	195.5	166.2	102.6	79.2	124.1	106.5	81.2	62.6	42.1
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°	2327.2	2327.2	2327.2	2327.2	2327.2	2327.2	2327.2	2327.2	2327.2	2327.2	2327.2
2.5°	2311.6	2327.2	2351.7	2366.3	2385.9	2393.8	2401.5	2415.2	2426.0	2423.1	2418.1
5°	2333.1	2359.6	2389.8	2399.6	2399.6	2389.8	2383.9	2384.9	2382.0	2380.1	2374.2
7.5°	2364.4	2400.5	2422.1	2412.3	2382.0	2343.9	2307.8	2286.2	2265.7	2253.0	2256.9
10°	2408.4	2448.5	2449.5	2406.4	2334.1	2251.1	2179.7	2133.8	2089.8	2070.3	2076.0
12.5°	2471.9	2512.0	2477.8	2384.9	2257.9	2127.9	1996.9	1902.1	1817.1	1796.5	1790.6
15°	2540.4	2571.6	2495.4	2339.0	2148.4	1934.3	1714.4	1572.7	1477.8	1461.3	1455.5
17.5°	2600.0	2617.6	2486.6	2256.9	1975.4	1638.3	1382.1	1286.3	1266.8	1276.4	1276.4
20°	2652.7	2647.0	2448.5	2129.8	1702.7	1309.8	1161.2	1160.3	1186.5	1211.0	1213.0
22.5°	2719.3	2673.2	2387.9	1941.2	1377.2	1092.8	1067.4	1092.8	1122.1	1149.5	1152.3
25°	2798.3	2702.6	2306.8	1672.4	1107.5	992.1	1002.9	1024.3	1042.9	1064.4	1065.4
27.5°	2877.6	2725.0	2192.4	1356.7	960.8	927.6	939.3	948.2	953.0	966.7	966.7
30°	2969.4	2742.7	2027.2	1086.9	893.4	870.9	864.0	860.1	864.0	882.6	883.6
32.5°	3084.8	2774.0	1801.3	932.4	862.0	830.8	795.6	776.1	789.7	823.0	828.8
35°	3215.7	2811.1	1530.6	870.9	851.3	811.2	746.8	716.4	721.3	751.6	756.5
37.5°	3379.9	2859.0	1263.8	856.3	862.0	809.3	724.3	681.2	659.8	660.8	659.8
40°	3590.2	2906.9	1052.7	860.1	885.5	814.2	713.6	646.0	601.2	603.1	606.9
42.5°	3810.1	2938.2	918.8	871.9	914.0	821.1	709.6	611.9	572.7	606.1	636.3
45°	4067.0	2929.3	849.4	882.6	935.4	824.0	695.0	607.9	575.7	675.4	732.1
47.5°	4362.2	2891.2	810.2	887.5	941.3	823.0	684.2	620.7	600.2	773.1	837.7
50°	4682.9	2831.7	779.0	879.6	938.3	819.1	696.0	636.3	609.8	794.7	844.5
52.5°	5033.8	2777.0	746.8	862.0	923.7	807.3	710.6	629.5	582.6	732.1	770.2
55°	5449.2	2764.2	710.6	831.8	899.2	794.7	702.7	607.9	552.2	649.0	672.5
57.5°	5924.2	2843.4	663.6	794.7	866.0	769.3	684.2	596.2	541.5	590.3	603.1
60°	6527.2	3018.3	613.8	755.5	824.9	731.2	667.6	599.2	544.4	581.6	584.5
62.5°	6998.4	3175.7	568.9	707.7	770.2	685.2	650.0	602.1	553.2	593.3	588.4
65°	7169.5	3098.5	513.2	636.3	693.0	634.4	625.5	604.1	553.2	600.2	589.4
67°	6818.6	2730.0	460.4	565.0	619.7	589.4	602.1	596.2	543.4	599.2	580.6
67.5°	6651.4	2600.0	446.7	553.2	600.2	575.7	596.2	592.3	540.5	597.2	575.7
70°	5485.4	1864.9	377.3	464.3	502.4	507.3	560.1	566.9	517.1	561.0	521.9
72.5°	3902.8	1167.1	325.5	359.7	405.7	434.0	511.3	532.7	485.7	487.8	455.5
75°	1931.3	626.5	290.3	277.6	315.8	361.6	445.7	485.7	439.9	406.7	395.8
77.5°	651.9	354.8	245.3	223.9	245.3	290.3	369.6	424.3	388.1	344.0	337.2
80°	337.2	258.1	191.5	179.8	193.5	224.8	289.3	352.9	331.4	333.3	274.7
82.5°	210.1	157.4	137.7	136.8	146.6	172.0	213.0	286.4	284.4	243.4	176.9
85°	97.8	90.9	88.0	90.9	93.9	97.8	138.8	204.4	216.0	131.0	116.4
87.5°	41.1	40.1	35.2	38.1	42.1	41.1	55.7	87.0	121.2	82.1	75.3
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)