

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: P195908

Luminaire Tested: **NAV-AF-02-D-UNV-T4W-7050-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195908
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-02-D-UNV-T4W-7050-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 70 CRI, 5000K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV WIDE OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 13204 lumens
Efficiency: N/A
Efficacy: 102.4 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type IV - Short - Semi-Cutoff
BUG Rating: B2 - U0 - G3

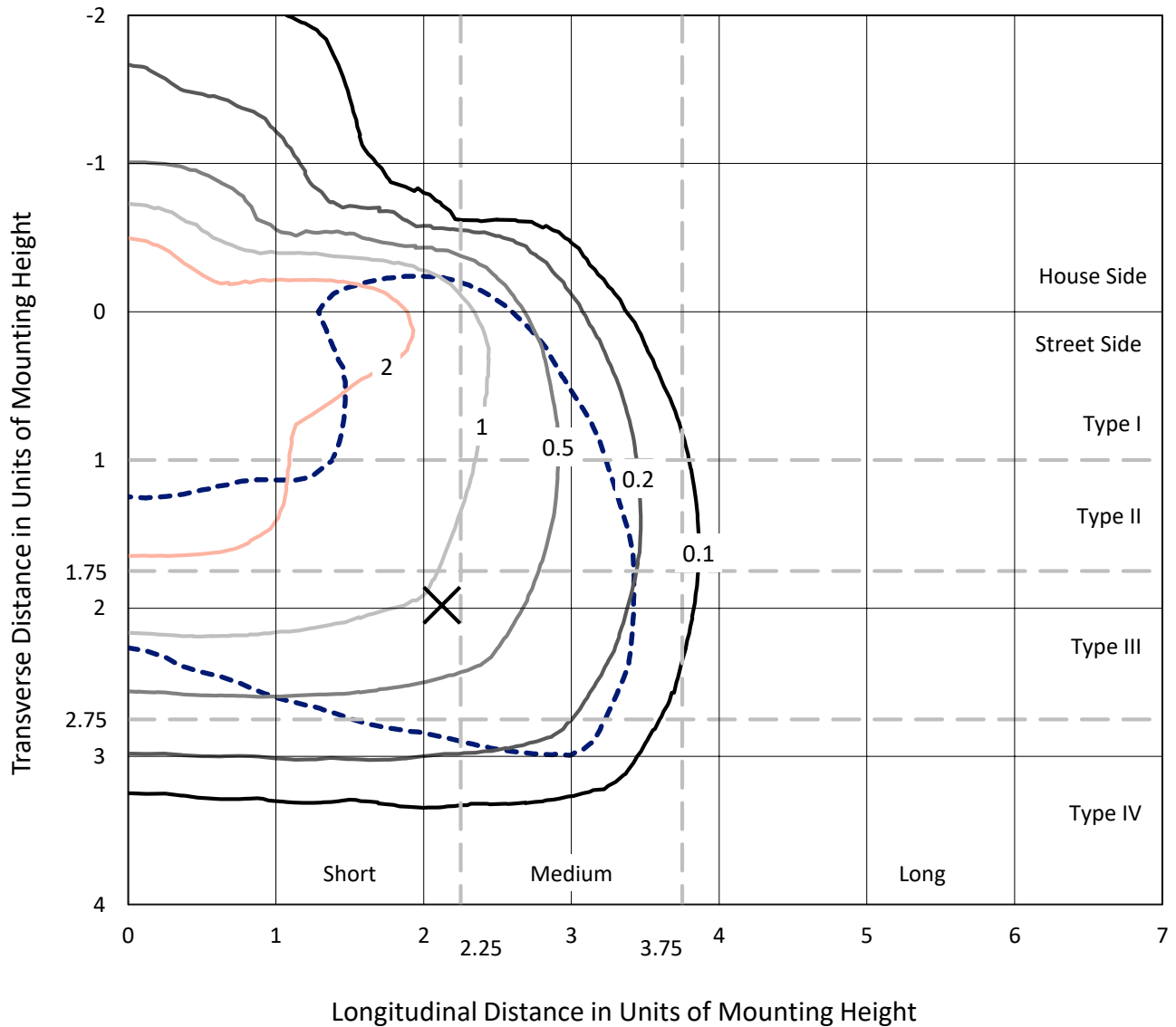
Input Watts (W): 129
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

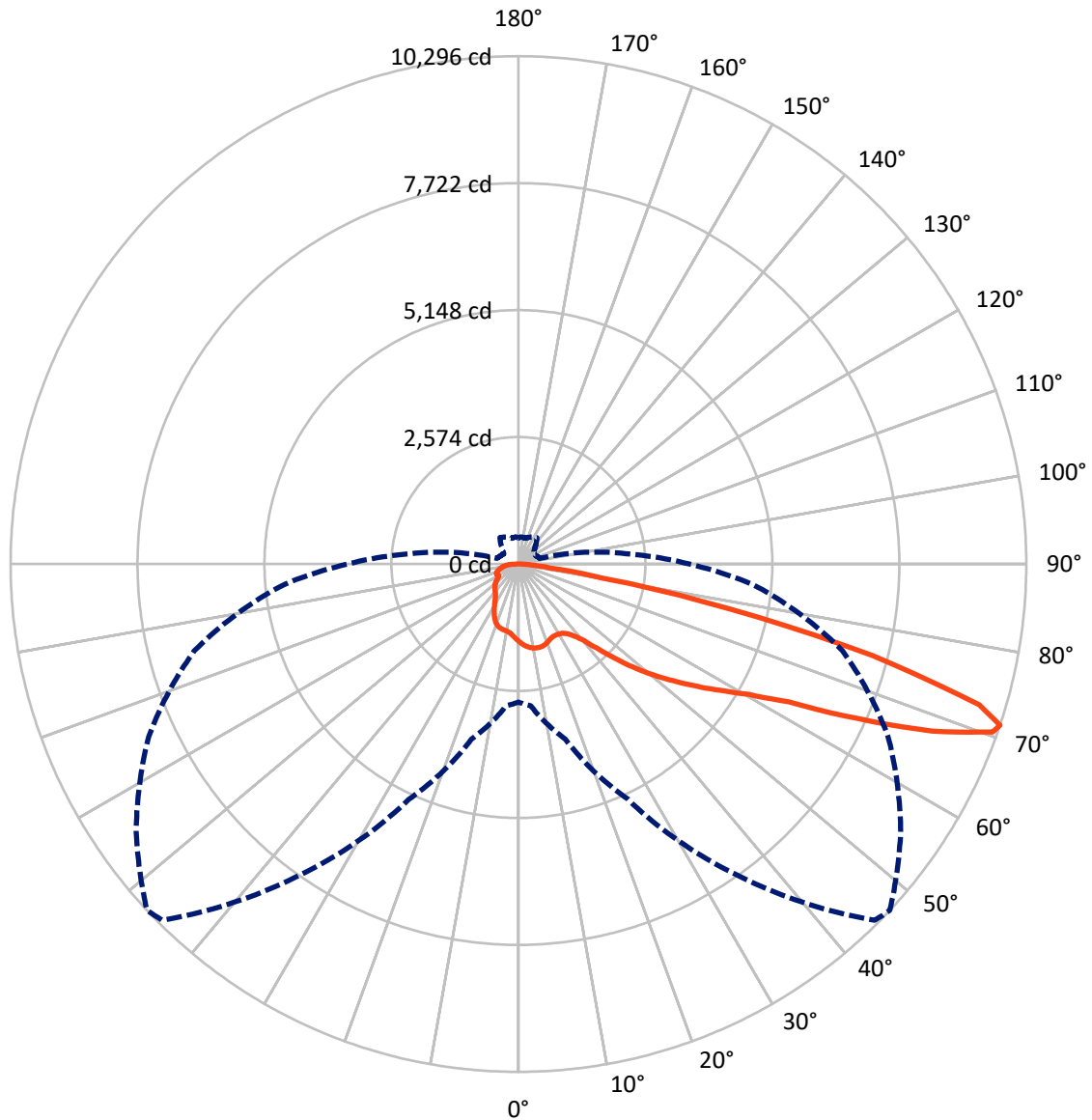
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 4.5 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	2829.8	0.0	2829.8
	% Fixture	21.4	0.0	21.4
Street Side	Lumens	10374.2	0.0	10374.2
	% Fixture	78.6	0.0	78.6
Total	Lumens	13204.0	0.0	13204.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	149.9	1.1
10°-20°	438.6	3.3
20°-30°	651.7	4.9
30°-40°	935.8	7.1
40°-50°	1659.2	12.6
50°-60°	2839.2	21.5
60°-70°	4030.6	30.5
70°-80°	2207.5	16.7
80°-90°	291.4	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°	13204.0	100.0
0°-180°	13204.0	100.0



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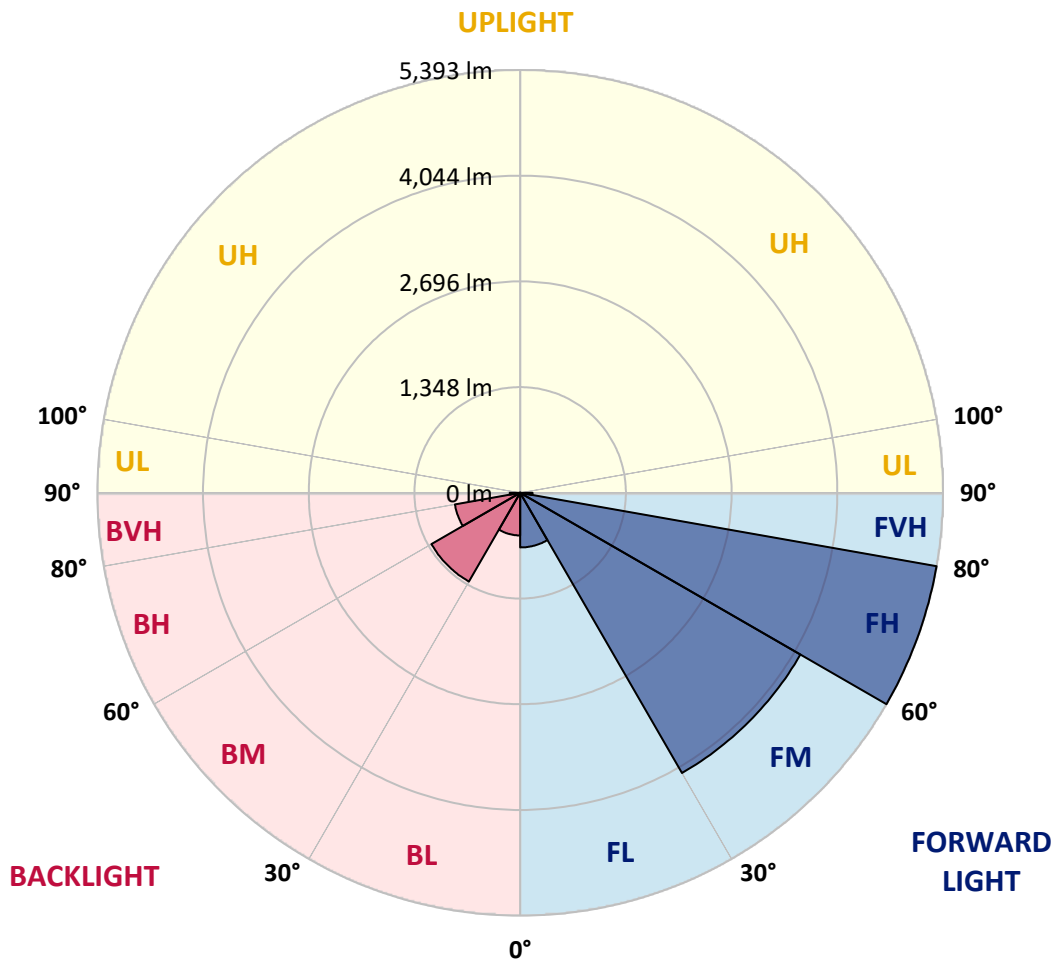
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	696.8	5.3			
FM	(30°-60°)	4126.6	31.3			
FH	(60°-80°)	5392.6	40.8			G3/7500
FVH	(80°-90°)	158.1	1.2			G2/225
BL	(0°-30°)	543.4	4.1	B2/1000		
BM	(30°-60°)	1307.5	9.9	B2/2500		
BH	(60°-80°)	845.5	6.4	B2/1000		G2/1000
BVH	(80°-90°)	133.3	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°	1570.2	1570.2	1570.2	1570.2	1570.2	1570.2	1570.2	1570.2	1570.2	1570.2	1570.2
2.5°	1666.0	1662.6	1664.3	1658.3	1643.8	1628.4	1628.4	1612.1	1595.0	1577.9	1559.1
5°	1769.6	1764.4	1760.1	1741.3	1713.1	1681.4	1676.3	1643.8	1608.7	1573.6	1539.4
7.5°	1856.0	1850.8	1838.0	1803.8	1762.7	1715.6	1709.7	1666.9	1620.7	1571.9	1524.0
10°	1917.6	1914.2	1889.3	1845.7	1797.8	1742.2	1731.9	1688.3	1633.5	1572.7	1512.0
12.5°	1951.8	1946.7	1916.7	1865.4	1808.9	1752.4	1742.2	1700.2	1637.8	1571.0	1500.0
15°	1938.1	1935.6	1907.3	1855.1	1798.6	1749.9	1741.3	1698.5	1635.2	1565.0	1488.9
17.5°	1879.9	1885.9	1863.7	1812.3	1766.1	1731.9	1722.5	1682.3	1622.4	1550.5	1471.8
20°	1799.5	1806.3	1795.2	1743.0	1716.5	1694.3	1689.1	1656.6	1601.0	1529.1	1451.2
22.5°	1713.9	1719.9	1720.8	1672.0	1663.4	1654.9	1650.6	1627.5	1582.2	1516.3	1437.5
25°	1654.9	1661.7	1663.4	1620.7	1625.8	1628.4	1627.5	1611.2	1578.7	1516.3	1439.3
27.5°	1639.5	1642.9	1641.2	1601.8	1611.2	1625.8	1626.7	1623.2	1592.4	1533.4	1463.2
30°	1692.5	1694.3	1672.9	1613.8	1623.2	1642.1	1642.9	1641.2	1621.5	1577.9	1517.1
32.5°	1921.9	1920.2	1846.6	1694.3	1661.7	1668.6	1671.1	1686.5	1688.3	1651.5	1595.0
35°	2271.0	2270.1	2184.6	1924.4	1771.3	1735.3	1738.7	1762.7	1784.1	1759.3	1726.8
37.5°	2655.2	2657.7	2605.6	2253.0	2007.4	1857.7	1854.3	1872.2	1910.7	1919.3	1923.6
40°	3081.3	3094.1	3091.6	2630.4	2338.6	2066.5	2032.2	2011.7	2086.2	2133.2	2194.0
42.5°	3568.2	3564.8	3566.5	3044.5	2716.8	2395.1	2331.7	2235.9	2322.3	2403.6	2537.1
45°	3986.6	4000.3	4010.6	3485.2	3140.4	2770.7	2706.5	2532.0	2609.8	2731.3	2935.0
47.5°	4407.6	4383.7	4402.5	3975.5	3611.8	3199.4	3116.4	2881.1	2953.8	3125.0	3434.7
50°	4897.9	4886.8	4801.2	4615.5	4181.7	3634.1	3525.4	3245.6	3351.7	3580.2	4051.7
52.5°	5337.7	5277.8	5211.1	5118.7	4742.2	4073.9	3936.1	3624.7	3819.8	4103.0	4817.5
55°	5498.6	5458.4	5538.8	5658.6	5335.2	4522.3	4368.3	4067.1	4347.7	4701.1	5718.5
57.5°	5669.8	5683.4	5864.8	6107.0	5896.5	5000.6	4833.7	4590.7	4927.0	5370.3	6725.7
60°	5755.3	5810.1	6172.0	6626.4	6430.5	5525.1	5365.1	5192.3	5569.6	6109.6	7730.2
62.5°	5769.9	5843.5	6356.0	6808.7	7165.5	6328.6	6143.8	5956.4	6372.3	6926.7	8457.6
65°	5502.9	5615.8	6339.7	7032.9	7835.5	7671.2	7554.0	7227.1	7447.0	7646.4	8581.6
67.5°	4718.2	4841.4	5712.5	6940.4	8372.8	9064.2	9042.0	8559.4	8277.0	7924.5	7661.8
70°	3462.9	3562.2	4399.1	5933.3	8138.4	10157.8	10197.2	9422.8	8508.9	7334.1	5697.1
71°	2800.6	2886.2	3675.2	5267.6	7681.5	10214.3	10296.4	9461.3	8267.6	6801.0	4769.6
72.5°	1743.0	1790.9	2440.4	3975.5	6614.4	9632.4	9771.0	8968.4	7507.8	5748.5	3371.4
75°	658.0	676.8	905.3	1753.3	3948.1	7236.5	7404.2	6777.9	5274.4	3281.5	1411.0
77.5°	353.4	362.8	449.2	729.0	1582.2	4148.3	4364.0	3866.0	2530.3	1148.3	576.7
80°	237.0	243.0	310.6	432.1	727.3	1579.6	1759.3	1552.2	947.2	655.5	410.7
82.5°	153.2	156.6	211.4	284.1	469.8	555.3	634.1	662.3	591.3	469.8	248.1
85°	101.0	103.5	139.5	181.4	290.9	273.8	280.7	367.1	403.0	309.8	126.6
87.5°	58.2	59.9	83.9	93.3	130.9	102.7	111.2	174.6	239.6	201.9	72.7
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°	1570.2	1570.2	1570.2	1570.2	1570.2	1570.2	1570.2	1570.2	1570.2	1570.2	1570.2
2.5°	1550.5	1543.7	1528.2	1518.8	1514.6	1512.8	1511.1	1514.6	1514.6	1512.8	1509.4
5°	1522.3	1509.4	1483.8	1465.8	1456.4	1453.8	1457.2	1461.5	1464.1	1464.1	1461.5
7.5°	1501.7	1482.9	1448.7	1423.9	1409.3	1405.0	1414.4	1429.8	1440.1	1445.2	1446.1
10°	1484.6	1458.9	1421.3	1395.6	1383.6	1381.9	1393.9	1413.6	1435.0	1444.4	1446.1
12.5°	1469.2	1440.1	1399.0	1375.1	1366.5	1370.8	1387.1	1405.0	1429.8	1443.5	1444.4
15°	1454.7	1424.7	1381.1	1356.3	1354.5	1361.4	1376.8	1391.3	1410.2	1427.3	1427.3
17.5°	1437.5	1405.0	1359.7	1336.6	1336.6	1342.6	1352.8	1360.5	1372.5	1388.8	1387.9
20°	1417.0	1383.6	1337.4	1313.5	1308.3	1304.9	1304.9	1306.6	1316.9	1331.4	1334.0
22.5°	1401.6	1367.4	1318.6	1289.5	1266.4	1244.2	1234.7	1231.3	1240.7	1254.4	1257.9
25°	1401.6	1367.4	1312.6	1263.8	1207.4	1164.6	1146.6	1141.5	1150.9	1163.7	1168.9
27.5°	1424.7	1390.5	1326.3	1240.7	1137.2	1068.7	1047.4	1043.1	1051.6	1061.9	1067.0
30°	1478.6	1445.2	1365.7	1214.2	1059.3	969.5	945.5	941.3	945.5	949.8	955.8
32.5°	1568.5	1540.2	1429.8	1190.3	980.6	879.6	850.5	843.7	845.4	846.3	851.4
35°	1714.8	1702.0	1515.4	1162.0	906.2	806.1	776.1	762.4	761.6	765.8	771.8
37.5°	1939.0	1946.7	1625.8	1120.9	844.6	753.9	723.9	710.2	703.4	711.9	718.8
40°	2255.6	2273.5	1753.3	1065.3	794.1	723.1	691.4	678.6	669.1	666.6	670.0
42.5°	2667.2	2662.0	1883.4	994.3	739.3	702.5	669.1	655.5	640.1	620.4	616.1
45°	3154.9	3081.3	1992.0	907.0	676.8	682.8	648.6	629.8	605.8	576.7	573.3
47.5°	3730.8	3528.0	2058.8	813.8	618.7	657.2	625.5	596.4	561.3	542.5	539.9
50°	4424.7	4050.8	2105.8	718.8	566.5	624.6	593.0	554.5	520.3	515.1	514.3
52.5°	5246.2	4667.7	2164.0	633.2	525.4	582.7	560.5	521.1	493.7	496.3	496.3
55°	6119.8	5306.1	2165.7	565.6	489.5	533.9	536.5	504.9	483.5	492.0	494.6
57.5°	6916.5	5864.0	1995.5	517.7	455.2	495.4	528.8	510.8	494.6	524.5	527.1
60°	7611.3	6293.5	1629.2	478.3	427.0	480.9	545.9	547.6	544.2	625.5	631.5
62.5°	7865.4	6297.8	1156.9	445.0	411.6	489.5	581.9	584.4	584.4	659.7	670.9
65°	7509.5	5773.3	770.1	425.3	401.3	508.3	611.0	599.8	573.3	625.5	613.5
67.5°	6255.0	4494.0	563.0	412.4	386.8	509.1	636.6	608.4	563.0	607.5	587.0
70°	4298.9	2859.7	471.5	400.5	369.7	486.9	650.3	605.8	547.6	566.5	539.1
71°	3460.4	2282.1	447.5	396.2	362.8	474.0	652.0	602.4	539.9	551.9	527.1
72.5°	2279.5	1405.9	418.4	386.8	352.5	451.8	647.8	594.7	529.7	530.5	514.3
75°	899.3	582.7	376.5	365.4	323.4	415.9	628.9	578.4	510.0	492.9	486.0
77.5°	454.4	380.8	331.1	335.4	289.2	379.1	602.4	551.9	482.6	459.5	454.4
80°	332.0	289.2	283.2	290.9	250.7	343.1	569.0	516.0	447.5	471.5	461.2
82.5°	201.9	176.3	221.6	240.4	209.6	306.3	529.7	474.0	403.0	371.4	359.4
85°	95.8	103.5	160.0	177.1	154.9	244.7	484.3	427.8	351.7	303.8	308.9
87.5°	47.1	57.3	91.6	106.1	101.8	179.7	365.4	332.0	277.2	228.5	223.3
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)