

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: P197343

Luminaire Tested: **NAV-AF-03-D-UNV-T4W-8030**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P197343
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24127)
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-T4W-8030
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 80 CRI, 3000K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV WIDE OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 14606 lumens
Efficiency: N/A
Efficacy: 88.0 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')
IES Classification: Type IV - Short - Semi-Cutoff
BUG Rating: B2 - U0 - G3

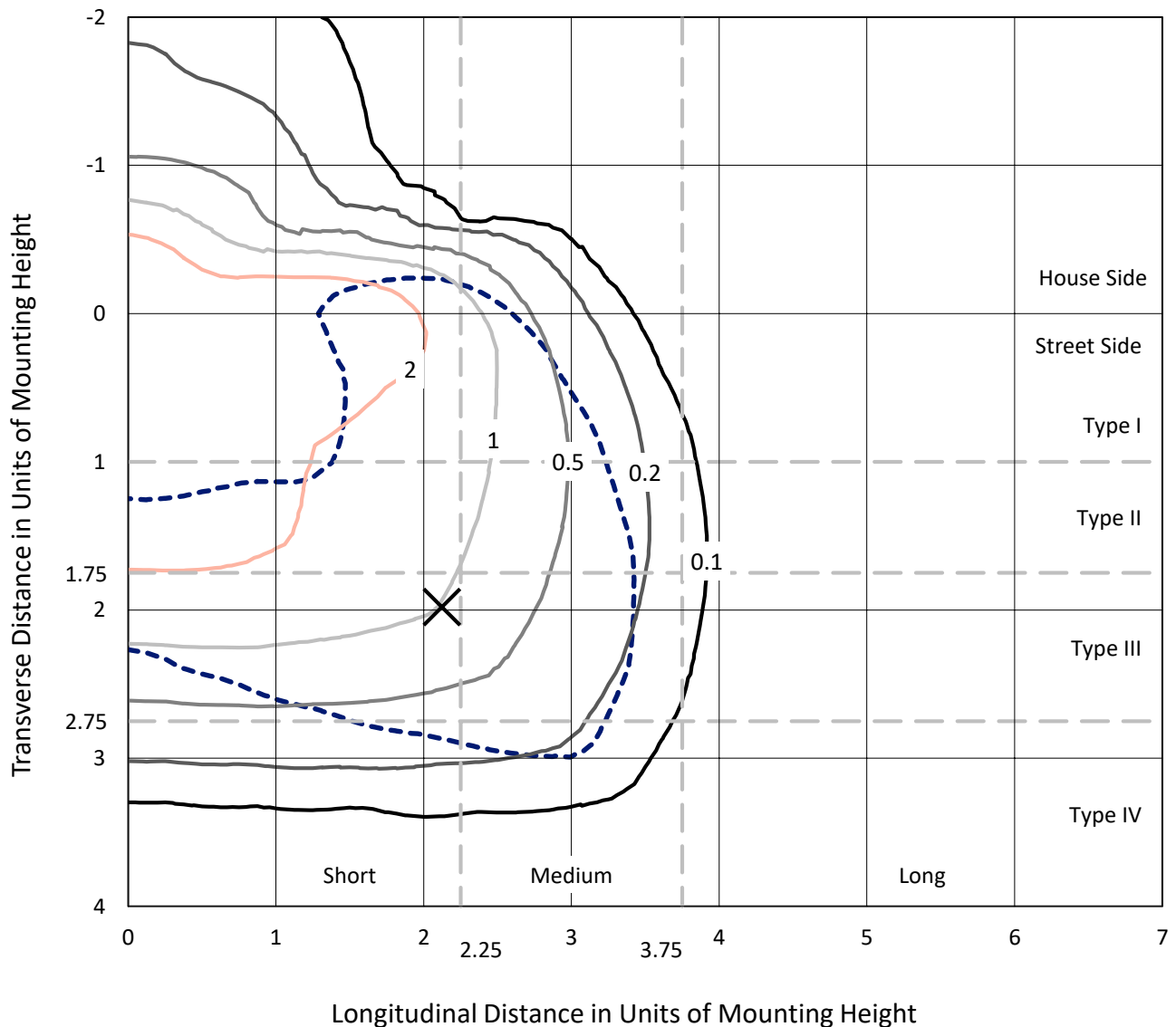
Input Watts (W): 166
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

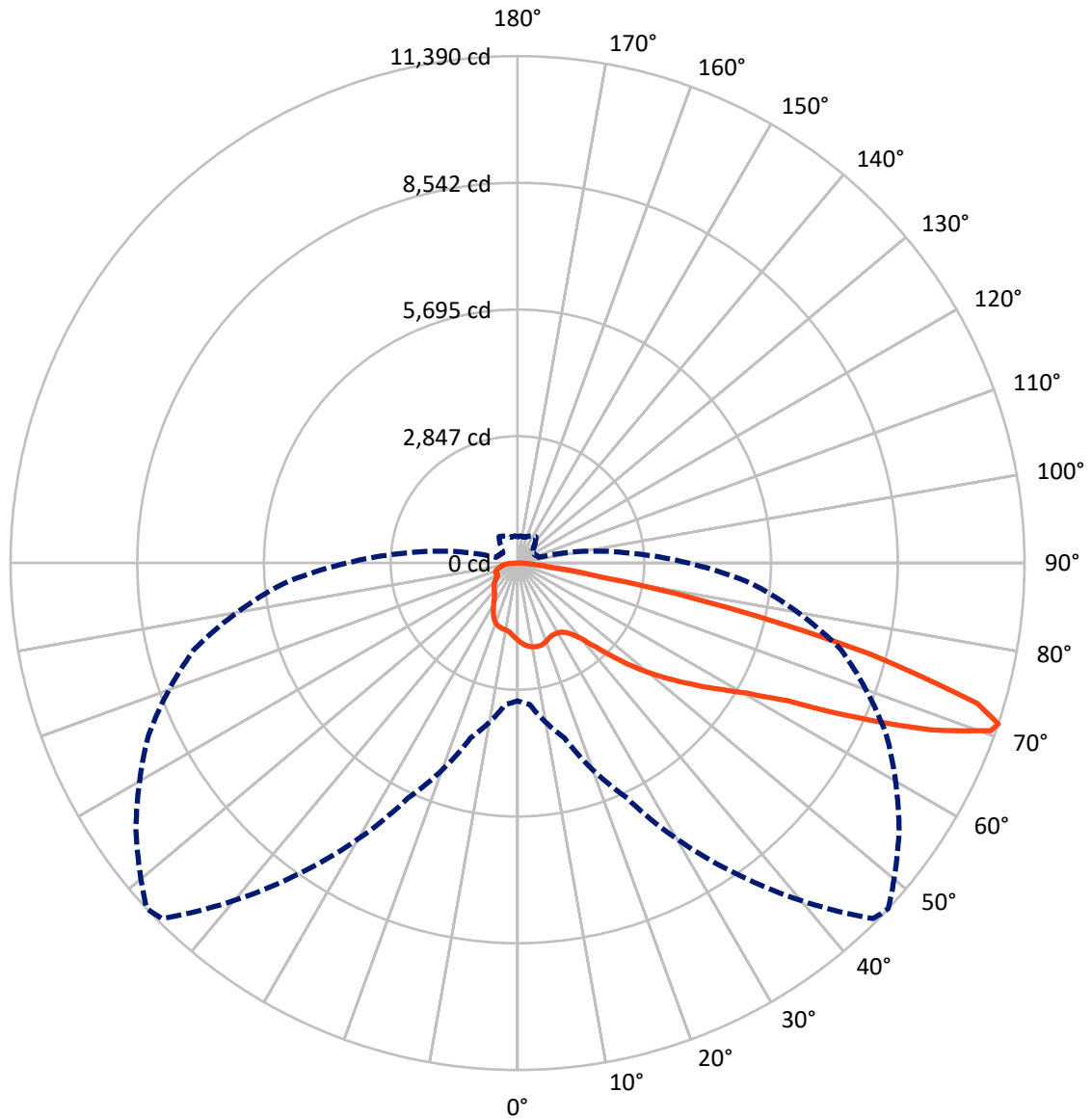
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 5 fc
 Type IV - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 47-Deg Lateral - - - Horizontal Cone Through 71-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	3130.3	0.0	3130.3
	% Fixture	21.4	0.0	21.4
Street Side	Lumens	11475.7	0.0	11475.7
	% Fixture	78.6	0.0	78.6
Total	Lumens	14606.0	0.0	14606.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	165.8	1.1
10°-20°	485.2	3.3
20°-30°	720.9	4.9
30°-40°	1035.2	7.1
40°-50°	1835.4	12.6
50°-60°	3140.6	21.5
60°-70°	4458.6	30.5
70°-80°	2441.9	16.7
80°-90°	322.3	2.2
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°	14606.0	100.0
0°-180°	14606.0	100.0



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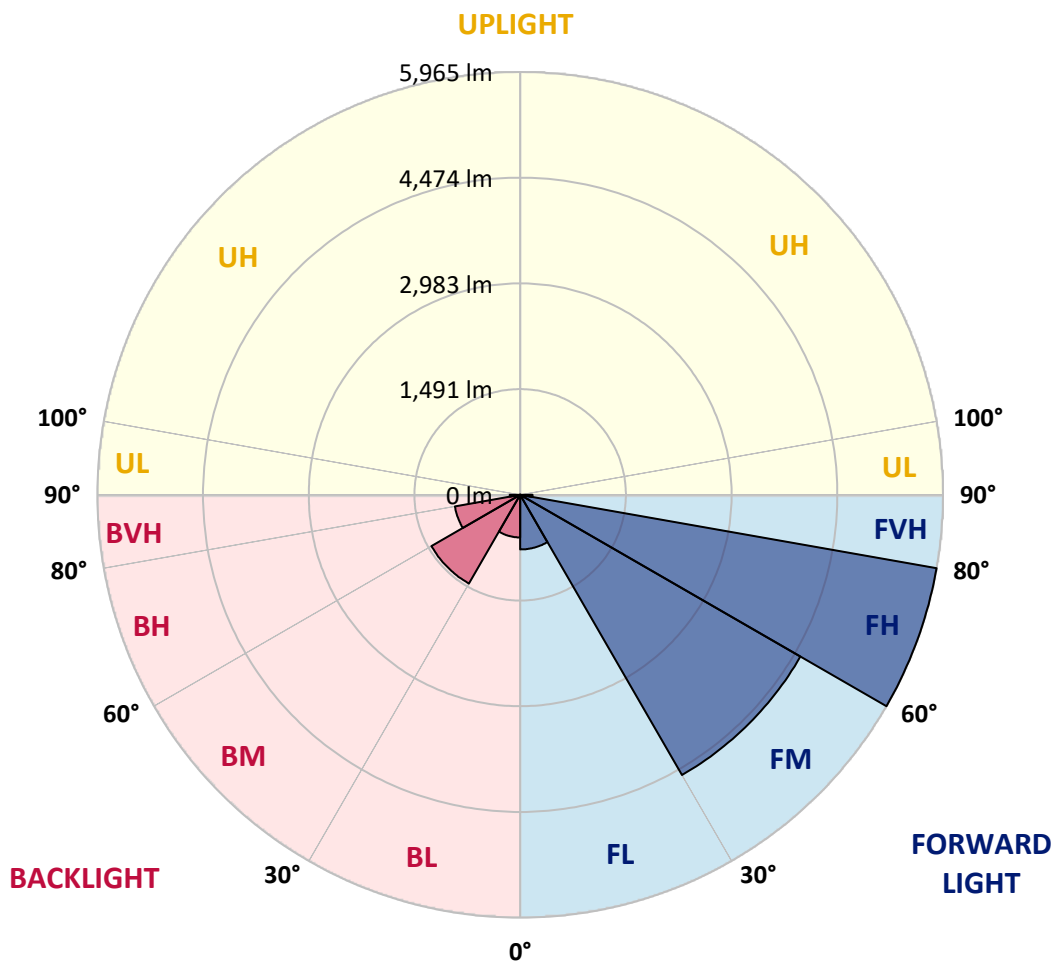
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	770.8	5.3			
FM	(30°-60°)	4564.8	31.3			
FH	(60°-80°)	5965.2	40.8			G3/7500
FVH	(80°-90°)	174.8	1.2			G2/225
BL	(0°-30°)	601.1	4.1	B2/1000		
BM	(30°-60°)	1446.4	9.9	B2/2500		
BH	(60°-80°)	935.3	6.4	B2/1000		G2/1000
BVH	(80°-90°)	147.5	1.0			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°	45°	47°	55°	65°	75°	85°
0°	1736.9	1736.9	1736.9	1736.9	1736.9	1736.9	1736.9	1736.9	1736.9	1736.9	1736.9
2.5°	1842.9	1839.1	1841.0	1834.4	1818.3	1801.3	1801.3	1783.3	1764.3	1745.4	1724.6
5°	1957.4	1951.8	1947.0	1926.2	1895.0	1859.9	1854.3	1818.3	1779.5	1740.7	1702.8
7.5°	2053.0	2047.4	2033.2	1995.3	1949.9	1897.8	1891.2	1843.9	1792.7	1738.8	1685.8
10°	2121.2	2117.4	2090.0	2041.7	1988.7	1927.2	1915.8	1867.5	1806.9	1739.7	1672.5
12.5°	2159.1	2153.4	2120.2	2063.5	2001.0	1938.5	1927.2	1880.8	1811.7	1737.8	1659.3
15°	2143.9	2141.1	2109.8	2052.1	1989.6	1935.7	1926.2	1878.9	1808.8	1731.2	1647.0
17.5°	2079.5	2086.2	2061.6	2004.8	1953.7	1915.8	1905.4	1860.9	1794.6	1715.1	1628.0
20°	1990.6	1998.1	1985.8	1928.1	1898.8	1874.1	1868.5	1832.5	1771.0	1691.5	1605.3
22.5°	1895.9	1902.5	1903.5	1849.5	1840.1	1830.6	1825.9	1800.3	1750.1	1677.3	1590.2
25°	1830.6	1838.2	1840.1	1792.7	1798.4	1801.3	1800.3	1782.3	1746.4	1677.3	1592.1
27.5°	1813.6	1817.4	1815.5	1771.9	1782.3	1798.4	1799.4	1795.6	1761.5	1696.2	1618.6
30°	1872.3	1874.1	1850.5	1785.2	1795.6	1816.4	1817.4	1815.5	1793.7	1745.4	1678.2
32.5°	2125.9	2124.0	2042.6	1874.1	1838.2	1845.7	1848.6	1865.6	1867.5	1826.8	1764.3
35°	2512.1	2511.2	2416.5	2128.8	1959.3	1919.6	1923.4	1949.9	1973.5	1946.1	1910.1
37.5°	2937.1	2939.9	2882.2	2492.2	2220.6	2054.9	2051.1	2071.0	2113.6	2123.1	2127.8
40°	3408.5	3422.7	3419.8	2909.7	2586.9	2285.9	2248.0	2225.3	2307.7	2359.7	2426.9
42.5°	3947.1	3943.3	3945.2	3367.8	3005.3	2649.4	2579.3	2473.3	2568.9	2658.8	2806.5
45°	4409.9	4425.1	4436.4	3855.3	3473.8	3064.9	2993.9	2800.8	2886.9	3021.4	3246.6
47.5°	4875.6	4849.1	4869.9	4397.6	3995.3	3539.1	3447.3	3187.0	3267.5	3456.8	3799.4
50°	5418.0	5405.7	5311.0	5105.6	4625.7	4019.9	3899.7	3590.2	3707.6	3960.3	4481.9
52.5°	5904.5	5838.2	5764.4	5662.2	5245.7	4506.5	4354.1	4009.5	4225.3	4538.7	5329.0
55°	6082.5	6038.0	6126.9	6259.5	5901.7	5002.5	4832.1	4498.9	4809.4	5200.3	6325.7
57.5°	6271.8	6286.9	6487.6	6755.4	6522.6	5531.6	5347.0	5078.2	5450.2	5940.5	7439.8
60°	6366.4	6427.0	6827.4	7330.0	7113.2	6111.8	5934.8	5743.6	6161.0	6758.3	8551.0
62.5°	6382.5	6463.9	7030.9	7531.6	7926.3	7000.6	6796.1	6588.9	7048.9	7662.2	9355.6
65°	6087.2	6212.1	7012.9	7779.6	8667.5	8485.7	8356.0	7994.5	8237.7	8458.3	9492.8
67.5°	5219.2	5355.5	6319.1	7677.4	9261.9	10026.7	10002.1	9468.2	9155.9	8765.9	8475.3
70°	3830.6	3940.4	4866.2	6563.3	9002.5	11236.4	11279.9	10423.3	9412.4	8112.8	6302.1
71°	3098.0	3192.7	4065.4	5826.9	8497.1	11298.8	11389.7	10465.9	9145.5	7523.1	5276.0
72.5°	1928.1	1981.1	2699.5	4397.6	7316.7	10655.2	10808.5	9920.7	8304.9	6358.8	3729.4
75°	727.9	748.7	1001.4	1939.5	4367.3	8004.9	8190.4	7497.5	5834.5	3630.0	1560.8
77.5°	390.9	401.3	496.9	806.5	1750.1	4588.8	4827.3	4276.5	2798.9	1270.3	638.0
80°	262.2	268.8	343.6	478.0	804.6	1747.3	1946.1	1717.0	1047.8	725.0	454.3
82.5°	169.4	173.2	233.8	314.3	519.6	614.3	701.4	732.6	654.1	519.6	274.5
85°	111.7	114.5	154.3	200.7	321.8	302.9	310.5	406.1	445.8	342.6	140.1
87.5°	64.4	66.3	92.8	103.2	144.8	113.6	123.0	193.1	265.0	223.4	80.5
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°	1736.9	1736.9	1736.9	1736.9	1736.9	1736.9	1736.9	1736.9	1736.9	1736.9	1736.9
2.5°	1715.1	1707.6	1690.5	1680.1	1675.4	1673.5	1671.6	1675.4	1675.4	1673.5	1669.7
5°	1683.9	1669.7	1641.3	1621.4	1611.0	1608.2	1612.0	1616.7	1619.5	1619.5	1616.7
7.5°	1661.2	1640.4	1602.5	1575.0	1558.9	1554.2	1564.6	1581.7	1593.0	1598.7	1599.6
10°	1642.2	1613.8	1572.2	1543.8	1530.6	1528.7	1541.9	1563.7	1587.3	1597.8	1599.6
12.5°	1625.2	1593.0	1547.6	1521.1	1511.6	1516.4	1534.3	1554.2	1581.7	1596.8	1597.8
15°	1609.1	1576.0	1527.7	1500.3	1498.4	1505.9	1523.0	1539.1	1559.9	1578.8	1578.8
17.5°	1590.2	1554.2	1504.0	1478.5	1478.5	1485.1	1496.5	1505.0	1518.2	1536.2	1535.3
20°	1567.5	1530.6	1479.4	1452.9	1447.3	1443.5	1443.5	1445.4	1456.7	1472.8	1475.7
22.5°	1550.4	1512.6	1458.6	1426.4	1400.9	1376.3	1365.9	1362.1	1372.5	1387.6	1391.4
25°	1550.4	1512.6	1452.0	1398.0	1335.6	1288.2	1268.4	1262.7	1273.1	1287.3	1293.0
27.5°	1576.0	1538.1	1467.1	1372.5	1257.9	1182.2	1158.6	1153.8	1163.3	1174.7	1180.3
30°	1635.6	1598.7	1510.7	1343.1	1171.8	1072.4	1045.9	1041.2	1045.9	1050.7	1057.3
32.5°	1735.0	1703.8	1581.7	1316.6	1084.7	973.0	940.9	933.3	935.2	936.1	941.8
35°	1896.9	1882.7	1676.3	1285.4	1002.4	891.6	858.5	843.4	842.4	847.2	853.8
37.5°	2144.9	2153.4	1798.4	1240.0	934.2	833.9	800.8	785.6	778.1	787.5	795.1
40°	2495.1	2515.0	1939.5	1178.4	878.4	799.8	764.8	750.6	740.2	737.4	741.1
42.5°	2950.4	2944.7	2083.3	1099.9	817.8	777.1	740.2	725.0	708.0	686.2	681.5
45°	3489.9	3408.5	2203.5	1003.3	748.7	755.3	717.5	696.7	670.1	638.0	634.2
47.5°	4126.9	3902.6	2277.4	900.2	684.3	726.9	691.9	659.7	620.9	600.1	597.3
50°	4894.6	4480.9	2329.4	795.1	626.6	691.0	656.0	613.4	575.5	569.8	568.9
52.5°	5803.2	5163.4	2393.8	700.4	581.2	644.6	620.0	576.4	546.2	549.0	549.0
55°	6769.6	5869.5	2395.7	625.7	541.4	590.6	593.5	558.5	534.8	544.3	547.1
57.5°	7650.9	6486.6	2207.3	572.7	503.6	548.0	585.0	565.1	547.1	580.2	583.1
60°	8419.5	6961.8	1802.2	529.1	472.3	532.0	603.9	605.8	602.0	691.9	698.5
62.5°	8700.6	6966.5	1279.7	492.2	455.3	541.4	643.6	646.5	646.5	729.8	742.1
65°	8306.8	6386.3	851.9	470.4	443.9	562.2	675.8	663.5	634.2	691.9	678.7
67.5°	6919.2	4971.2	622.8	456.2	427.8	563.2	704.2	673.0	622.8	672.0	649.3
70°	4755.4	3163.3	521.5	443.0	408.9	538.6	719.4	670.1	605.8	626.6	596.3
71°	3827.8	2524.4	495.0	438.2	401.3	524.4	721.3	666.4	597.3	610.5	583.1
72.5°	2521.6	1555.2	462.9	427.8	390.0	499.8	716.5	657.8	585.9	586.9	568.9
75°	994.8	644.6	416.5	404.2	357.8	460.0	695.7	639.9	564.1	545.2	537.6
77.5°	502.6	421.2	366.3	371.0	319.9	419.3	666.4	610.5	533.8	508.3	502.6
80°	367.3	319.9	313.3	321.8	277.3	379.6	629.4	570.8	495.0	521.5	510.2
82.5°	223.4	195.0	245.2	266.0	231.9	338.9	585.9	524.4	445.8	410.8	397.5
85°	106.0	114.5	177.0	195.9	171.3	270.7	535.7	473.3	389.0	336.0	341.7
87.5°	52.1	63.4	101.3	117.4	112.6	198.8	404.2	367.3	306.7	252.7	247.0
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)