

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: P196329

Luminaire Tested: **NAV-AF-03-D-UNV-T3R-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196329
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-03-D-UNV-T3R-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 70 CRI, 4000K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III
ROADWAY OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 15227.6 lumens
Efficiency: N/A
Efficacy: 122.8 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')
IES Classification: Type III - Medium - Full 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

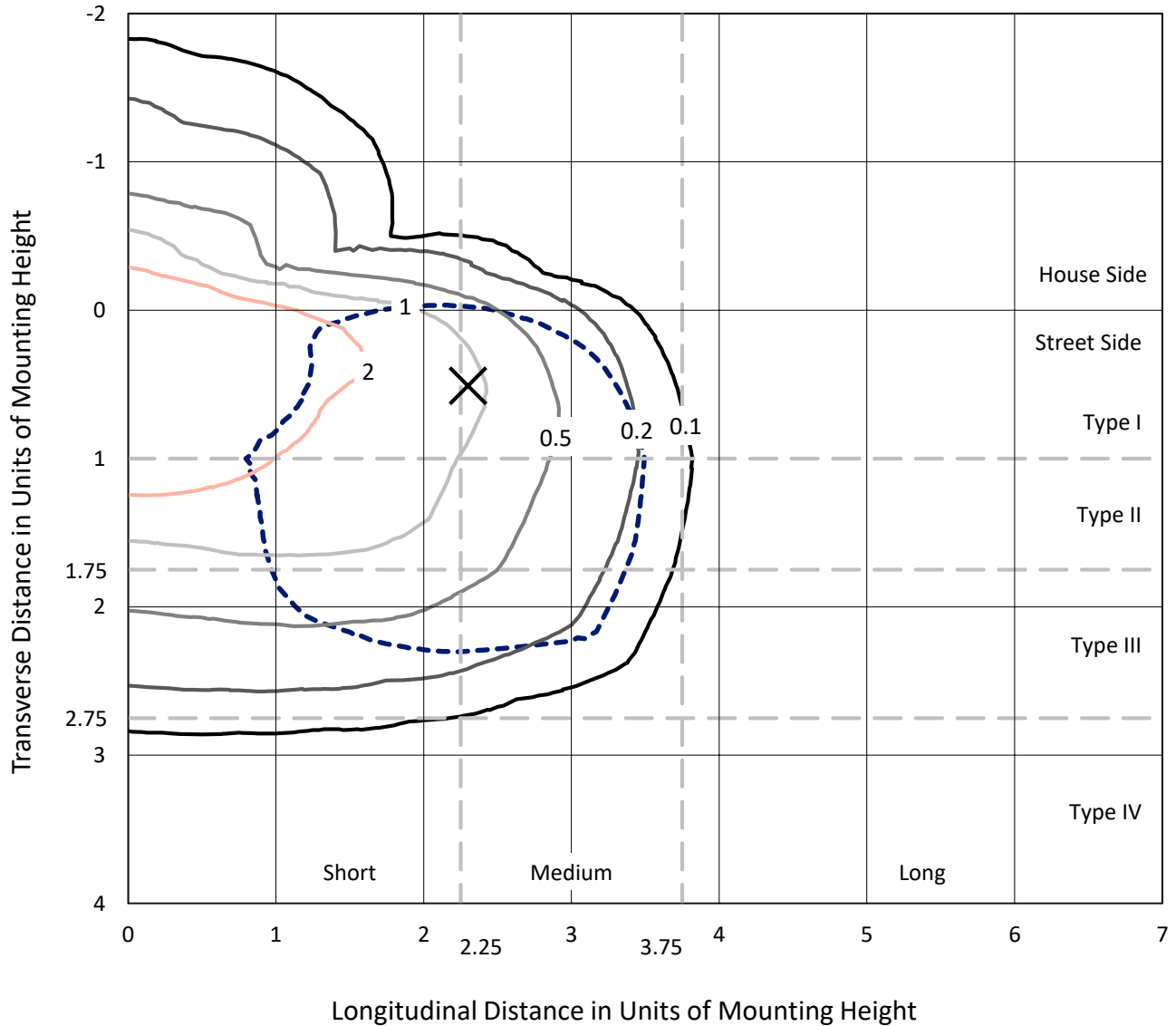


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Iso-Footcandle Lines of Horizontal Illumination

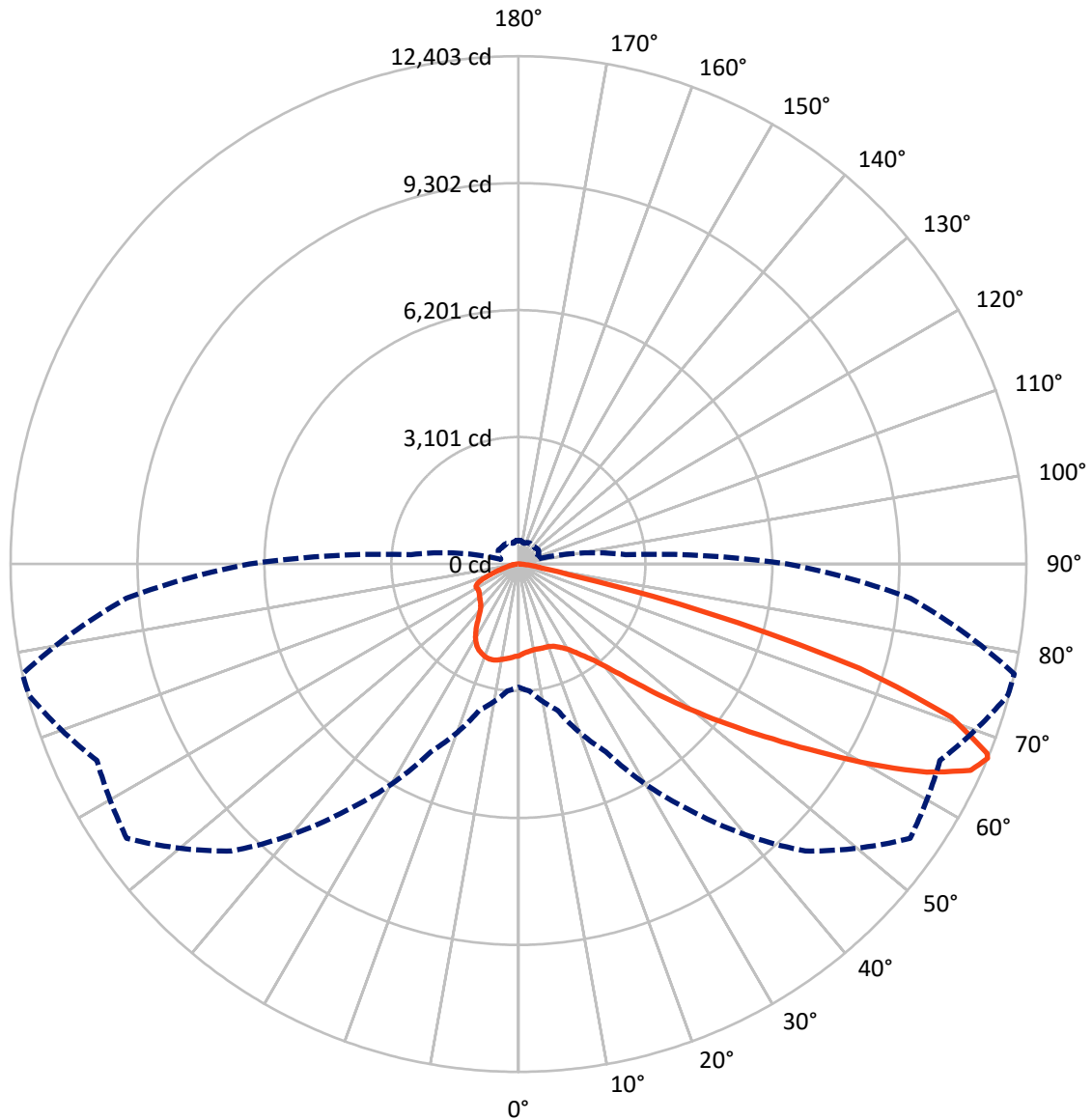
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.3 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	2616.9	0.0	2616.9
	% Fixture	17.2	0.0	17.2
Street Side	Lumens	12610.8	0.0	12610.8
	% Fixture	82.8	0.0	82.8
Total	Lumens	15227.6	0.0	15227.6
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	199.6	1.3
10°-20°	552.8	3.6
20°-30°	939.2	6.2
30°-40°	1502.5	9.9
40°-50°	2313.1	15.2
50°-60°	3209.3	21.1
60°-70°	4280.9	28.1
70°-80°	2037.3	13.4
80°-90°	192.9	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°	15227.6	100.0
0°-180°	15227.6	100.0



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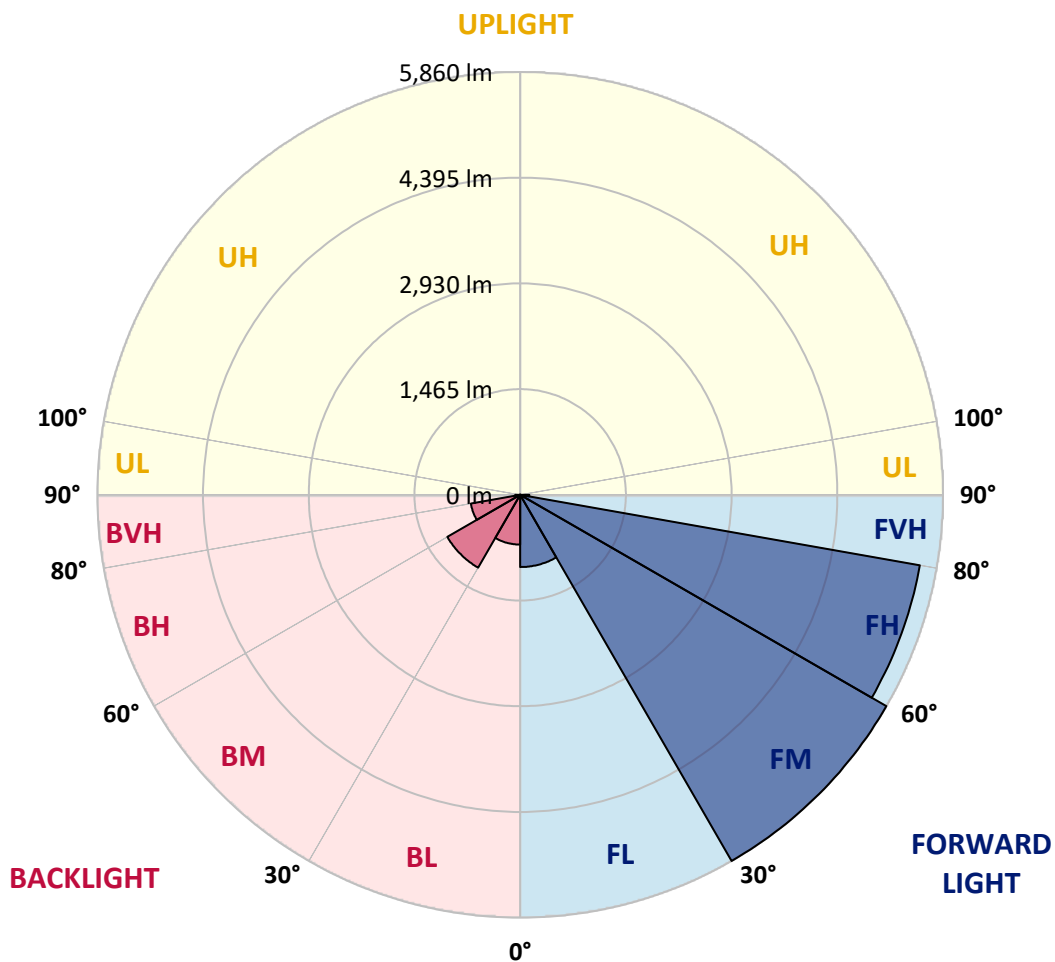
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1001.4	6.6			
FM	(30°-60°)	5859.7	38.5			
FH	(60°-80°)	5624.4	36.9			G3/7500
FVH	(80°-90°)	125.3	0.8			G2/225
BL	(0°-30°)	690.2	4.5	B2/1000		
BM	(30°-60°)	1165.2	7.7	B2/2500		
BH	(60°-80°)	693.9	4.6	B2/1000		G2/1000
BVH	(80°-90°)	67.6	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°	2241.1	2241.1	2241.1	2241.1	2241.1	2241.1	2241.1	2241.1	2241.1	2241.1	2241.1
2.5°	2009.6	2019.0	2019.9	2047.2	2059.4	2090.5	2124.4	2154.5	2180.8	2190.2	2207.2
5°	1808.2	1808.2	1810.9	1828.8	1863.7	1913.5	1984.1	2061.3	2142.3	2162.0	2211.9
7.5°	1702.7	1704.6	1706.5	1724.4	1751.7	1795.9	1866.5	1971.9	2106.5	2139.5	2227.0
10°	1712.1	1709.4	1699.9	1696.2	1707.4	1735.6	1796.8	1905.0	2076.4	2127.2	2254.3
12.5°	1859.9	1854.3	1823.2	1778.0	1736.6	1726.2	1768.6	1871.2	2062.3	2127.2	2300.4
15°	2113.1	2116.9	2055.7	1961.5	1853.3	1779.9	1774.2	1859.0	2057.6	2132.9	2354.0
17.5°	2442.5	2444.4	2359.7	2223.2	2043.4	1891.9	1812.9	1859.0	2057.6	2138.5	2405.9
20°	2792.7	2779.5	2683.5	2512.2	2278.7	2047.2	1883.5	1870.3	2063.2	2147.0	2454.8
22.5°	3092.9	3080.7	2980.0	2800.2	2532.9	2230.7	1978.5	1907.9	2094.3	2181.9	2523.5
25°	3355.6	3363.1	3265.2	3062.8	2786.1	2437.8	2120.7	1994.5	2159.2	2244.9	2608.2
27.5°	3674.6	3660.5	3547.6	3354.6	3046.9	2652.4	2298.6	2103.7	2236.4	2321.1	2711.7
30°	4043.6	4037.0	3884.6	3685.9	3333.9	2892.5	2474.5	2221.3	2337.1	2425.6	2841.7
32.5°	4491.7	4490.7	4326.9	4083.1	3656.7	3163.6	2682.6	2382.2	2483.9	2573.3	3013.9
35°	4999.0	4998.0	4828.6	4506.7	4028.6	3463.8	2927.3	2578.0	2665.6	2759.7	3219.0
37.5°	5351.0	5345.3	5256.8	4944.3	4439.9	3812.9	3233.1	2841.7	2871.7	2977.2	3466.6
40°	5418.8	5452.6	5528.8	5344.4	4888.9	4200.7	3540.0	3124.9	3153.1	3288.7	3778.2
42.5°	5345.3	5389.6	5642.8	5694.6	5337.9	4670.5	3924.0	3517.4	3553.2	3721.7	4144.3
45°	5281.3	5320.0	5637.2	5888.4	5781.1	5182.5	4403.2	3996.6	4064.3	4273.3	4562.3
47.5°	5172.1	5207.9	5526.1	5923.3	6034.3	5675.7	4980.1	4572.6	4689.3	4942.5	5038.5
50°	5166.5	5182.5	5374.5	5806.6	6121.8	6050.3	5619.3	5246.5	5425.3	5717.2	5565.6
52.5°	5023.4	5135.4	5309.5	5620.2	6123.8	6268.7	6248.9	5985.4	6261.2	6584.0	6143.5
55°	4148.1	4277.1	5093.1	5528.8	6112.4	6456.0	6824.0	6771.3	7202.4	7542.2	6791.1
57.5°	3873.2	3927.8	4468.1	5556.2	6206.5	6765.7	7399.1	7615.7	8279.3	8650.1	7567.6
60°	3797.9	3855.3	4342.9	5569.4	6461.7	7329.4	8179.4	8569.2	9545.2	9938.6	8449.6
62.5°	3714.1	3788.5	4352.3	5581.6	6909.7	8163.5	9214.8	9603.6	10845.0	11196.1	9276.0
65°	3469.4	3568.3	4178.2	5504.4	7400.1	9210.1	10583.3	10682.2	11919.0	12142.1	9774.8
67°	3005.4	3113.7	3700.0	5058.3	7354.9	9915.1	11678.0	11357.1	12375.6	12402.8	9613.0
67.5°	2858.5	2970.5	3538.2	4872.8	7225.9	10007.3	11872.0	11450.3	12371.8	12341.6	9462.4
70°	1924.9	2051.0	2505.6	3577.7	5796.2	9313.7	11824.9	11163.2	11560.4	11214.9	8129.6
72.5°	955.3	959.1	1249.9	1959.7	3511.8	6680.1	9864.3	9549.9	9371.0	8718.8	5965.6
75°	460.2	468.7	590.1	865.9	1480.6	3448.8	6727.1	6443.8	5486.5	4750.5	2985.7
77.5°	351.1	359.6	458.4	563.9	617.5	1124.8	3332.1	2692.9	1589.8	1269.8	841.5
80°	271.1	287.0	386.9	433.0	408.5	450.8	1047.6	824.5	618.4	567.5	417.0
82.5°	211.8	221.2	328.5	328.5	282.3	302.2	487.5	476.3	384.0	346.4	224.0
85°	149.7	168.5	264.5	244.7	185.5	187.3	291.7	279.6	197.6	159.1	87.6
87.5°	66.8	85.6	188.2	160.0	98.8	76.2	119.6	102.6	78.2	60.3	40.5
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°	2241.1	2241.1	2241.1	2241.1	2241.1	2241.1	2241.1	2241.1	2241.1	2241.1	2241.1
2.5°	2226.0	2241.1	2264.6	2278.7	2297.5	2305.1	2312.7	2325.8	2336.2	2333.4	2328.6
5°	2246.7	2272.2	2301.3	2310.7	2310.7	2301.3	2295.7	2296.6	2293.9	2291.9	2286.3
7.5°	2276.9	2311.7	2332.4	2323.0	2293.9	2257.1	2222.3	2201.6	2181.9	2169.6	2173.4
10°	2319.2	2357.8	2358.7	2317.4	2247.7	2167.7	2099.0	2054.7	2012.3	1993.5	1999.3
12.5°	2380.4	2419.0	2386.0	2296.6	2174.3	2049.1	1922.9	1831.7	1749.8	1730.0	1724.4
15°	2446.3	2476.5	2403.0	2252.4	2068.8	1862.7	1650.9	1514.5	1423.1	1407.2	1401.5
17.5°	2503.7	2520.7	2394.5	2173.4	1902.3	1577.5	1331.0	1238.7	1219.9	1229.3	1229.3
20°	2554.5	2548.9	2357.8	2051.0	1639.7	1261.3	1118.2	1117.3	1142.6	1166.2	1168.1
22.5°	2618.5	2574.4	2299.5	1869.3	1326.3	1052.3	1027.9	1052.3	1080.5	1106.9	1109.7
25°	2694.8	2602.6	2221.3	1610.4	1066.4	955.3	965.8	986.4	1004.3	1025.0	1025.9
27.5°	2771.1	2624.2	2111.3	1306.4	925.3	893.2	904.5	913.0	917.7	930.9	930.9
30°	2859.6	2641.2	1952.1	1046.7	860.3	838.6	832.1	828.3	832.1	850.0	850.9
32.5°	2970.5	2671.2	1734.7	897.9	830.2	800.0	766.2	747.4	760.6	792.5	798.2
35°	3096.7	2707.0	1474.0	838.6	819.8	781.2	719.1	690.0	694.7	723.8	728.5
37.5°	3254.8	2753.2	1217.0	824.5	830.2	779.4	697.4	656.0	635.4	636.3	635.4
40°	3457.2	2799.3	1013.7	828.3	852.7	784.1	687.1	622.2	578.9	580.7	584.5
42.5°	3669.0	2829.4	884.8	839.6	880.0	790.6	683.3	589.2	551.6	583.6	612.7
45°	3916.6	2820.9	818.0	850.0	900.8	793.5	669.2	585.4	554.4	650.4	705.0
47.5°	4200.7	2784.2	780.3	854.7	906.4	792.5	658.9	597.7	578.0	744.5	806.7
50°	4509.5	2726.8	750.1	847.1	903.6	788.8	670.1	612.7	587.4	765.3	813.2
52.5°	4847.5	2674.1	719.1	830.2	889.5	777.4	684.3	606.2	561.0	705.0	741.7
55°	5247.4	2661.8	684.3	801.0	865.9	765.3	676.8	585.4	531.8	625.0	647.5
57.5°	5704.9	2738.1	639.1	765.3	833.9	740.7	658.9	574.2	521.5	568.6	580.7
60°	6285.6	2906.6	591.1	727.6	794.4	704.1	642.8	576.9	524.3	560.1	562.8
62.5°	6739.3	3058.1	547.8	681.5	741.7	659.8	625.9	579.8	532.8	571.3	566.6
65°	6904.0	2983.7	494.2	612.7	667.4	610.9	602.4	581.6	532.8	578.0	567.5
67°	6566.1	2628.9	443.3	544.0	596.8	567.5	579.8	574.2	523.3	576.9	559.1
67.5°	6405.2	2503.7	430.2	532.8	578.0	554.4	574.2	570.4	520.5	575.1	554.4
70°	5282.3	1795.9	363.4	447.1	483.8	488.5	539.3	545.9	497.9	540.3	502.6
72.5°	3758.4	1123.8	313.4	346.4	390.7	417.9	492.2	513.0	467.8	469.6	438.6
75°	1859.9	603.3	279.6	267.3	304.0	348.2	429.2	467.8	423.6	391.6	381.3
77.5°	627.8	341.7	236.3	215.5	236.3	279.6	355.8	408.5	373.7	331.3	324.7
80°	324.7	248.5	184.4	173.2	186.4	216.5	278.7	339.8	319.1	321.0	264.5
82.5°	202.3	151.5	132.7	131.8	141.2	165.6	205.2	275.8	273.9	234.4	170.3
85°	94.1	87.6	84.7	87.6	90.3	94.1	133.7	196.7	208.0	126.1	112.0
87.5°	39.5	38.6	33.9	36.7	40.5	39.5	53.6	83.8	116.7	79.1	72.4
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)