

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: P197295

Luminaire Tested: **NAV-AF-03-D-UNV-T3R-8030**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P197295
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-8030
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 80 CRI, 3000K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III
ROADWAY OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 15034 lumens
Efficiency: N/A
Efficacy: 90.6 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

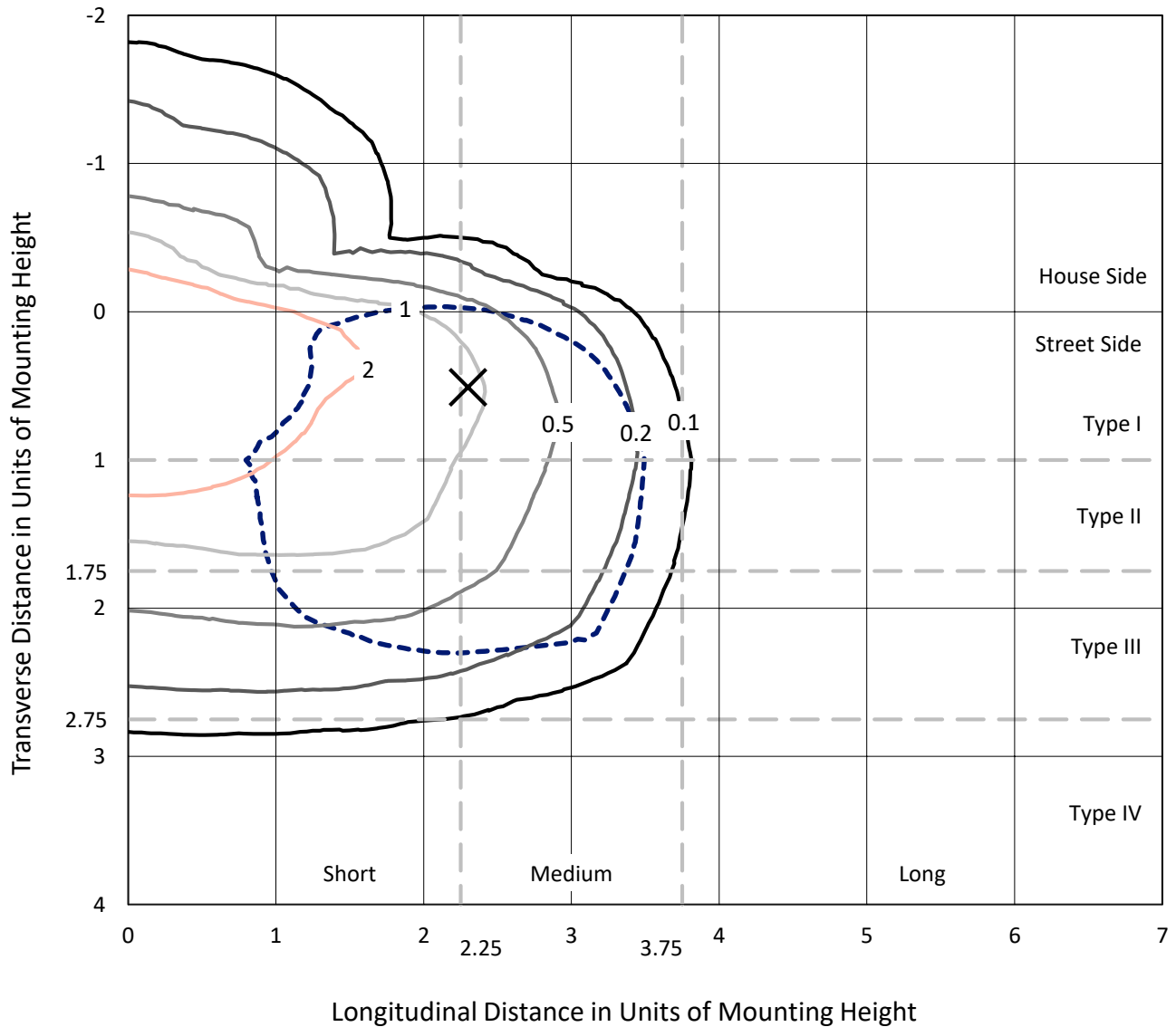
Input Watts (W): 166
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

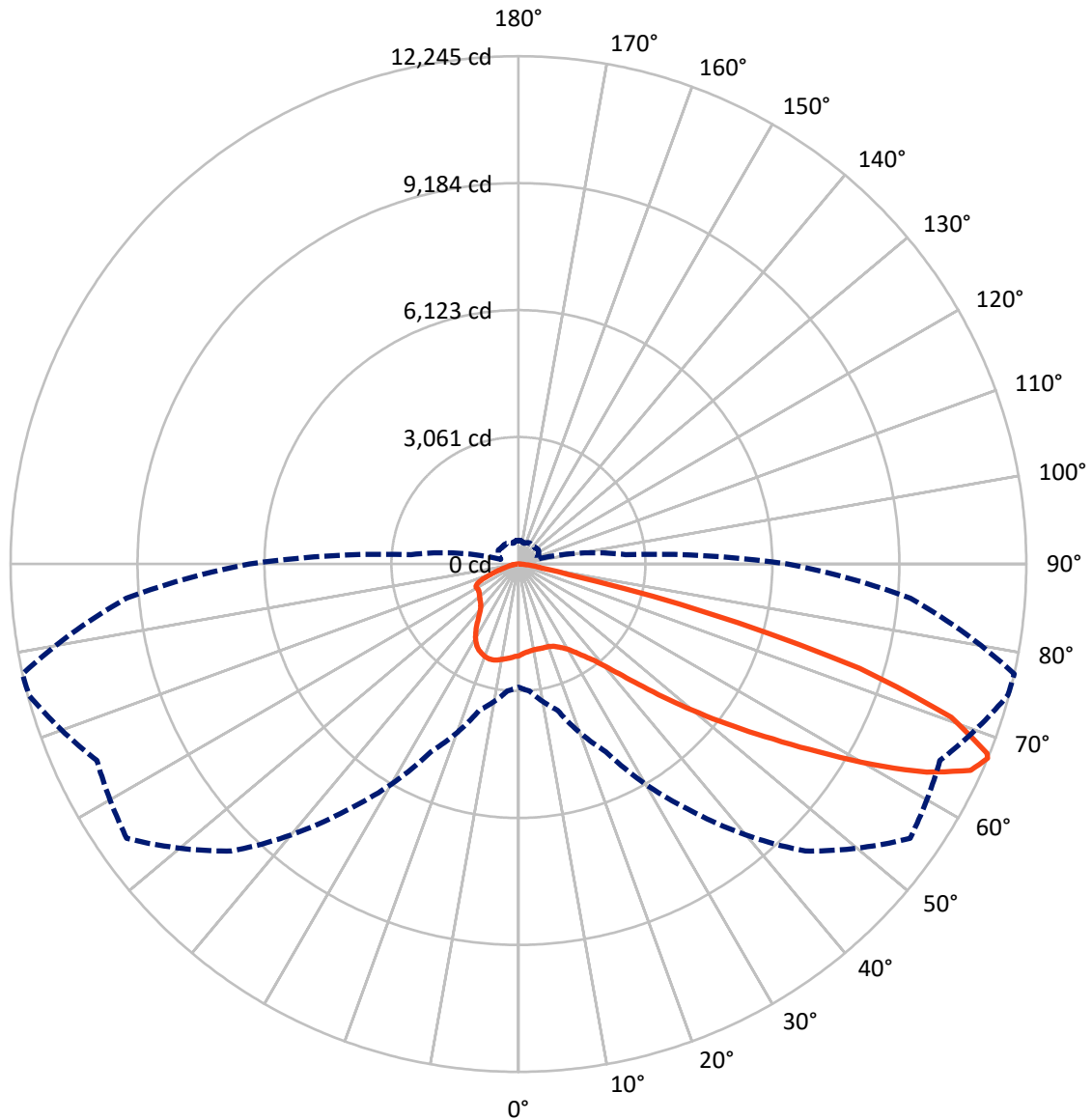
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 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	2583.6	0.0	2583.6
	% Fixture	17.2	0.0	17.2
Street Side	Lumens	12450.4	0.0	12450.4
	% Fixture	82.8	0.0	82.8
Total	Lumens	15034.0	0.0	15034.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	197.1	1.3
10°-20°	545.7	3.6
20°-30°	927.3	6.2
30°-40°	1483.4	9.9
40°-50°	2283.7	15.2
50°-60°	3168.4	21.1
60°-70°	4226.5	28.1
70°-80°	2011.4	13.4
80°-90°	190.4	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°	15034.0	100.0
0°-180°	15034.0	100.0



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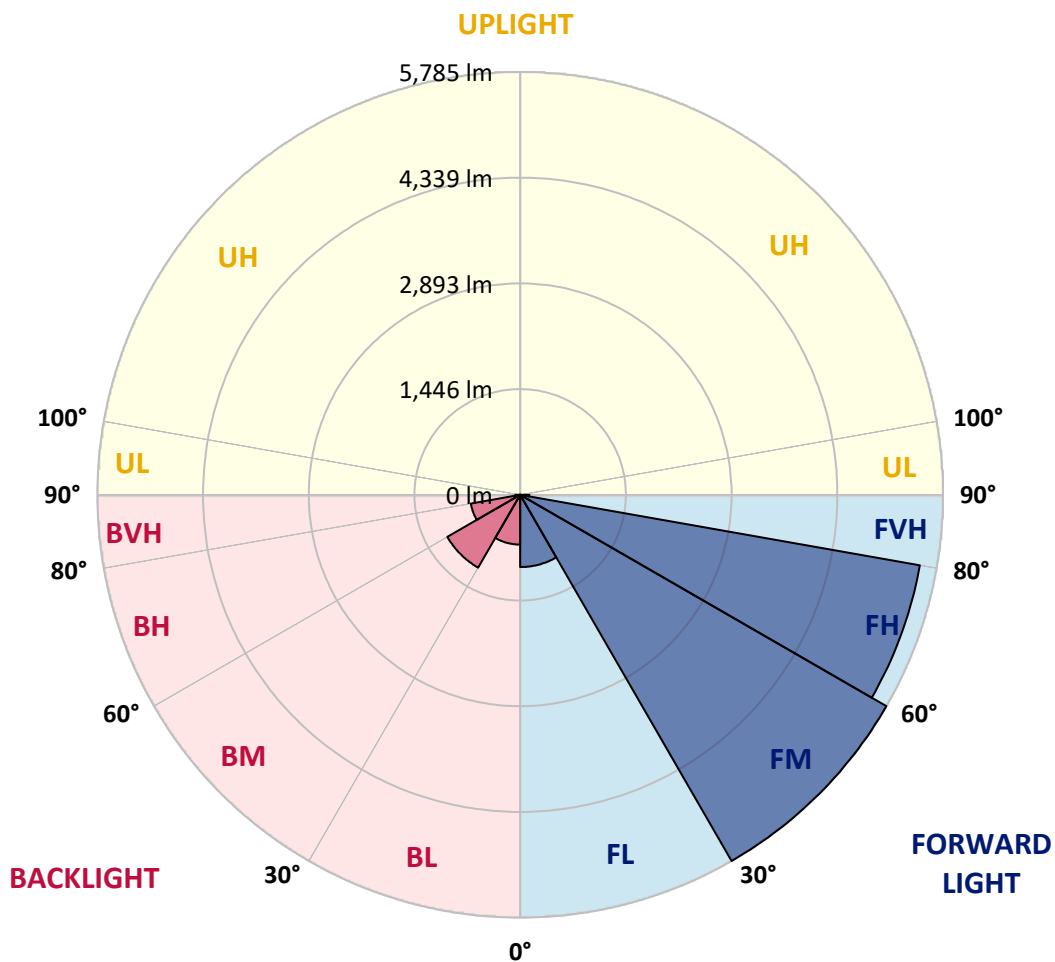
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	988.6	6.6			
FM	(30°-60°)	5785.2	38.5			
FH	(60°-80°)	5552.9	36.9			G3/7500
FVH	(80°-90°)	123.7	0.8			G2/225
BL	(0°-30°)	681.4	4.5	B2/1000		
BM	(30°-60°)	1150.4	7.7	B2/2500		
BH	(60°-80°)	685.0	4.6	B2/1000		G2/1000
BVH	(80°-90°)	66.8	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°	2212.6	2212.6	2212.6	2212.6	2212.6	2212.6	2212.6	2212.6	2212.6	2212.6	2212.6
2.5°	1984.0	1993.3	1994.2	2021.2	2033.3	2063.9	2097.4	2127.1	2153.1	2162.4	2179.2
5°	1785.1	1785.1	1787.9	1805.6	1840.0	1889.2	1958.9	2035.1	2115.0	2134.6	2183.8
7.5°	1681.1	1682.9	1684.8	1702.4	1729.4	1773.1	1842.8	1946.8	2079.7	2112.2	2198.7
10°	1690.4	1687.6	1678.3	1674.6	1685.7	1713.6	1774.0	1880.9	2050.0	2100.2	2225.6
12.5°	1836.3	1830.7	1800.0	1755.4	1714.5	1704.3	1746.1	1847.4	2036.0	2100.2	2271.2
15°	2086.2	2089.9	2029.5	1936.6	1829.7	1757.3	1751.7	1835.3	2031.4	2105.7	2324.1
17.5°	2411.5	2413.3	2329.7	2195.0	2017.5	1867.8	1789.8	1835.3	2031.4	2111.3	2375.2
20°	2757.2	2744.2	2649.4	2480.2	2249.8	2021.2	1859.5	1846.5	2037.0	2119.7	2423.6
22.5°	3053.6	3041.5	2942.1	2764.6	2500.7	2202.4	1953.3	1883.6	2067.6	2154.1	2491.4
25°	3312.9	3320.3	3223.7	3023.9	2750.7	2406.8	2093.7	1969.1	2131.8	2216.3	2575.0
27.5°	3627.9	3614.0	3502.4	3311.9	3008.1	2618.7	2269.3	2076.9	2208.0	2291.6	2677.2
30°	3992.2	3985.7	3835.1	3639.1	3291.5	2855.7	2443.1	2193.1	2307.4	2394.7	2805.5
32.5°	4434.5	4433.6	4271.9	4031.2	3610.2	3123.3	2648.4	2352.0	2452.4	2540.6	2975.5
35°	4935.4	4934.5	4767.2	4449.4	3977.3	3419.7	2890.1	2545.3	2631.7	2724.6	3178.1
37.5°	5282.9	5277.4	5190.0	4881.5	4383.4	3764.5	3192.1	2805.5	2835.2	2939.3	3422.5
40°	5349.9	5383.3	5458.6	5276.4	4826.7	4147.4	3495.0	3085.2	3113.1	3246.9	3730.1
42.5°	5277.4	5321.0	5571.0	5622.1	5269.9	4611.1	3874.2	3472.7	3508.0	3674.4	4091.6
45°	5214.2	5252.3	5565.4	5813.6	5707.6	5116.6	4347.2	3945.7	4012.6	4218.9	4504.2
47.5°	5106.4	5141.7	5455.8	5847.9	5957.6	5603.5	4916.8	4514.4	4629.7	4879.6	4974.4
50°	5100.8	5116.6	5306.2	5732.7	6044.0	5973.4	5547.8	5179.8	5356.4	5644.4	5494.8
52.5°	4959.6	5070.1	5242.1	5548.7	6045.9	6189.0	6169.5	5909.3	6181.6	6500.3	6065.4
55°	4095.3	4222.6	5028.3	5458.6	6034.7	6373.9	6737.3	6685.2	7110.8	7446.3	6704.7
57.5°	3824.0	3877.9	4411.3	5485.5	6127.7	6679.6	7305.1	7518.8	8173.9	8540.1	7471.4
60°	3749.6	3806.3	4287.7	5498.5	6379.5	7236.3	8075.4	8460.1	9423.8	9812.2	8342.1
62.5°	3666.9	3740.3	4297.0	5510.6	6821.8	8059.6	9097.6	9481.4	10707.1	11053.8	9158.0
65°	3425.3	3522.9	4125.1	5434.4	7306.0	9093.0	10448.8	10546.4	11767.4	11987.7	9650.5
67°	2967.2	3074.1	3653.0	4993.9	7261.4	9789.0	11529.5	11212.7	12218.1	12245.1	9490.7
67.5°	2822.2	2932.8	3493.2	4810.9	7134.1	9880.1	11721.0	11304.7	12214.4	12184.7	9342.0
70°	1900.4	2024.9	2473.7	3532.2	5722.5	9195.2	11674.5	11021.2	11413.4	11072.3	8026.2
72.5°	943.2	946.9	1234.1	1934.8	3467.1	6595.1	9738.8	9428.4	9251.9	8607.9	5889.8
75°	454.4	462.8	582.7	854.9	1461.8	3404.9	6641.5	6361.8	5416.8	4690.1	2947.7
77.5°	346.6	355.0	452.6	556.6	609.6	1110.5	3289.6	2658.7	1569.5	1253.6	830.8
80°	267.6	283.4	381.9	427.5	403.3	445.1	1034.3	814.0	610.5	560.4	411.7
82.5°	209.1	218.4	324.3	324.3	278.8	298.3	481.4	470.2	379.1	342.0	221.2
85°	147.8	166.3	261.1	241.6	183.1	184.9	288.1	276.0	195.1	157.0	86.4
87.5°	66.0	84.6	185.9	158.0	97.6	75.3	118.0	101.3	77.1	59.5	40.0
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°	2212.6	2212.6	2212.6	2212.6	2212.6	2212.6	2212.6	2212.6	2212.6	2212.6	2212.6
2.5°	2197.7	2212.6	2235.8	2249.8	2268.4	2275.8	2283.2	2296.2	2306.5	2303.7	2299.0
5°	2218.2	2243.3	2272.1	2281.4	2281.4	2272.1	2266.5	2267.4	2264.6	2262.8	2257.2
7.5°	2247.9	2282.3	2302.7	2293.5	2264.6	2228.4	2194.0	2173.6	2154.1	2142.0	2145.7
10°	2289.7	2327.8	2328.8	2287.9	2219.1	2140.1	2072.3	2028.6	1986.8	1968.2	1973.8
12.5°	2350.1	2388.2	2355.7	2267.4	2146.6	2023.0	1898.5	1808.4	1727.5	1708.0	1702.4
15°	2415.2	2444.9	2372.4	2223.8	2042.6	1839.0	1630.0	1495.2	1405.1	1389.3	1383.7
17.5°	2471.9	2488.6	2364.1	2145.7	1878.1	1557.5	1314.0	1222.9	1204.3	1213.6	1213.6
20°	2522.1	2516.5	2327.8	2024.9	1618.8	1245.2	1104.0	1103.1	1128.1	1151.4	1153.2
22.5°	2585.3	2541.6	2270.2	1845.5	1309.4	1038.9	1014.8	1038.9	1066.8	1092.8	1095.6
25°	2660.5	2569.5	2193.1	1590.0	1052.9	943.2	953.4	973.9	991.5	1012.0	1012.9
27.5°	2735.8	2590.8	2084.4	1289.8	913.5	881.9	893.0	901.4	906.0	919.1	919.1
30°	2823.1	2607.6	1927.3	1033.4	849.4	828.0	821.5	817.8	821.5	839.1	840.1
32.5°	2932.8	2637.3	1712.7	886.5	819.6	789.9	756.4	737.8	750.9	782.5	788.0
35°	3057.3	2672.6	1455.2	828.0	809.4	771.3	710.0	681.2	685.8	714.6	719.3
37.5°	3213.4	2718.1	1201.6	814.0	819.6	769.4	688.6	647.7	627.3	628.2	627.3
40°	3413.2	2763.7	1000.8	817.8	841.9	774.1	678.4	614.3	571.5	573.4	577.1
42.5°	3622.3	2793.4	873.5	828.9	868.9	780.6	674.7	581.7	544.6	576.2	605.0
45°	3866.7	2785.0	807.5	839.1	889.3	783.4	660.7	578.0	547.3	642.1	696.0
47.5°	4147.4	2748.8	770.4	843.8	894.9	782.5	650.5	590.1	570.6	735.1	796.4
50°	4452.2	2692.1	740.6	836.3	892.1	778.7	661.6	605.0	579.9	755.5	802.9
52.5°	4785.8	2640.1	710.0	819.6	878.2	767.6	675.6	598.5	553.8	696.0	732.3
55°	5180.7	2628.0	675.6	790.8	854.9	755.5	668.2	578.0	525.0	617.0	639.3
57.5°	5632.4	2703.3	631.0	755.5	823.3	731.3	650.5	566.9	514.8	561.3	573.4
60°	6205.7	2869.6	583.6	718.3	784.3	695.1	634.7	569.6	517.6	552.9	555.7
62.5°	6653.6	3019.2	540.8	672.8	732.3	651.4	618.0	572.4	526.0	564.1	559.4
65°	6816.3	2945.8	487.9	605.0	658.9	603.1	594.7	574.3	526.0	570.6	560.4
67°	6482.6	2595.5	437.7	537.1	589.2	560.4	572.4	566.9	516.7	569.6	552.0
67.5°	6323.7	2471.9	424.7	526.0	570.6	547.3	566.9	563.1	513.9	567.8	547.3
70°	5215.1	1773.1	358.7	441.4	477.6	482.3	532.5	539.0	491.6	533.4	496.2
72.5°	3710.6	1109.6	309.4	342.0	385.7	412.6	486.0	506.5	461.9	463.7	433.0
75°	1836.3	595.7	276.0	263.9	300.2	343.8	423.8	461.9	418.2	386.6	376.4
77.5°	619.8	337.3	233.2	212.8	233.2	276.0	351.3	403.3	368.9	327.1	320.6
80°	320.6	245.3	182.1	171.0	184.0	213.7	275.1	335.5	315.0	316.9	261.1
82.5°	199.8	149.6	131.0	130.1	139.4	163.6	202.6	272.3	270.4	231.4	168.2
85°	92.9	86.4	83.6	86.4	89.2	92.9	132.0	194.2	205.4	124.5	110.6
87.5°	39.0	38.1	33.5	36.2	40.0	39.0	53.0	82.7	115.2	78.1	71.6
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)