

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: P196868

Luminaire Tested: **NAV-AF-02-D-UNV-T4W-7030-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196868
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-7030-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 70 CRI, 3000K, 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: 12770.2 lumens
Efficiency: N/A
Efficacy: 99.0 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

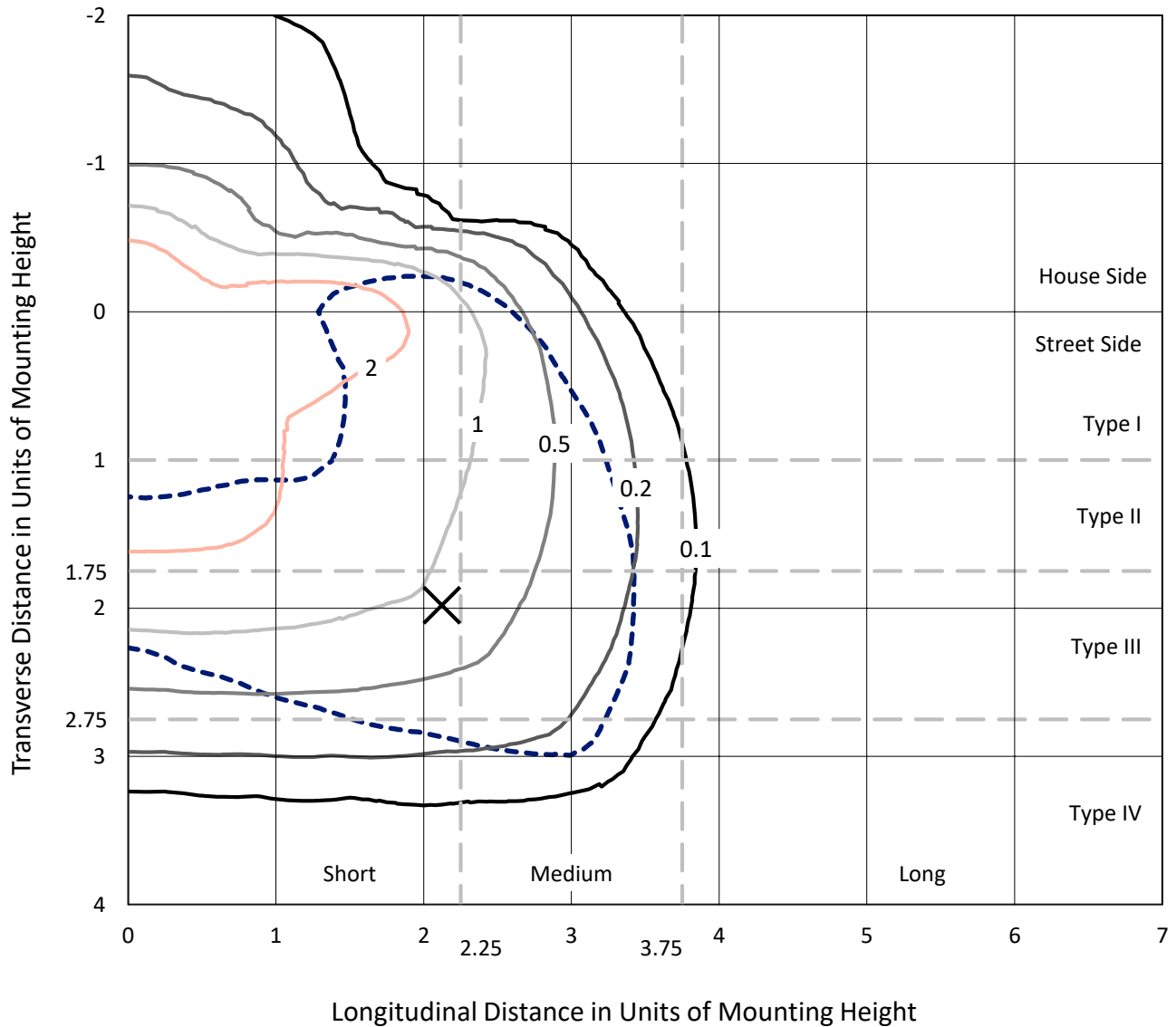
Input Watts (W): 129
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

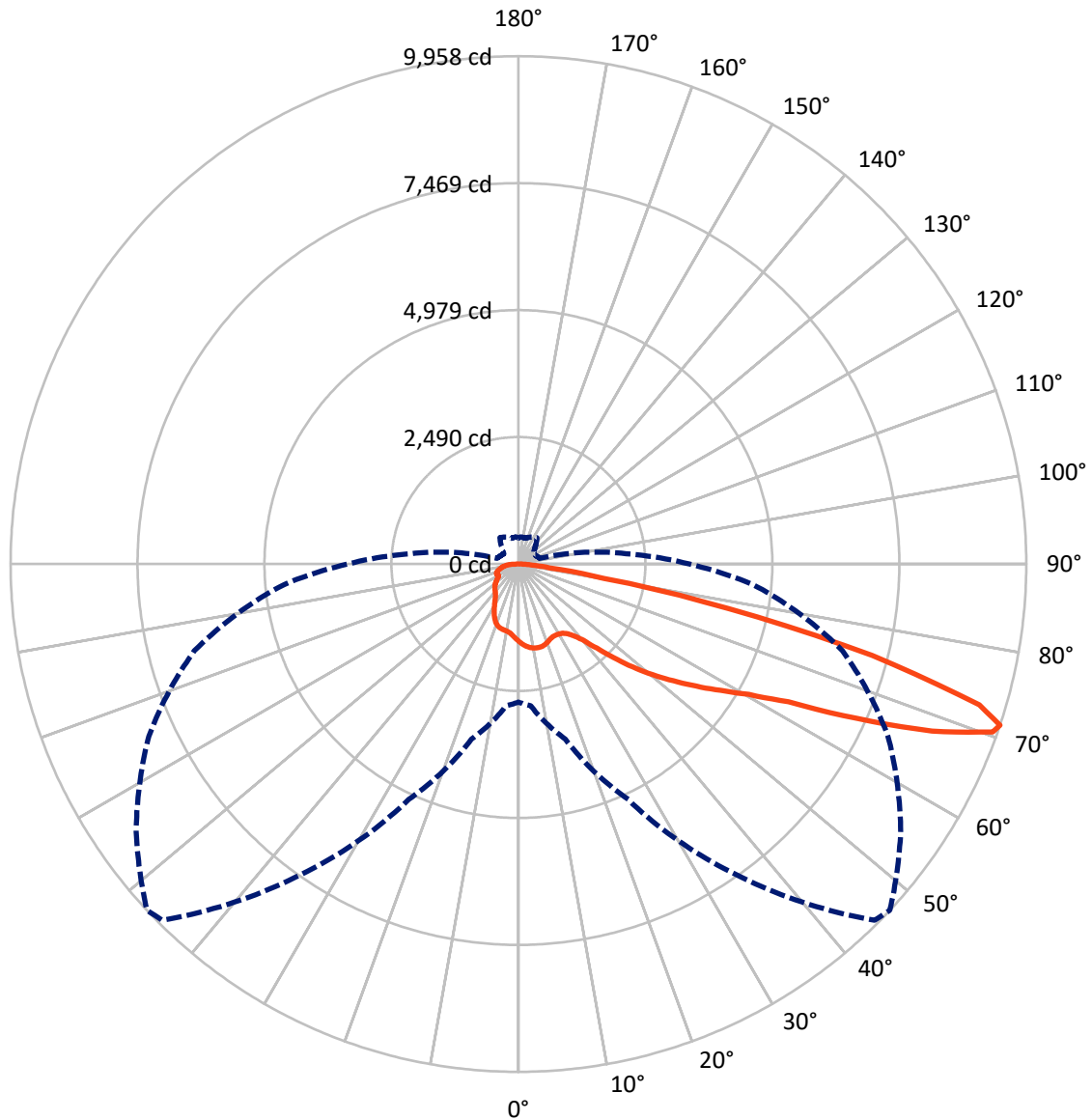
✕ Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 4.4 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	2736.8	0.0	2736.8
	% Fixture	21.4	0.0	21.4
Street Side	Lumens	10033.4	0.0	10033.4
	% Fixture	78.6	0.0	78.6
Total	Lumens	12770.2	0.0	12770.2
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	145.0	1.1
10°-20°	424.2	3.3
20°-30°	630.3	4.9
30°-40°	905.1	7.1
40°-50°	1604.7	12.6
50°-60°	2745.9	21.5
60°-70°	3898.2	30.5
70°-80°	2135.0	16.7
80°-90°	281.8	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°	12770.2	100.0
0°-180°	12770.2	100.0



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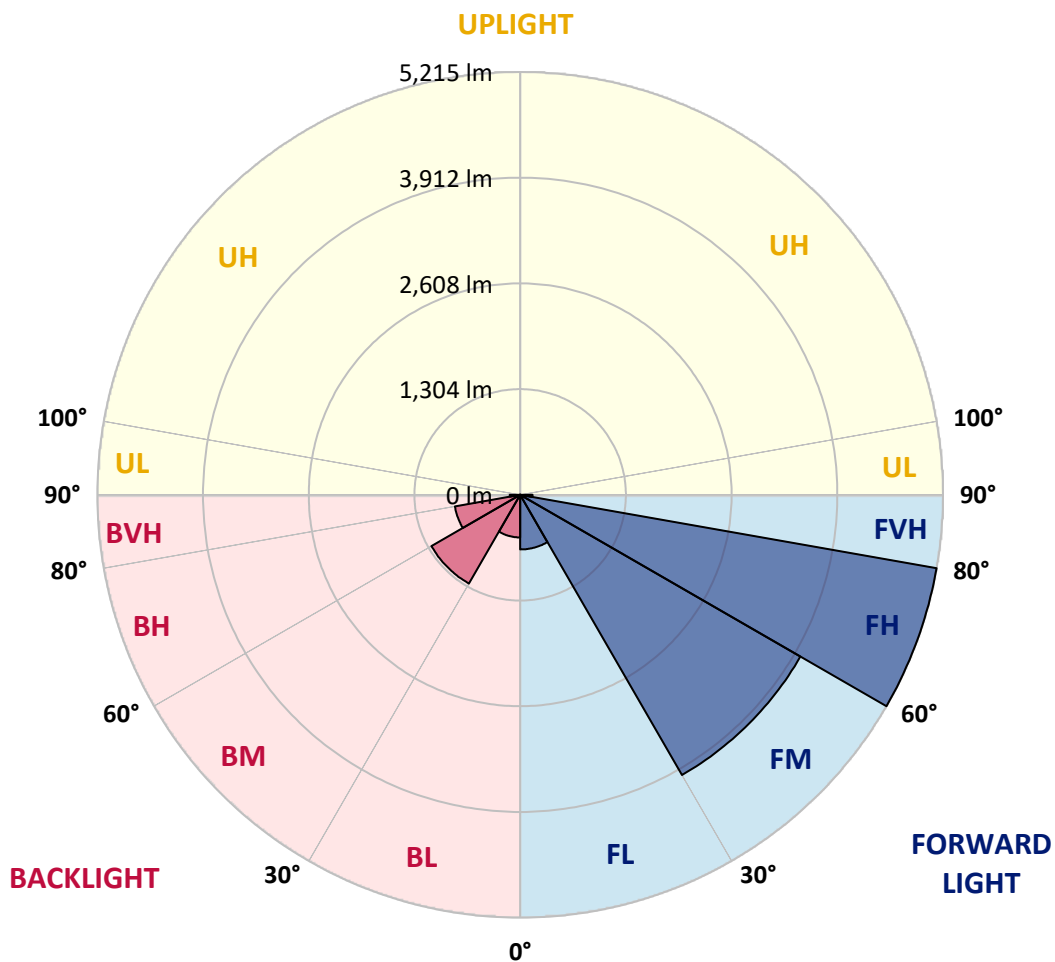
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	674.0	5.3			
FM	(30°-60°)	3991.1	31.3			
FH	(60°-80°)	5215.5	40.8			G3/7500
FVH	(80°-90°)	152.9	1.2			G2/225
BL	(0°-30°)	525.6	4.1	B2/1000		
BM	(30°-60°)	1264.6	9.9	B2/2500		
BH	(60°-80°)	817.7	6.4	B2/1000		G2/1000
BVH	(80°-90°)	129.0	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°	1518.6	1518.6	1518.6	1518.6	1518.6	1518.6	1518.6	1518.6	1518.6	1518.6	1518.6
2.5°	1611.2	1608.0	1609.6	1603.8	1589.7	1574.9	1574.9	1559.1	1542.6	1526.1	1507.9
5°	1711.4	1706.4	1702.4	1684.1	1656.8	1626.3	1621.2	1589.7	1555.9	1521.9	1488.7
7.5°	1795.0	1790.0	1777.6	1744.6	1704.8	1659.3	1653.5	1612.1	1567.5	1520.3	1473.9
10°	1854.5	1851.3	1827.3	1785.1	1738.8	1684.9	1675.1	1632.8	1579.8	1521.1	1462.3
12.5°	1887.7	1882.7	1853.8	1804.1	1749.5	1694.8	1684.9	1644.4	1583.9	1519.5	1450.8
15°	1874.5	1871.9	1844.7	1794.1	1739.5	1692.4	1684.1	1642.7	1581.5	1513.7	1439.9
17.5°	1818.2	1824.0	1802.4	1752.8	1708.2	1675.1	1665.8	1627.0	1569.1	1499.6	1423.4
20°	1740.4	1747.0	1736.2	1685.8	1660.0	1638.6	1633.7	1602.2	1548.4	1478.9	1403.6
22.5°	1657.6	1663.5	1664.2	1617.0	1608.9	1600.5	1596.4	1574.0	1530.1	1466.5	1390.4
25°	1600.5	1607.1	1608.9	1567.5	1572.4	1574.9	1574.0	1558.4	1526.9	1466.5	1392.0
27.5°	1585.7	1588.9	1587.3	1549.2	1558.4	1572.4	1573.3	1569.9	1540.1	1482.9	1415.1
30°	1636.9	1638.6	1617.9	1560.8	1569.9	1588.1	1588.9	1587.3	1568.2	1526.1	1467.3
32.5°	1858.7	1857.1	1786.0	1638.6	1607.1	1613.8	1616.3	1631.1	1632.8	1597.3	1542.6
35°	2196.3	2195.6	2112.7	1861.2	1713.0	1678.3	1681.6	1704.8	1725.5	1701.5	1670.0
37.5°	2567.9	2570.5	2519.9	2178.9	1941.4	1796.7	1793.4	1810.8	1848.0	1856.2	1860.3
40°	2980.0	2992.5	2990.0	2544.0	2261.7	1998.6	1965.5	1945.6	2017.6	2063.2	2122.0
42.5°	3451.0	3447.6	3449.4	2944.5	2627.5	2316.4	2255.1	2162.5	2246.1	2324.6	2453.8
45°	3855.6	3868.9	3878.8	3370.6	3037.2	2679.7	2617.7	2448.8	2524.1	2641.6	2838.5
47.5°	4262.9	4239.7	4257.9	3845.0	3493.1	3094.3	3014.0	2786.4	2856.8	3022.3	3321.9
50°	4737.1	4726.2	4643.5	4463.9	4044.3	3514.7	3409.6	3139.0	3241.6	3462.5	3918.6
52.5°	5162.4	5104.5	5039.9	4950.5	4586.3	3940.1	3806.8	3505.6	3694.3	3968.2	4659.3
55°	5317.9	5279.1	5356.9	5472.7	5159.9	4373.7	4224.7	3933.5	4204.9	4546.8	5530.7
57.5°	5483.5	5496.8	5672.2	5906.3	5702.8	4836.4	4674.9	4440.0	4765.2	5193.8	6504.7
60°	5566.2	5619.2	5969.3	6408.7	6219.1	5343.7	5188.8	5021.7	5386.7	5908.8	7476.3
62.5°	5580.3	5651.4	6147.3	6584.9	6930.1	6120.7	5941.9	5760.7	6162.9	6699.2	8179.7
65°	5322.1	5431.4	6131.5	6801.8	7578.1	7419.1	7305.8	6989.7	7202.4	7395.2	8299.7
67.5°	4563.2	4682.5	5524.9	6712.5	8097.7	8766.4	8744.9	8278.2	8005.1	7664.1	7410.1
70°	3349.3	3445.2	4254.5	5738.4	7871.0	9824.0	9862.2	9113.2	8229.4	7093.1	5510.0
71°	2708.6	2791.3	3554.4	5094.5	7429.1	9878.6	9958.2	9150.5	7996.0	6577.5	4612.9
72.5°	1685.8	1732.1	2360.2	3845.0	6397.1	9316.0	9450.1	8673.8	7261.2	5559.6	3260.7
75°	636.4	654.6	875.6	1695.7	3818.4	6998.8	7161.0	6555.2	5101.1	3173.8	1364.6
77.5°	341.8	350.9	434.6	705.0	1530.1	4012.1	4220.5	3739.0	2447.1	1110.6	557.8
80°	229.2	235.0	300.5	417.9	703.4	1527.7	1701.5	1501.2	916.1	633.9	397.2
82.5°	148.1	151.5	204.5	274.8	454.3	537.1	613.3	640.6	571.9	454.3	240.1
85°	97.7	100.2	134.9	175.5	281.4	264.9	271.4	355.0	389.8	299.6	122.5
87.5°	56.3	57.9	81.1	90.2	126.6	99.3	107.6	168.8	231.7	195.3	70.4
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°	1518.6	1518.6	1518.6	1518.6	1518.6	1518.6	1518.6	1518.6	1518.6	1518.6	1518.6
2.5°	1499.6	1492.9	1478.1	1469.0	1464.8	1463.2	1461.5	1464.8	1464.8	1463.2	1459.8
5°	1472.3	1459.8	1435.0	1417.6	1408.6	1406.0	1409.3	1413.5	1416.0	1416.0	1413.5
7.5°	1452.4	1434.1	1401.0	1377.1	1363.0	1358.8	1367.9	1382.9	1392.8	1397.8	1398.6
10°	1435.8	1411.0	1374.6	1349.8	1338.2	1336.6	1348.1	1367.2	1387.8	1397.0	1398.6
12.5°	1420.9	1392.8	1353.0	1329.9	1321.6	1325.8	1341.4	1358.8	1382.9	1396.2	1397.0
15°	1406.8	1377.9	1335.7	1311.6	1310.0	1316.7	1331.6	1345.6	1363.9	1380.4	1380.4
17.5°	1390.4	1358.8	1315.1	1292.6	1292.6	1298.4	1308.4	1315.8	1327.4	1343.2	1342.4
20°	1370.4	1338.2	1293.5	1270.3	1265.3	1262.1	1262.1	1263.7	1273.6	1287.7	1290.2
22.5°	1355.6	1322.5	1275.3	1247.2	1224.8	1203.3	1194.2	1190.9	1200.0	1213.3	1216.5
25°	1355.6	1322.5	1269.5	1222.3	1167.7	1126.4	1109.0	1103.9	1113.2	1125.5	1130.5
27.5°	1377.9	1344.8	1282.7	1200.0	1099.8	1033.6	1013.0	1008.8	1017.1	1027.0	1032.0
30°	1430.1	1397.8	1320.8	1174.3	1024.6	937.7	914.5	910.3	914.5	918.7	924.5
32.5°	1516.9	1489.6	1382.9	1151.1	948.4	850.7	822.6	815.9	817.6	818.5	823.5
35°	1658.4	1646.0	1465.6	1123.8	876.4	779.6	750.6	737.4	736.5	740.7	746.5
37.5°	1875.3	1882.7	1572.4	1084.1	816.8	729.1	700.2	686.9	680.2	688.6	695.1
40°	2181.5	2198.9	1695.7	1030.4	768.0	699.3	668.6	656.2	647.2	644.6	648.0
42.5°	2579.5	2574.5	1821.5	961.6	715.0	679.5	647.2	633.9	619.1	600.0	595.9
45°	3051.3	2980.0	1926.6	877.3	654.6	660.4	627.2	609.1	585.9	557.8	554.5
47.5°	3608.2	3412.0	1991.1	787.0	598.3	635.6	605.0	576.8	542.9	524.7	522.1
50°	4279.3	3917.7	2036.7	695.1	547.8	604.1	573.5	536.3	503.1	498.2	497.3
52.5°	5073.9	4514.4	2093.0	612.4	508.2	563.6	542.0	504.0	477.5	479.9	479.9
55°	5918.8	5131.8	2094.6	547.1	473.4	516.4	518.9	488.3	467.6	475.9	478.3
57.5°	6689.3	5671.3	1929.8	500.7	440.4	479.2	511.5	494.1	478.3	507.3	509.8
60°	7361.3	6086.9	1575.7	462.6	413.0	465.1	527.9	529.7	526.3	605.0	610.8
62.5°	7607.0	6090.8	1119.0	430.4	398.0	473.4	562.8	565.2	565.2	638.1	648.8
65°	7262.8	5583.5	744.8	411.3	388.1	491.5	590.9	580.1	554.5	605.0	593.4
67.5°	6049.5	4346.5	544.5	398.9	374.1	492.4	615.6	588.4	544.5	587.6	567.7
70°	4157.8	2765.8	455.9	387.4	357.5	470.9	629.0	585.9	529.7	547.8	521.3
71°	3346.7	2207.1	432.7	383.2	350.9	458.5	630.7	582.6	522.1	533.7	509.8
72.5°	2204.7	1359.7	404.7	374.1	341.0	436.9	626.5	575.1	512.3	513.1	497.3
75°	869.8	563.6	364.2	353.4	312.8	402.2	608.2	559.4	493.2	476.7	470.1
77.5°	439.4	368.3	320.2	324.4	279.7	366.6	582.6	533.7	466.7	444.3	439.4
80°	321.1	279.7	273.9	281.4	242.4	331.8	550.3	499.0	432.7	455.9	446.1
82.5°	195.3	170.5	214.3	232.5	202.7	296.3	512.3	458.5	389.8	359.1	347.6
85°	92.7	100.2	154.7	171.3	149.8	236.6	468.4	413.8	340.2	293.8	298.8
87.5°	45.6	55.4	88.5	102.6	98.5	173.8	353.4	321.1	268.1	220.9	216.0
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)