

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: P196268

Luminaire Tested: **NAV-AF-02-D-UNV-T2-1200**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P196268  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24136)  
Test Lab: INNOVATION CENTER P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: LUMARK  
Catalog Number: NAV-AF-02-D-UNV-T2-1200  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(2) 70 CRI, 4000K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II OPTICS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 13379.2 lumens  
Efficiency: N/A  
Efficacy: 103.7 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')  
IES Classification: Type II - Medium - Full Cutoff  
BUG Rating: B2 - U0 - G2

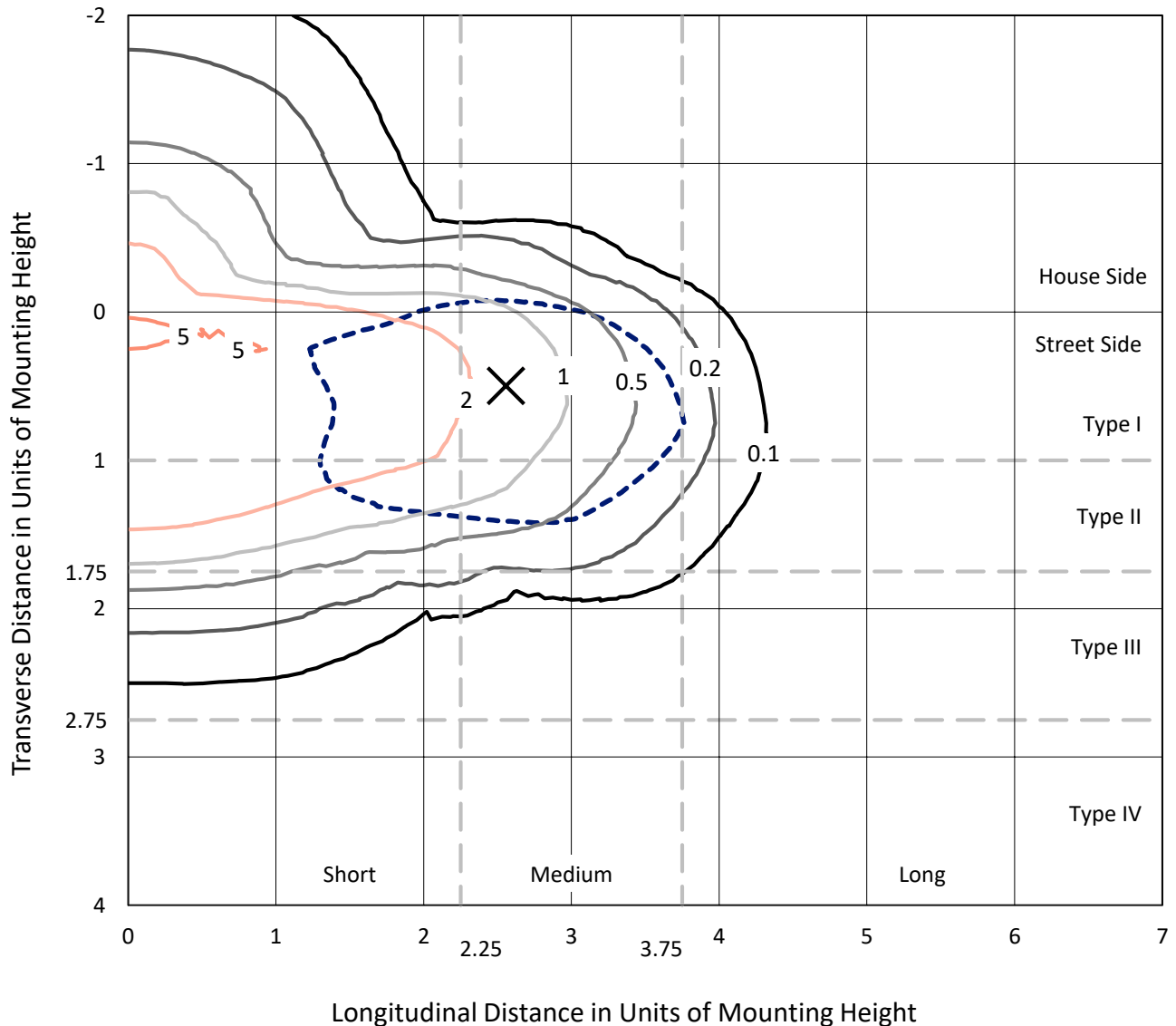
Input Watts (W): 129  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

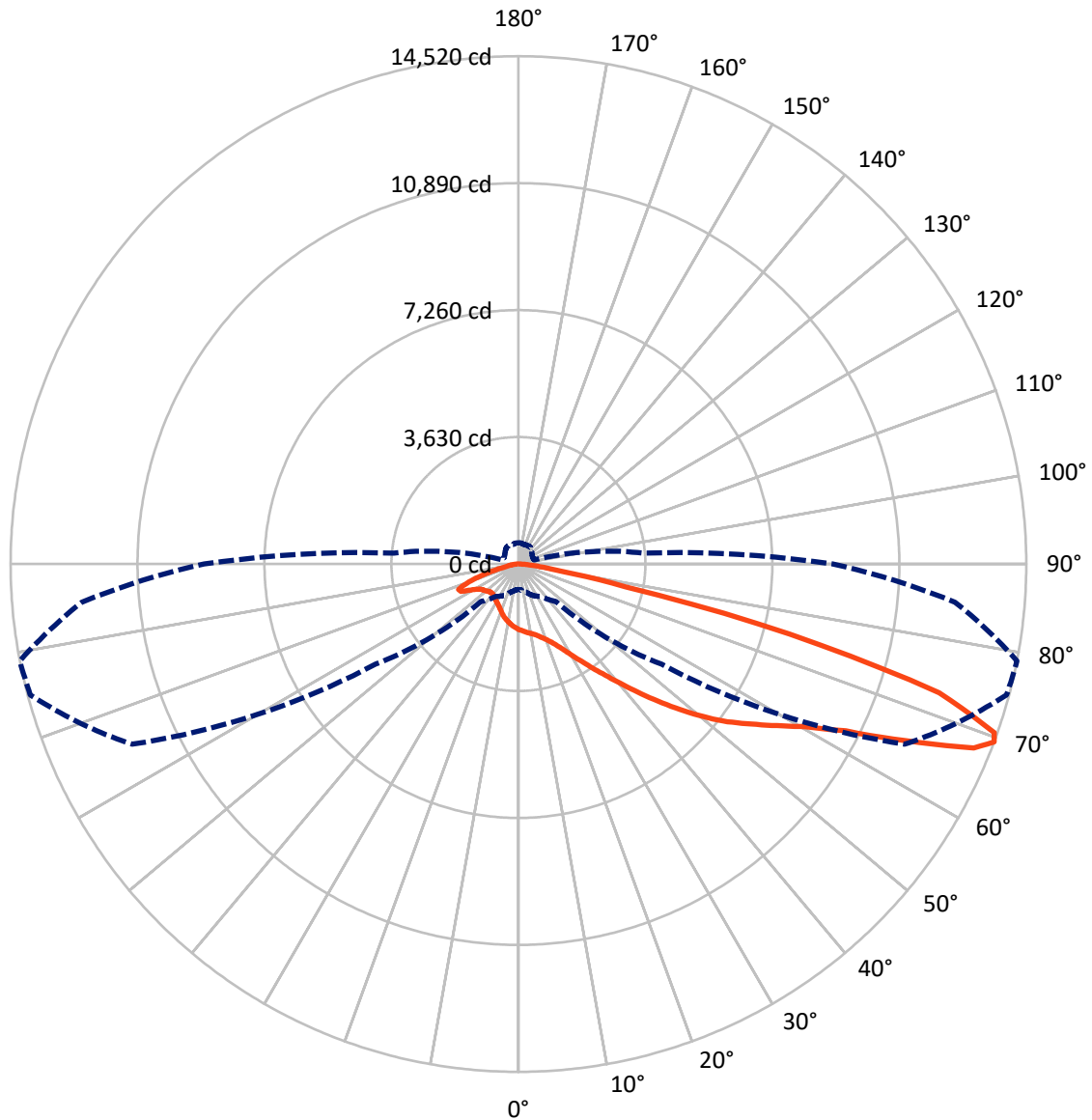
× Max cd  
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 5.7 fc  
 Type II - Medium - Full Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 79-Deg Lateral      - - - Horizontal Cone Through 69-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	2516.9	0.0	2516.9
	% Fixture	18.8	0.0	18.8
<b>Street Side</b>	Lumens	10862.3	0.0	10862.3
	% Fixture	81.2	0.0	81.2
<b>Total</b>	Lumens	13379.2	0.0	13379.2
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	174.0	1.3
10°-20°	499.0	3.7
20°-30°	824.6	6.2
30°-40°	1335.2	10.0
40°-50°	2133.0	15.9
50°-60°	3054.7	22.8
60°-70°	3403.4	25.4
70°-80°	1702.7	12.7
80°-90°	252.7	1.9
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°	13379.2	100.0
0°-180°	13379.2	100.0



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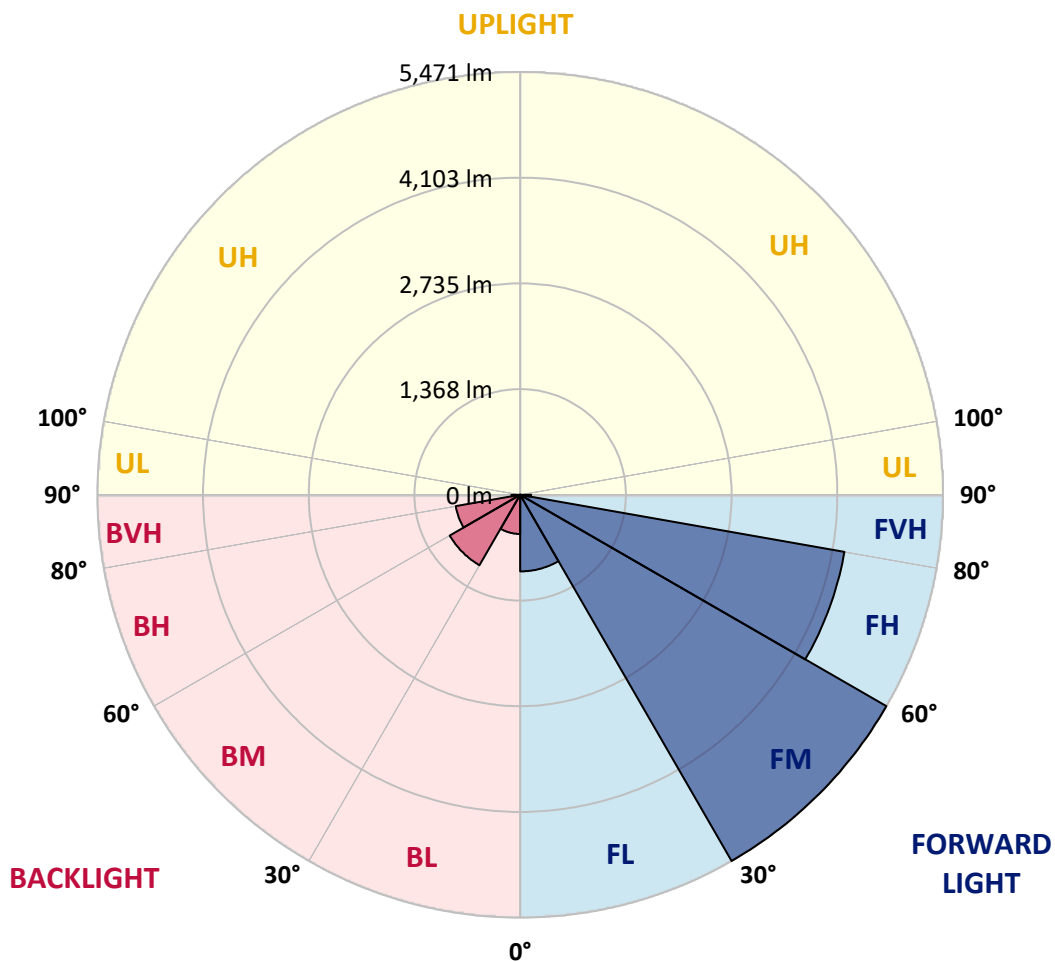
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	990.6	7.4			
FM (30°-60°)	5470.8	40.9			
FH (60°-80°)	4259.7	31.8			G2/5000
FVH (80°-90°)	141.2	1.1			G2/225
BL (0°-30°)	507.0	3.8	B2/1000		
BM (30°-60°)	1052.1	7.9	B2/2500		
BH (60°-80°)	846.3	6.3	B2/1000		G2/1000
BVH (80°-90°)	111.5	0.8			G2/225
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B2-U0-G2**

Type II Medium





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	79°	85°
0°	1877.5	1877.5	1877.5	1877.5	1877.5	1877.5	1877.5	1877.5	1877.5	1877.5	1877.5
2.5°	2061.3	2056.9	2056.1	2042.9	2036.0	2021.0	1986.1	1950.2	1916.9	1899.4	1881.0
5°	2233.8	2225.0	2220.6	2198.7	2179.5	2146.3	2091.1	2034.2	1974.7	1944.0	1907.3
7.5°	2338.0	2338.8	2338.8	2321.3	2302.0	2261.7	2191.8	2113.8	2025.4	1985.1	1927.4
10°	2346.6	2347.6	2360.7	2365.1	2369.5	2348.4	2283.6	2185.6	2071.9	2019.3	1944.0
12.5°	2260.0	2266.1	2288.0	2319.5	2364.1	2387.0	2358.9	2262.7	2131.3	2067.5	1975.5
15°	2143.6	2149.7	2177.8	2225.9	2297.6	2373.9	2413.2	2351.0	2209.3	2134.0	2022.0
17.5°	2086.7	2093.7	2113.0	2151.5	2221.5	2323.9	2442.1	2445.6	2301.1	2214.5	2077.1
20°	2059.6	2064.8	2089.4	2120.9	2174.3	2272.3	2444.8	2545.4	2410.6	2309.9	2144.5
22.5°	2121.7	2123.4	2135.7	2153.2	2189.1	2264.4	2443.0	2648.6	2547.1	2429.8	2231.2
25°	2303.8	2292.4	2283.6	2261.7	2270.5	2323.9	2470.9	2758.9	2722.2	2587.3	2346.6
27.5°	2519.1	2517.4	2494.6	2443.8	2411.5	2445.6	2550.6	2882.4	2936.6	2787.8	2498.1
30°	2758.9	2759.8	2736.2	2674.1	2608.4	2611.9	2677.6	3025.1	3193.1	3029.4	2684.5
32.5°	3010.1	3025.9	2982.1	2920.0	2840.3	2815.0	2859.7	3197.4	3489.8	3314.8	2900.8
35°	3310.4	3313.0	3264.8	3173.8	3094.2	3053.9	3095.0	3412.8	3832.1	3650.0	3164.2
37.5°	3622.0	3623.7	3573.9	3457.5	3356.8	3330.5	3376.0	3674.5	4194.4	4031.7	3474.0
40°	3876.7	3895.1	3855.7	3746.3	3644.8	3629.0	3694.7	3987.9	4657.5	4483.3	3842.6
42.5°	4165.6	4186.5	4139.3	4025.5	3945.0	3939.7	4042.2	4345.0	5117.9	5005.8	4260.1
45°	4491.2	4520.9	4455.3	4327.5	4259.3	4374.8	4380.9	4740.7	5648.3	5590.5	4730.1
47.5°	4846.5	4871.1	4817.7	4680.2	4605.8	4773.0	4712.6	5168.7	6221.7	6217.3	5238.6
50°	5120.5	5147.7	5152.9	5092.5	5014.6	5035.6	5076.7	5618.6	6793.2	6861.4	5764.7
52.5°	5070.7	5096.9	5215.0	5373.5	5498.7	5444.3	5494.3	6096.5	7345.5	7489.9	6264.6
55°	4668.0	4681.9	4903.4	5279.9	5812.9	6071.9	6075.5	6616.4	7870.7	8072.9	6738.9
57.5°	3942.4	3944.1	4232.0	4787.0	5629.9	6479.0	6992.8	7269.4	8418.7	8717.1	7327.2
60°	2789.6	2796.5	3131.9	3857.4	4974.3	6430.0	7979.2	8437.9	9053.2	9441.0	8085.2
62.5°	1656.1	1671.8	1924.8	2506.8	3694.7	5799.7	8562.2	10516.8	9988.1	10502.7	9298.3
65°	1077.5	1090.7	1242.1	1534.4	2183.0	4219.9	8370.5	12529.9	11757.1	12172.8	11041.9
67.5°	829.8	840.3	959.3	1136.2	1339.2	2281.1	6692.6	12951.8	13910.3	14039.8	12513.3
69°	729.2	737.9	825.4	995.2	1127.4	1509.9	4987.5	12185.9	14448.6	14519.5	12531.7
70°	675.8	682.7	765.0	912.1	1035.4	1205.2	3817.1	11296.7	14251.6	14432.8	12170.1
72.5°	556.7	562.8	621.4	734.4	846.4	858.7	1691.0	8248.9	12000.3	12579.8	10298.8
75°	464.8	468.3	506.8	589.1	685.4	683.6	863.9	4672.3	7322.8	8013.4	6359.1
77.5°	387.8	390.4	415.7	466.6	540.9	538.3	608.3	2016.6	3233.3	3119.6	2189.1
80°	342.3	344.0	357.1	370.2	417.6	414.9	450.8	926.1	1315.6	1215.8	828.1
82.5°	259.9	263.5	330.0	336.1	323.9	312.5	314.3	539.2	674.0	613.6	444.7
85°	147.1	147.9	211.9	247.8	281.8	211.9	204.0	278.3	332.7	291.4	194.4
87.5°	65.7	68.2	101.6	117.3	152.3	124.3	116.4	118.2	143.5	119.1	77.0
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°	1877.5	1877.5	1877.5	1877.5	1877.5	1877.5	1877.5	1877.5	1877.5	1877.5	1877.5
2.5°	1863.5	1848.7	1813.6	1777.8	1741.9	1719.1	1695.4	1673.5	1664.9	1663.9	1647.4
5°	1871.4	1836.4	1756.7	1669.1	1586.1	1521.2	1467.0	1432.0	1397.9	1391.7	1376.9
7.5°	1874.0	1817.2	1687.6	1547.5	1420.6	1331.4	1277.1	1253.4	1236.8	1232.5	1227.1
10°	1873.1	1792.6	1610.5	1418.8	1274.4	1207.1	1186.9	1192.1	1199.2	1202.7	1202.7
12.5°	1887.1	1781.3	1533.5	1298.0	1179.9	1147.5	1163.3	1190.4	1211.4	1220.2	1221.9
15°	1912.5	1774.2	1448.6	1193.1	1113.4	1121.3	1159.8	1199.2	1229.0	1242.1	1245.5
17.5°	1944.0	1764.6	1350.6	1106.4	1074.9	1102.0	1151.9	1201.8	1237.7	1254.3	1256.9
20°	1979.1	1750.6	1249.0	1041.6	1040.8	1074.9	1124.7	1180.8	1219.3	1237.7	1236.8
22.5°	2026.4	1737.5	1154.5	994.3	1003.1	1034.6	1075.7	1126.5	1162.4	1179.1	1175.6
25°	2089.4	1725.2	1069.6	952.4	960.2	981.2	1010.1	1048.6	1074.0	1082.8	1076.7
27.5°	2174.3	1715.6	1003.1	913.8	913.0	922.6	940.1	961.1	973.3	970.7	961.1
30°	2278.4	1706.0	954.1	879.6	867.5	866.5	874.4	886.7	894.6	878.8	870.9
32.5°	2394.8	1689.3	910.3	849.9	828.1	820.2	823.7	840.3	872.7	856.9	850.8
35°	2532.2	1670.1	866.5	817.5	800.9	786.0	788.7	824.5	922.6	911.1	905.1
37.5°	2697.7	1652.6	826.2	782.6	781.6	763.2	761.5	804.4	935.7	911.1	905.9
40°	2896.4	1649.1	790.4	744.0	758.0	751.1	744.9	771.1	863.1	813.1	803.5
42.5°	3136.2	1664.9	764.1	707.3	730.9	747.5	736.1	742.3	779.9	735.3	727.4
45°	3416.3	1707.7	744.9	674.8	701.9	744.9	731.7	726.5	732.6	708.1	702.9
47.5°	3742.8	1783.8	731.7	647.7	674.8	737.9	730.0	719.5	716.9	702.9	699.4
50°	4092.0	1886.3	723.0	623.2	650.4	725.6	729.2	714.2	709.8	703.8	701.9
52.5°	4438.7	1997.4	712.5	602.2	630.2	710.7	730.0	709.0	702.9	699.4	697.7
55°	4783.5	2113.0	693.3	583.8	615.3	693.3	729.2	701.9	695.0	695.0	695.0
57.5°	5230.8	2289.0	667.9	569.0	596.1	670.4	717.7	694.1	684.5	685.4	686.2
60°	5876.8	2583.9	639.9	552.3	570.7	644.3	700.2	680.2	668.7	672.2	673.1
62.5°	6956.1	3099.4	601.3	528.7	544.4	616.2	677.5	660.8	650.4	656.4	657.3
65°	8395.1	3723.5	550.6	498.9	517.3	584.7	648.6	638.1	626.8	641.6	640.7
67.5°	9272.9	3906.4	497.2	467.4	491.0	551.5	612.7	608.3	600.5	626.8	624.9
69°	8985.0	3575.6	466.6	447.2	472.7	528.7	589.9	588.2	582.1	607.4	605.7
70°	8537.6	3266.6	447.2	434.1	463.0	514.6	575.1	575.1	569.0	590.9	586.5
72.5°	6858.0	2422.9	402.6	400.9	429.7	476.2	534.8	539.2	535.7	543.6	539.2
75°	4026.3	1460.0	358.9	364.2	389.5	435.1	490.2	493.7	490.2	489.3	490.2
77.5°	1396.1	654.7	316.8	324.8	346.6	393.0	441.2	448.2	442.9	436.8	438.5
80°	546.2	380.7	271.4	282.7	301.1	345.8	392.1	396.5	388.6	387.8	380.7
82.5°	328.3	232.0	210.9	229.3	252.1	300.2	338.7	337.0	330.8	366.7	321.2
85°	142.7	128.7	154.1	172.5	183.8	224.9	286.2	278.3	263.5	232.0	226.7
87.5°	57.8	66.5	84.9	102.4	110.3	145.3	196.1	189.0	191.7	157.5	156.7
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)