

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: P196827

Luminaire Tested: **NAV-AF-03-D-UNV-T4FT-7030-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196827
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-7030-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 70 CRI, 3000K, 615mA 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: 11633.9 lumens
Efficiency: N/A
Efficacy: 121.2 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 - G2

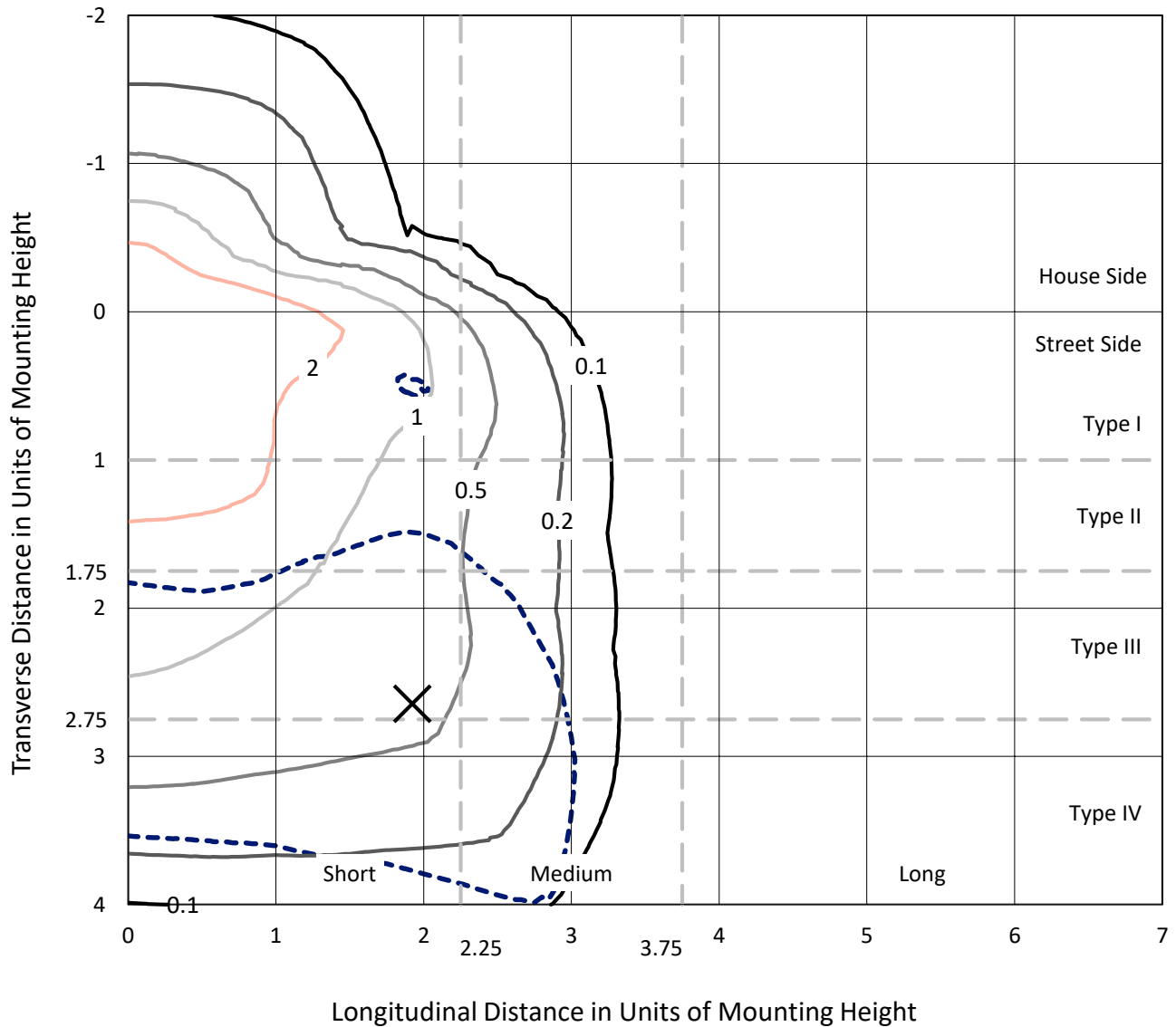
Input Watts (W): 96
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

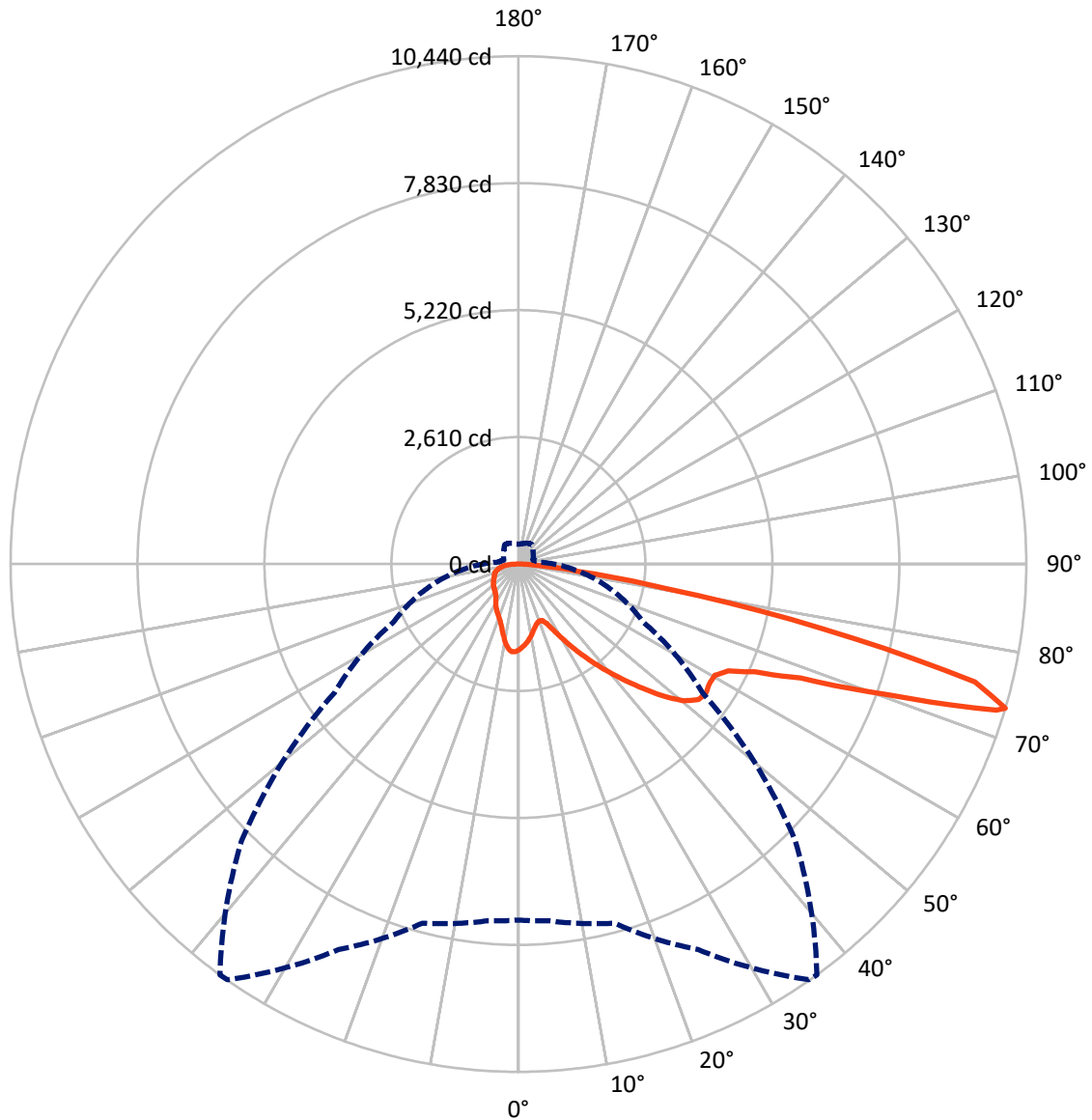
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 4.4 fc
 Type IV - Short - 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	2243.4	0.0	2243.4
	% Fixture	19.3	0.0	19.3
Street Side	Lumens	9390.6	0.0	9390.6
	% Fixture	80.7	0.0	80.7
Total	Lumens	11633.9	0.0	11633.9
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	160.1	1.4
10°-20°	402.0	3.5
20°-30°	644.5	5.5
30°-40°	1066.0	9.2
40°-50°	1649.6	14.2
50°-60°	2208.3	19.0
60°-70°	2884.8	24.8
70°-80°	2356.4	20.3
80°-90°	262.3	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°	11633.9	100.0
0°-180°	11633.9	100.0



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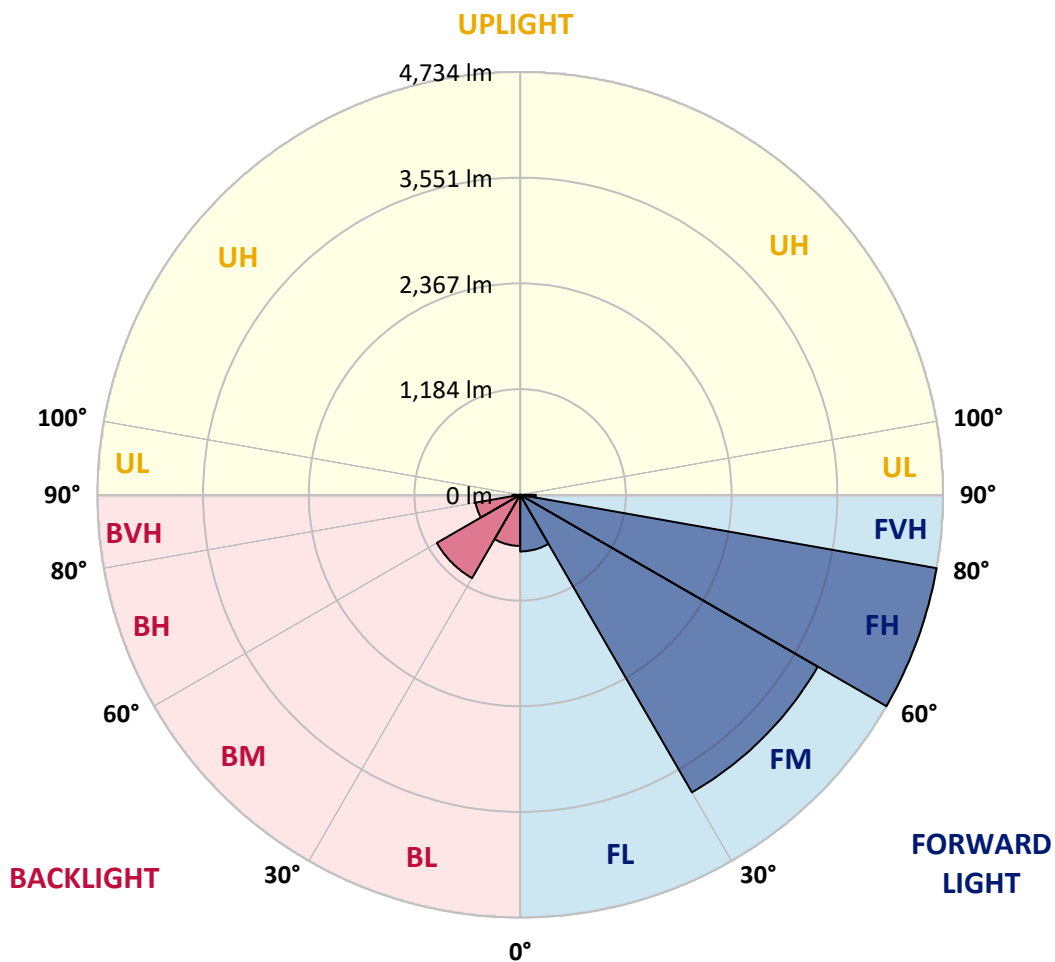
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	633.9	5.4			
FM (30°-60°)	3846.6	33.1			
FH (60°-80°)	4734.2	40.7			G2/5000
FVH (80°-90°)	175.9	1.5			G2/225
BL (0°-30°)	572.6	4.9	B2/1000		
BM (30°-60°)	1077.4	9.3	B2/2500		
BH (60°-80°)	507.0	4.4	B2/1000		G2/1000
BVH (80°-90°)	86.4	0.7			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G2

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	36°	45°	55°	65°	75°	85°
0°	1762.3	1762.3	1762.3	1762.3	1762.3	1762.3	1762.3	1762.3	1762.3	1762.3	1762.3
2.5°	1694.9	1699.4	1700.1	1705.3	1705.3	1704.6	1706.7	1715.6	1720.1	1730.4	1739.3
5°	1611.3	1616.6	1618.7	1627.6	1638.8	1639.6	1647.6	1664.7	1680.9	1703.8	1723.0
7.5°	1517.5	1523.4	1529.4	1547.8	1564.1	1565.5	1581.1	1608.4	1629.9	1658.0	1692.8
10°	1426.6	1428.1	1434.0	1457.6	1479.1	1481.3	1503.5	1534.5	1563.4	1602.5	1641.7
12.5°	1352.0	1356.4	1355.0	1372.7	1391.1	1392.6	1422.2	1461.4	1503.5	1547.8	1594.4
15°	1326.1	1325.4	1309.8	1309.0	1317.2	1318.6	1347.5	1393.4	1440.7	1495.3	1555.2
17.5°	1343.8	1337.9	1297.2	1272.1	1267.0	1268.4	1290.0	1340.2	1390.5	1453.2	1524.9
20°	1441.3	1418.5	1323.1	1262.5	1245.5	1245.5	1258.1	1298.8	1354.2	1427.4	1517.5
22.5°	1672.8	1637.2	1434.0	1326.1	1266.2	1260.3	1250.7	1281.7	1343.2	1431.1	1547.8
25°	1964.1	1947.0	1637.2	1495.3	1372.0	1352.7	1289.1	1300.1	1366.0	1470.9	1630.5
27.5°	2233.8	2204.2	1904.2	1741.5	1567.1	1537.5	1403.0	1357.9	1420.7	1544.9	1750.4
30°	2391.2	2371.3	2178.4	2023.2	1815.5	1777.7	1584.8	1471.7	1518.2	1666.9	1920.3
32.5°	2562.7	2550.8	2453.3	2312.2	2084.4	2040.9	1819.8	1657.3	1667.7	1828.8	2125.1
35°	2729.1	2744.6	2689.1	2585.6	2374.2	2333.6	2135.5	1899.7	1851.6	2010.6	2343.9
37.5°	2928.5	2932.3	2897.5	2830.4	2678.8	2645.5	2482.2	2158.4	2052.0	2204.2	2555.3
40°	3327.1	3268.6	3132.7	3079.4	2989.3	2968.6	2782.3	2395.7	2238.2	2403.0	2755.0
42.5°	3758.0	3667.1	3454.2	3367.0	3330.8	3311.5	3032.2	2553.8	2412.7	2601.9	2950.8
45°	4105.4	4031.4	3823.0	3715.2	3719.5	3688.5	3250.1	2695.1	2601.9	2801.5	3169.6
47.5°	4447.6	4324.2	4090.6	4075.1	4126.8	4081.1	3458.6	2836.3	2799.2	3018.9	3388.3
50°	4469.8	4357.5	4262.9	4387.0	4475.7	4418.8	3647.8	3021.0	3004.0	3281.9	3670.8
52.5°	4200.0	4183.7	4327.9	4537.1	4684.2	4633.1	3802.3	3211.0	3213.2	3610.9	4014.5
55°	4101.7	4081.1	4254.0	4511.2	4710.0	4679.8	3917.6	3425.4	3445.3	4010.1	4383.4
57.5°	4267.2	4215.6	4249.5	4462.3	4649.4	4631.7	4037.3	3663.4	3699.6	4469.8	4724.1
60°	4780.9	4675.3	4494.9	4534.8	4651.6	4641.4	4208.8	3928.8	3989.4	4948.8	4939.9
62.5°	5550.5	5430.7	5063.4	4886.0	4860.1	4840.1	4491.9	4254.7	4285.0	5294.7	4814.3
65°	6394.6	6266.0	5829.2	5538.7	5386.4	5343.6	4948.8	4648.0	4458.0	5294.0	4324.9
67.5°	7342.2	7206.3	6770.9	6493.8	6328.9	6255.6	5690.2	4965.9	4401.8	4846.0	3460.8
70°	8312.8	8183.4	7983.9	8080.7	8153.2	8041.5	6858.1	5071.5	3998.3	3799.4	2324.0
72.5°	7797.7	7787.2	7938.8	8856.9	10253.1	10275.3	8024.5	4772.9	3089.0	2258.2	1238.9
73°	7319.4	7363.0	7643.9	8742.3	10432.7	10440.2	8047.4	4618.4	2836.3	1945.5	1088.1
75°	3792.0	4087.6	5129.9	7088.7	9660.3	9695.0	7093.8	3496.3	1690.5	1080.7	733.2
77.5°	1015.7	1002.4	1652.8	3453.4	6440.5	6394.6	4482.4	1692.8	810.1	677.9	514.5
80°	348.1	352.6	562.4	1263.2	3006.3	3113.5	1945.5	738.5	532.9	472.3	364.4
82.5°	177.4	183.3	294.2	537.3	1257.3	1230.7	626.0	434.7	357.1	286.8	204.0
85°	94.6	97.6	161.9	278.7	461.3	466.4	220.2	232.0	226.9	162.6	100.5
87.5°	46.6	48.1	77.6	122.7	170.8	164.9	76.9	100.5	111.7	91.7	55.4
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°	1762.3	1762.3	1762.3	1762.3	1762.3	1762.3	1762.3	1762.3	1762.3	1762.3	1762.3
2.5°	1750.4	1750.4	1759.9	1776.2	1788.0	1799.2	1806.6	1818.4	1825.0	1824.3	1823.5
5°	1738.6	1746.0	1765.2	1785.1	1798.4	1807.2	1807.2	1812.5	1812.5	1810.2	1807.2
7.5°	1711.2	1723.8	1751.9	1769.6	1773.3	1763.7	1744.5	1729.7	1711.2	1701.6	1697.9
10°	1667.7	1683.8	1719.3	1727.5	1708.3	1674.3	1627.6	1587.7	1552.2	1535.9	1530.8
12.5°	1624.6	1646.1	1679.5	1666.9	1621.0	1554.5	1482.7	1428.1	1388.1	1372.7	1367.5
15°	1589.2	1615.1	1641.0	1601.8	1522.0	1429.5	1350.5	1299.5	1269.1	1257.3	1254.4
17.5°	1565.5	1595.8	1604.8	1531.6	1420.7	1317.2	1246.9	1213.8	1200.4	1195.3	1193.7
20°	1567.1	1601.0	1579.7	1463.5	1323.1	1218.9	1172.4	1162.7	1162.7	1162.7	1162.0
22.5°	1607.7	1637.2	1569.3	1400.0	1229.2	1136.1	1116.2	1124.3	1130.2	1130.2	1129.4
25°	1692.0	1708.3	1576.7	1338.7	1141.3	1064.4	1065.2	1080.7	1085.8	1085.8	1084.4
27.5°	1820.6	1807.2	1589.9	1270.6	1054.8	999.4	1009.7	1023.8	1027.5	1025.3	1024.6
30°	1981.8	1928.5	1601.0	1190.8	973.5	938.7	947.6	955.8	952.8	947.6	946.8
32.5°	2162.1	2052.0	1594.4	1101.4	901.8	875.9	881.0	885.5	881.0	868.5	868.5
35°	2341.0	2163.6	1558.1	1003.8	844.9	815.3	814.5	828.6	827.8	813.1	813.9
37.5°	2497.6	2251.5	1488.0	914.4	796.1	771.0	773.9	782.9	787.2	767.2	765.1
40°	2634.5	2312.2	1388.9	838.2	756.9	758.4	750.3	736.2	731.1	722.2	720.7
42.5°	2763.0	2354.3	1283.9	774.6	737.0	754.0	726.6	693.4	679.3	687.5	692.6
45°	2889.5	2401.6	1182.7	722.2	711.9	740.7	703.0	666.1	649.8	653.5	658.7
47.5°	3044.0	2467.4	1060.7	666.1	673.4	716.3	688.3	648.2	623.9	609.1	604.6
50°	3247.1	2562.7	902.6	605.4	632.7	689.7	675.7	622.3	595.8	566.2	558.9
52.5°	3501.5	2653.0	742.9	556.5	599.5	666.7	654.9	600.2	567.7	532.2	526.3
55°	3755.0	2665.5	605.4	514.5	561.8	635.7	629.8	582.5	536.7	507.8	501.9
57.5°	3932.5	2546.5	513.0	479.0	525.5	597.2	606.8	561.0	510.8	488.6	484.9
60°	3935.4	2261.8	456.8	455.3	498.2	564.0	583.2	535.9	494.5	479.7	476.8
62.5°	3622.7	1822.8	420.5	437.6	478.2	536.7	565.5	521.8	490.8	484.9	482.0
65°	3036.6	1346.7	391.8	421.3	459.8	513.7	550.6	517.5	489.4	487.1	484.9
67.5°	2241.9	923.2	367.3	400.7	439.1	490.0	536.7	510.8	480.4	489.4	486.4
70°	1410.3	616.4	344.5	377.0	411.7	462.7	518.2	499.0	469.4	464.3	454.6
72.5°	796.1	445.8	317.1	346.7	376.3	426.5	493.0	479.0	444.2	423.6	414.0
73°	719.3	422.1	310.4	339.2	368.1	419.1	487.1	473.1	436.8	414.0	405.1
75°	526.3	345.2	280.1	308.9	334.2	385.1	459.0	443.5	404.4	377.0	371.1
77.5°	381.5	266.1	241.0	266.8	289.0	337.8	417.0	399.2	360.7	346.0	340.1
80°	275.0	201.8	199.6	224.7	243.9	293.5	371.8	353.4	316.5	360.0	350.4
82.5°	164.1	129.4	146.4	174.5	194.4	246.2	323.0	301.5	266.1	269.1	229.1
85°	78.3	73.2	90.9	114.6	128.6	168.6	269.1	252.1	212.8	174.5	170.8
87.5°	34.8	33.3	43.6	51.1	68.8	101.3	184.1	163.4	154.5	92.5	72.4
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)