

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: P195873

Luminaire Tested: **NAV-AF-03-D-UNV-T4FT-7050-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195873
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24256)
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-T4FT-7050-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 70 CRI, 5000K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV FORWARD THROW OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 14751 lumens
Efficiency: N/A
Efficacy: 119.0 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B2 - U0 - G3

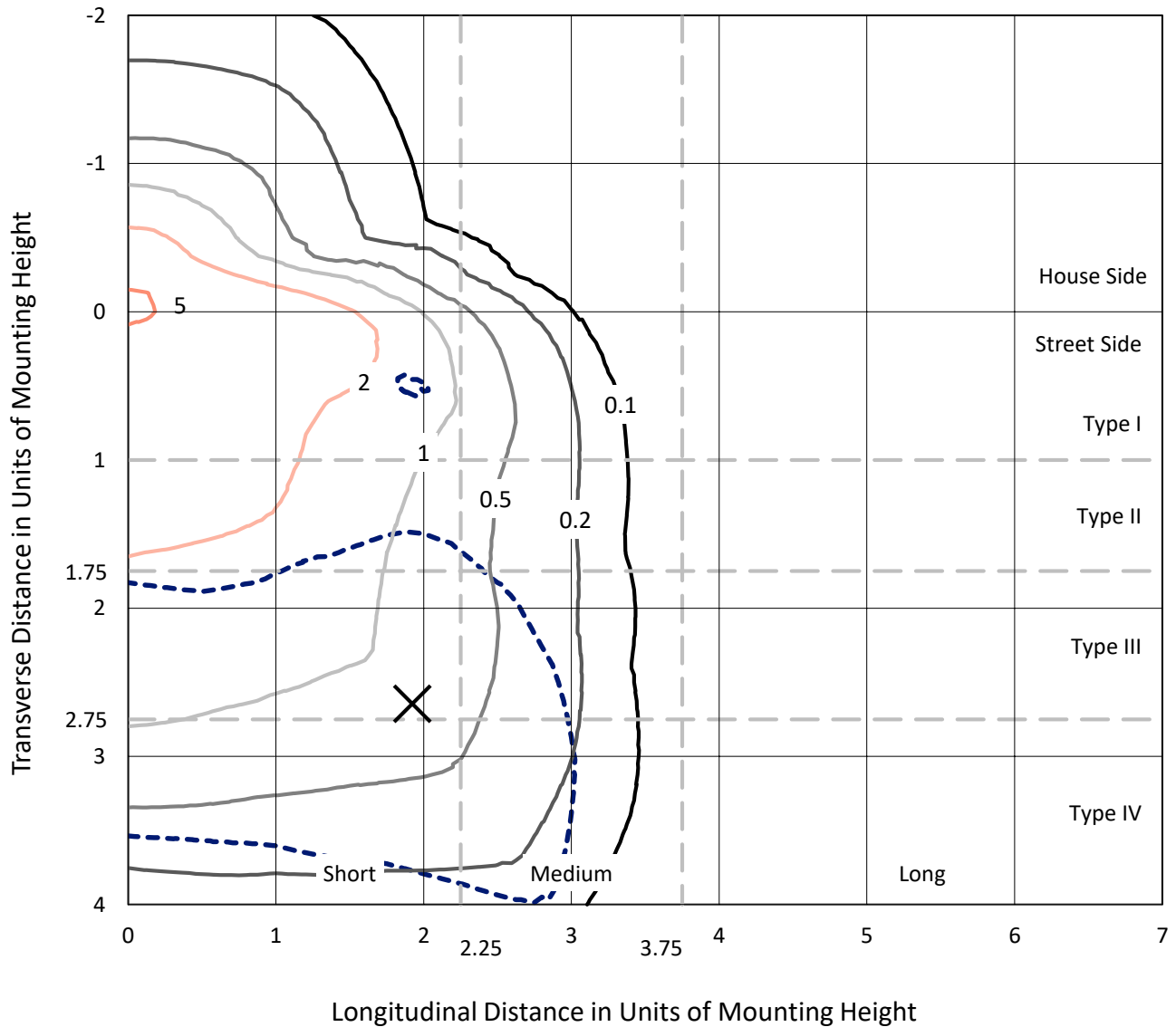
Input Watts (W): 124
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

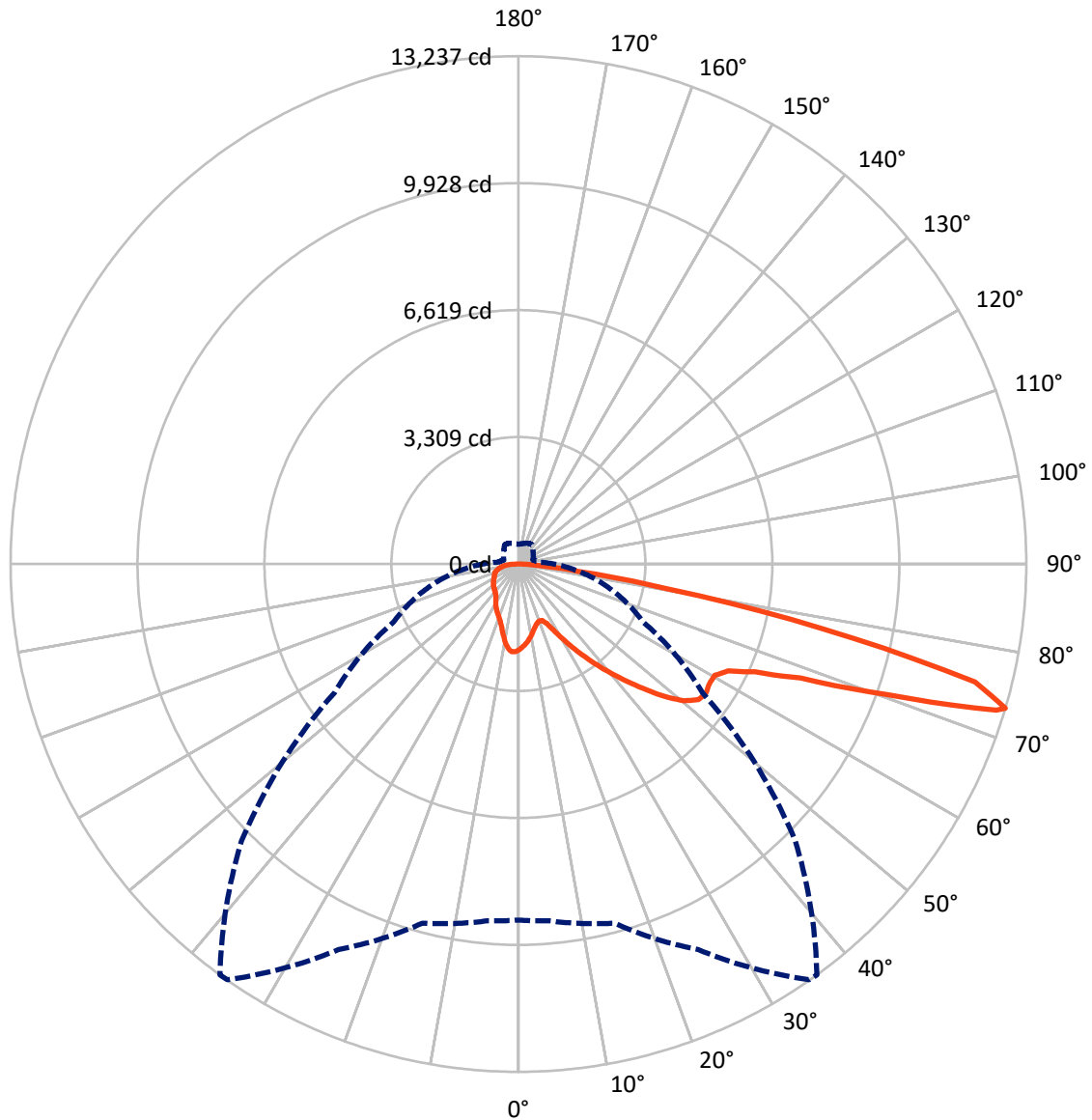
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 5.6 fc
 Type IV - Short - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 36-Deg Lateral - - - Horizontal Cone Through 73-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2844.4	0.0	2844.4
	% Fixture	19.3	0.0	19.3
Street Side	Lumens	11906.6	0.0	11906.6
	% Fixture	80.7	0.0	80.7
Total	Lumens	14751.0	0.0	14751.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	202.9	1.4
10°-20°	509.7	3.5
20°-30°	817.2	5.5
30°-40°	1351.7	9.2
40°-50°	2091.6	14.2
50°-60°	2800.0	19.0
60°-70°	3657.7	24.8
70°-80°	2987.7	20.3
80°-90°	332.6	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°	14751.0	100.0
0°-180°	14751.0	100.0

Coefficient of Utilization



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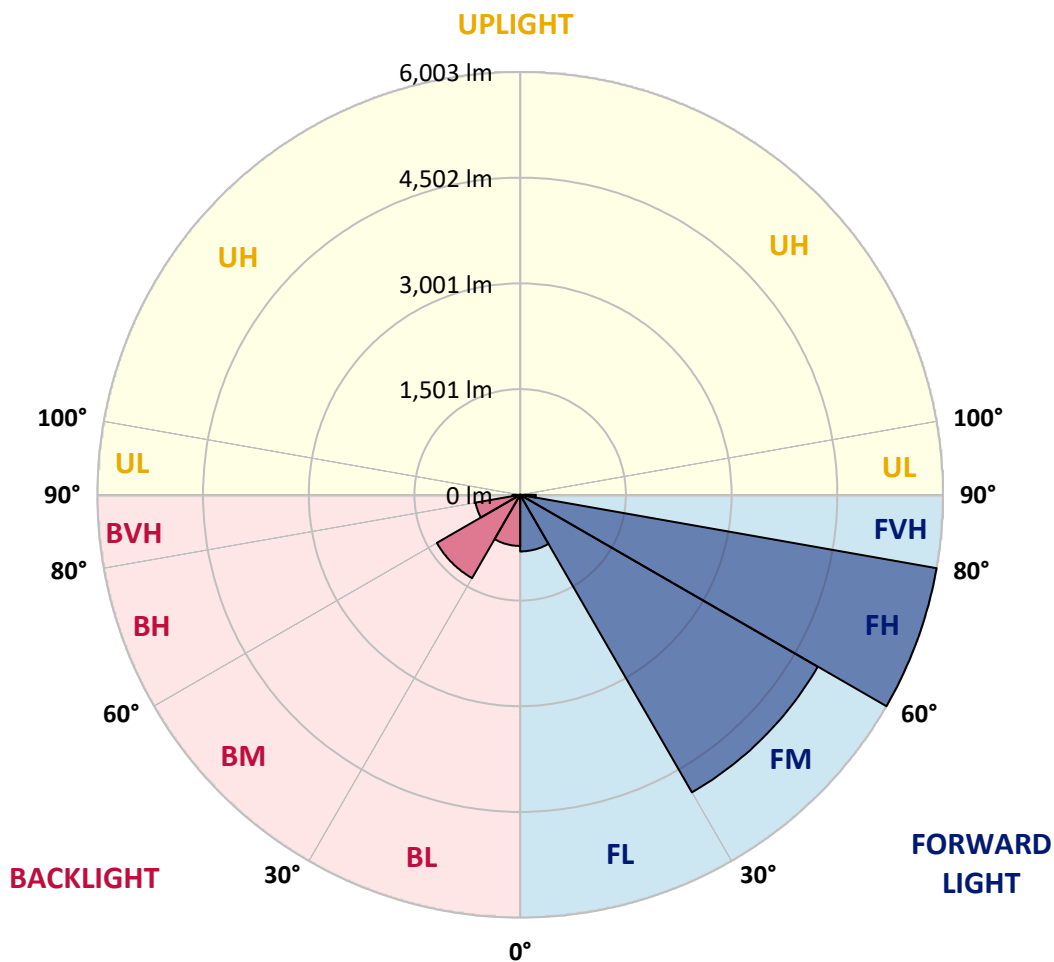
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	803.8	5.4			
FM	(30°-60°)	4877.2	33.1			
FH	(60°-80°)	6002.6	40.7			G3/7500
FVH	(80°-90°)	223.0	1.5			G2/225
BL	(0°-30°)	726.1	4.9	B2/1000		
BM	(30°-60°)	1366.1	9.3	B2/2500		
BH	(60°-80°)	642.8	4.4	B2/1000		G2/1000
BVH	(80°-90°)	109.5	0.7			G2/225
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G3

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	36°	45°	55°	65°	75°	85°
0°	2234.3	2234.3	2234.3	2234.3	2234.3	2234.3	2234.3	2234.3	2234.3	2234.3	2234.3
2.5°	2149.1	2154.7	2155.6	2162.2	2162.2	2161.2	2164.1	2175.3	2180.9	2194.0	2205.3
5°	2043.2	2049.7	2052.5	2063.8	2077.8	2078.8	2089.1	2110.6	2131.3	2160.3	2184.7
7.5°	1924.1	1931.6	1939.1	1962.6	1983.2	1985.0	2004.7	2039.4	2066.6	2102.2	2146.2
10°	1808.8	1810.7	1818.2	1848.2	1875.4	1878.2	1906.3	1945.7	1982.2	2031.9	2081.6
12.5°	1714.2	1719.8	1717.9	1740.4	1763.9	1765.7	1803.2	1852.9	1906.3	1962.6	2021.6
15°	1681.4	1680.4	1660.8	1659.8	1670.1	1672.0	1708.6	1766.7	1826.7	1896.0	1971.9
17.5°	1703.9	1696.4	1644.8	1613.0	1606.4	1608.3	1635.5	1699.2	1762.9	1842.6	1933.5
20°	1827.6	1798.5	1677.6	1600.8	1579.2	1579.2	1595.2	1646.7	1717.0	1809.8	1924.1
22.5°	2120.9	2076.0	1818.2	1681.4	1605.5	1598.0	1585.8	1625.2	1702.9	1814.5	1962.6
25°	2490.2	2468.7	2076.0	1896.0	1739.5	1715.1	1634.5	1648.6	1732.0	1865.1	2067.5
27.5°	2832.3	2794.8	2414.3	2208.1	1986.9	1949.4	1778.9	1721.7	1801.3	1958.8	2219.4
30°	3031.9	3006.6	2762.0	2565.2	2301.8	2254.0	2009.4	1866.0	1925.1	2113.4	2434.9
32.5°	3249.4	3234.4	3110.7	2931.6	2643.0	2587.7	2307.5	2101.3	2114.4	2318.7	2694.5
35°	3460.2	3479.9	3409.6	3278.4	3010.4	2958.8	2707.6	2408.7	2347.8	2549.3	2971.9
37.5°	3713.3	3718.0	3673.9	3588.6	3396.5	3354.3	3147.2	2736.7	2601.7	2794.8	3240.0
40°	4218.5	4144.4	3972.0	3904.5	3790.1	3763.9	3527.7	3037.6	2837.9	3046.9	3493.0
42.5°	4764.9	4649.6	4379.7	4269.1	4223.1	4198.8	3844.5	3238.1	3059.1	3299.0	3741.4
45°	5205.4	5111.6	4847.3	4710.5	4716.1	4676.8	4121.0	3417.1	3299.0	3552.1	4018.8
47.5°	5639.3	5482.8	5186.6	5166.9	5232.5	5174.4	4385.3	3596.1	3549.3	3827.6	4296.2
50°	5667.4	5524.9	5405.0	5562.4	5674.9	5602.7	4625.2	3830.4	3808.9	4161.3	4654.3
52.5°	5325.3	5304.7	5487.5	5752.7	5939.2	5874.5	4821.1	4071.3	4074.1	4578.4	5090.1
55°	5200.7	5174.4	5393.7	5719.9	5972.0	5933.6	4967.3	4343.1	4368.4	5084.5	5557.8
57.5°	5410.6	5345.0	5388.1	5658.0	5895.2	5872.7	5119.1	4644.9	4690.8	5667.4	5989.8
60°	6062.0	5928.0	5699.3	5749.9	5898.0	5884.8	5336.6	4981.4	5058.2	6274.7	6263.5
62.5°	7037.6	6885.8	6420.0	6195.1	6162.3	6137.0	5695.5	5394.7	5433.1	6713.4	6104.2
65°	8107.9	7944.9	7391.0	7022.6	6829.6	6775.2	6274.7	5893.3	5652.4	6712.4	5483.7
67.5°	9309.5	9137.0	8585.0	8233.5	8024.5	7931.7	7214.8	6296.3	5581.2	6144.5	4388.1
70°	10540.0	10376.0	10123.0	10245.8	10337.6	10196.1	8695.6	6430.3	5069.5	4817.3	2946.6
72.5°	9886.8	9873.7	10065.8	11229.8	13000.3	13028.4	10174.5	6051.7	3916.7	2863.2	1570.8
73°	9280.4	9335.7	9691.9	11084.6	13228.0	13237.4	10203.6	5855.8	3596.1	2466.8	1379.6
75°	4808.0	5182.9	6504.4	8988.0	12248.6	12292.7	8994.6	4433.1	2143.4	1370.2	929.7
77.5°	1287.7	1270.9	2095.6	4378.7	8166.1	8107.9	5683.3	2146.2	1027.2	859.4	652.3
80°	441.4	447.1	713.2	1601.7	3811.7	3947.6	2466.8	936.3	675.7	598.9	462.1
82.5°	224.9	232.4	373.0	681.4	1594.2	1560.5	793.8	551.1	452.7	363.6	258.7
85°	120.0	123.7	205.3	353.3	584.8	591.4	279.3	294.3	287.7	206.2	127.5
87.5°	59.0	60.9	98.4	155.6	216.5	209.0	97.5	127.5	141.5	116.2	70.3
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°	2234.3	2234.3	2234.3	2234.3	2234.3	2234.3	2234.3	2234.3	2234.3	2234.3	2234.3
2.5°	2219.4	2219.4	2231.5	2252.2	2267.2	2281.2	2290.6	2305.6	2314.0	2313.1	2312.1
5°	2204.4	2213.7	2238.1	2263.4	2280.3	2291.5	2291.5	2298.1	2298.1	2295.3	2291.5
7.5°	2169.7	2185.6	2221.2	2243.7	2248.4	2236.2	2211.9	2193.1	2169.7	2157.5	2152.8
10°	2114.4	2135.0	2180.0	2190.3	2165.9	2122.8	2063.8	2013.2	1968.2	1947.6	1941.0
12.5°	2060.0	2087.2	2129.4	2113.4	2055.3	1971.0	1880.1	1810.7	1760.1	1740.4	1733.9
15°	2015.0	2047.8	2080.6	2031.0	1929.7	1812.6	1712.3	1647.6	1609.2	1594.2	1590.5
17.5°	1985.0	2023.5	2034.7	1941.9	1801.3	1670.1	1581.1	1538.9	1522.1	1515.5	1513.6
20°	1986.9	2030.0	2002.9	1855.7	1677.6	1545.5	1486.4	1474.3	1474.3	1474.3	1473.3
22.5°	2038.5	2076.0	1989.7	1775.1	1558.6	1440.5	1415.2	1425.5	1433.0	1433.0	1432.1
25°	2145.3	2165.9	1999.1	1697.3	1447.1	1349.6	1350.5	1370.2	1376.8	1376.8	1374.9
27.5°	2308.4	2291.5	2016.0	1611.1	1337.4	1267.1	1280.3	1298.1	1302.7	1299.9	1299.0
30°	2512.7	2445.2	2030.0	1509.9	1234.3	1190.3	1201.5	1211.8	1208.1	1201.5	1200.6
32.5°	2741.4	2601.7	2021.6	1396.5	1143.4	1110.6	1117.2	1122.8	1117.2	1101.2	1101.2
35°	2968.2	2743.3	1975.7	1272.8	1071.2	1033.8	1032.8	1050.6	1049.7	1030.9	1031.9
37.5°	3166.9	2854.8	1886.6	1159.3	1009.4	977.5	981.3	992.5	998.1	972.8	970.0
40°	3340.3	2931.6	1761.0	1062.8	959.7	961.6	951.3	933.5	926.9	915.7	913.8
42.5°	3503.4	2985.1	1628.0	982.2	934.4	956.0	921.3	879.1	861.3	871.6	878.2
45°	3663.6	3045.0	1499.6	915.7	902.5	939.1	891.3	844.4	823.8	828.5	835.1
47.5°	3859.5	3128.5	1344.9	844.4	853.8	908.2	872.6	821.9	791.0	772.3	766.7
50°	4117.2	3249.4	1144.4	767.6	802.3	874.4	856.6	789.1	755.4	717.9	708.5
52.5°	4439.6	3363.7	941.9	705.7	760.1	845.4	830.4	761.0	719.8	674.8	667.3
55°	4761.1	3379.6	767.6	652.3	712.3	806.0	798.5	738.5	680.4	643.9	636.4
57.5°	4986.0	3228.7	650.4	607.3	666.4	757.3	769.5	711.4	647.6	619.5	614.8
60°	4989.8	2867.9	579.2	577.3	631.7	715.1	739.5	679.5	627.0	608.3	604.5
62.5°	4593.3	2311.2	533.3	554.8	606.4	680.4	717.0	661.7	622.3	614.8	611.1
65°	3850.1	1707.6	496.7	534.2	583.0	651.4	698.2	656.1	620.4	617.6	614.8
67.5°	2842.6	1170.6	465.8	508.0	556.7	621.4	680.4	647.6	609.2	620.4	616.7
70°	1788.2	781.6	436.7	478.0	522.0	586.7	657.0	632.6	595.1	588.6	576.4
72.5°	1009.4	565.1	402.1	439.6	477.0	540.8	625.1	607.3	563.3	537.0	524.8
73°	911.9	535.2	393.6	430.2	466.7	531.4	617.6	599.8	553.9	524.8	513.6
75°	667.3	437.7	355.2	391.8	423.6	488.3	582.0	562.3	512.7	478.0	470.5
77.5°	483.6	337.4	305.5	338.3	366.5	428.3	528.6	506.1	457.4	438.6	431.1
80°	348.6	255.9	253.1	284.9	309.3	372.1	471.4	448.0	401.1	456.4	444.2
82.5°	208.1	164.0	185.6	221.2	246.5	312.1	409.6	382.4	337.4	341.2	290.5
85°	99.3	92.8	115.3	145.3	163.1	213.7	341.2	319.6	269.9	221.2	216.5
87.5°	44.0	42.2	55.3	64.7	87.2	128.4	233.4	207.1	195.9	117.2	91.8
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)