

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: P196862

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196862
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
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 70 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: 11640.5 lumens
Efficiency: N/A
Efficacy: 103.0 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 - G2

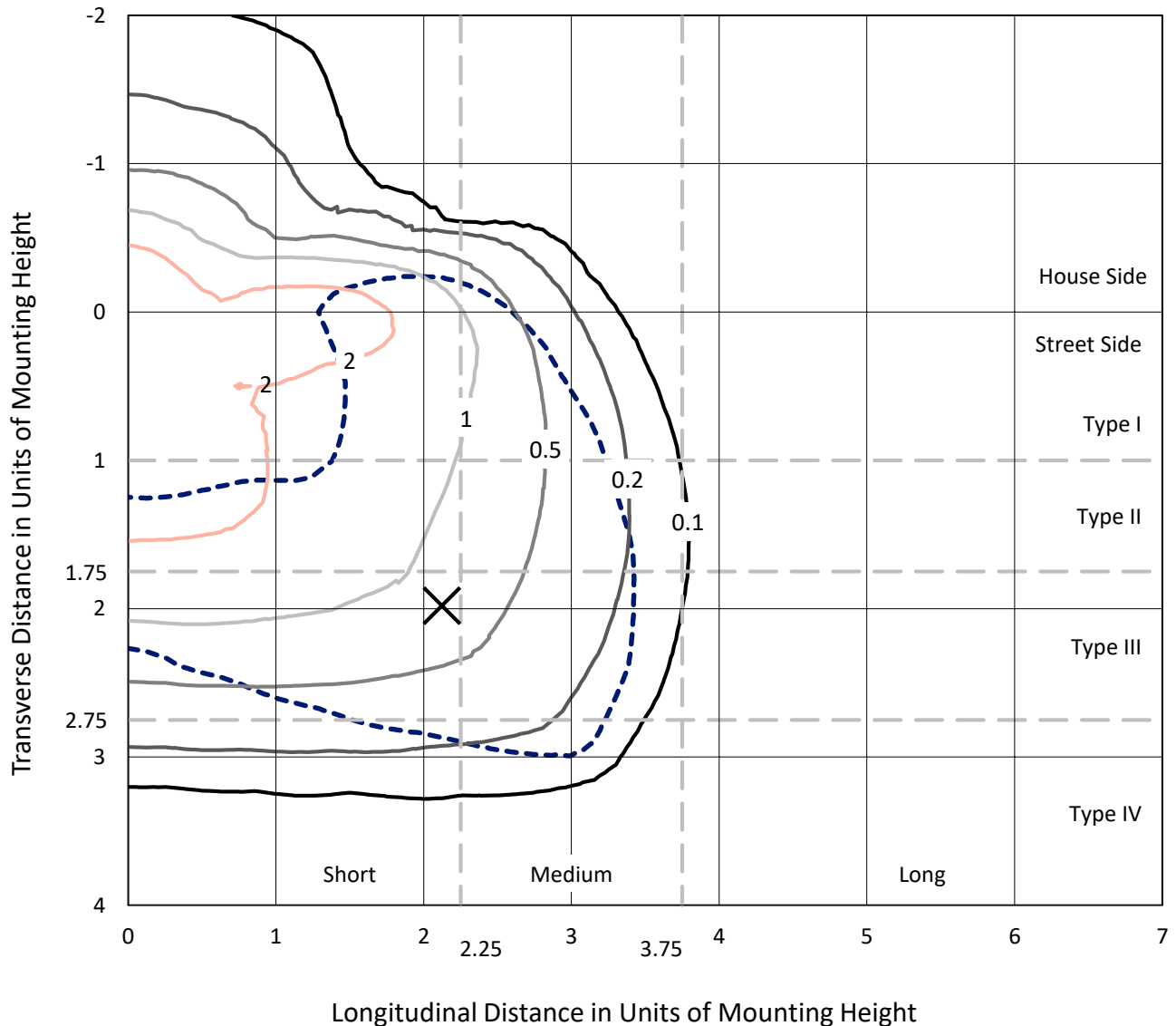
Input Watts (W): 113
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

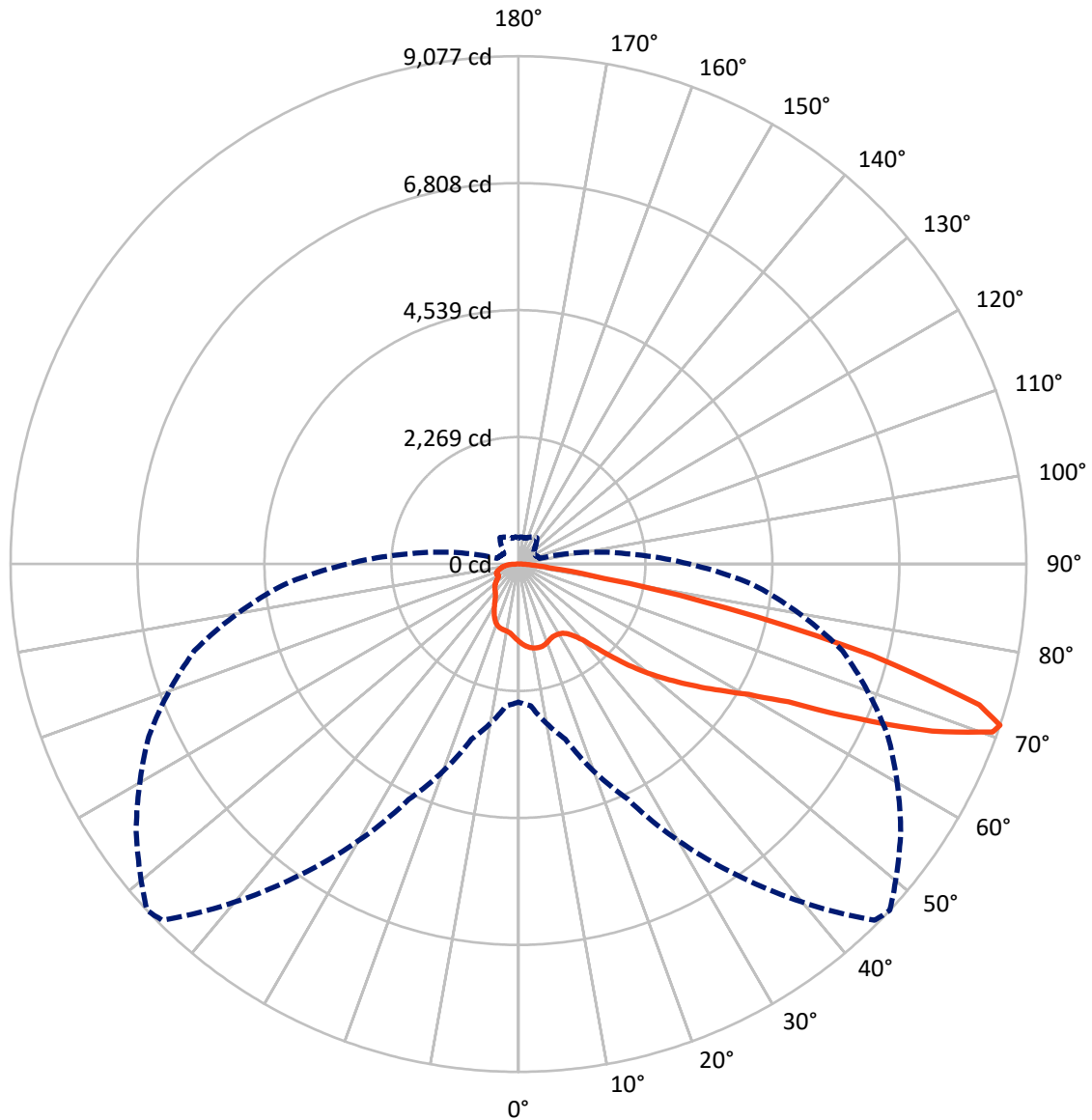
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 4 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	2494.7	0.0	2494.7
	% Fixture	21.4	0.0	21.4
Street Side	Lumens	9145.8	0.0	9145.8
	% Fixture	78.6	0.0	78.6
Total	Lumens	11640.5	0.0	11640.5
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	132.2	1.1
10°-20°	386.7	3.3
20°-30°	574.6	4.9
30°-40°	825.0	7.1
40°-50°	1462.7	12.6
50°-60°	2503.0	21.5
60°-70°	3553.4	30.5
70°-80°	1946.1	16.7
80°-90°	256.9	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°	11640.5	100.0
0°-180°	11640.5	100.0



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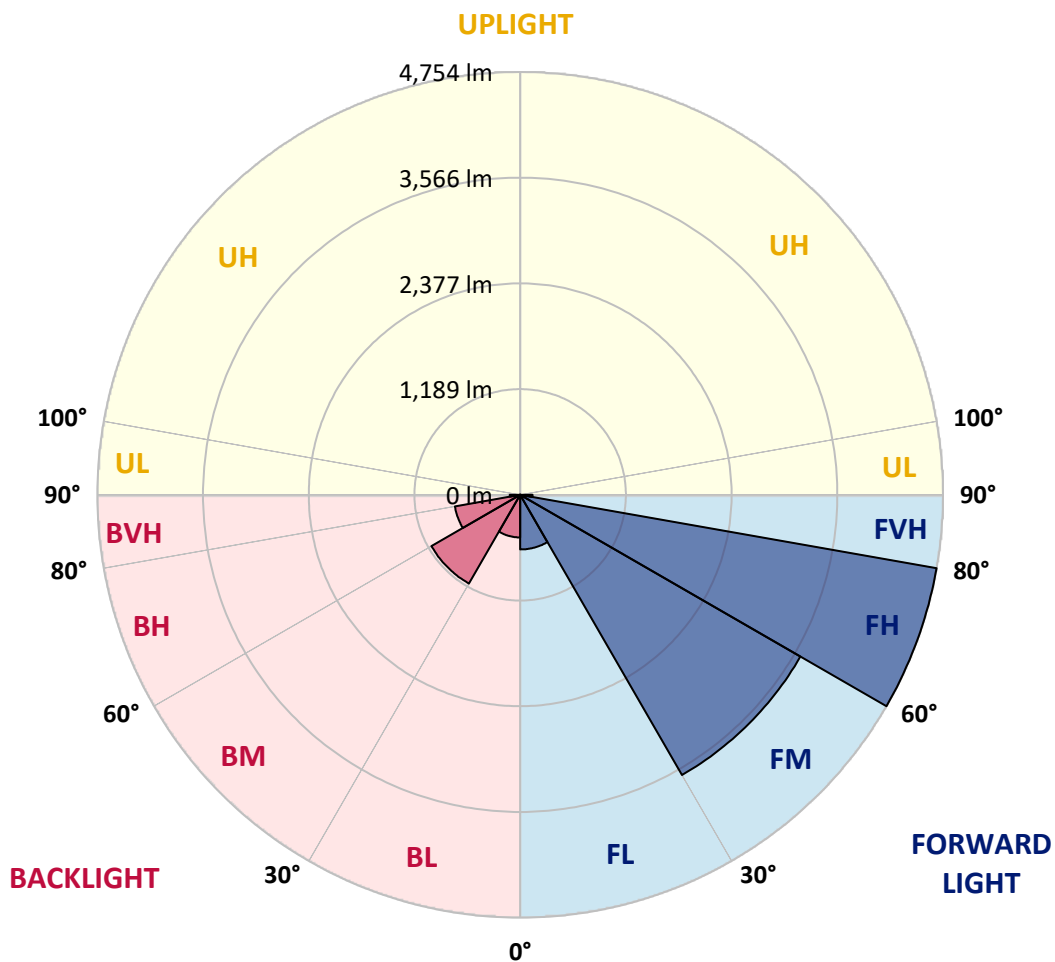
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	614.3	5.3			
FM (30°-60°)	3638.0	31.3			
FH (60°-80°)	4754.1	40.8			G2/5000
FVH (80°-90°)	139.3	1.2			G2/225
BL (0°-30°)	479.1	4.1	B1/500		
BM (30°-60°)	1152.7	9.9	B2/2500		
BH (60°-80°)	745.4	6.4	B2/1000		G2/1000
BVH (80°-90°)	117.6	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-G2

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	47°	55°	65°	75°	85°
0°	1384.2	1384.2	1384.2	1384.2	1384.2	1384.2	1384.2	1384.2	1384.2	1384.2	1384.2
2.5°	1468.8	1465.7	1467.3	1462.0	1449.1	1435.5	1435.5	1421.3	1406.1	1391.1	1374.5
5°	1560.0	1555.6	1551.7	1535.1	1510.2	1482.3	1477.8	1449.1	1418.1	1387.3	1357.1
7.5°	1636.1	1631.7	1620.4	1590.2	1554.0	1512.4	1507.2	1469.5	1428.8	1385.7	1343.6
10°	1690.6	1687.5	1665.6	1627.2	1585.0	1535.8	1526.8	1488.3	1440.0	1386.5	1333.0
12.5°	1720.8	1716.1	1689.8	1644.5	1594.7	1544.9	1535.8	1498.9	1443.9	1385.0	1322.4
15°	1708.6	1706.4	1681.5	1635.5	1585.7	1542.6	1535.1	1497.4	1441.5	1379.7	1312.5
17.5°	1657.4	1662.6	1643.0	1597.7	1557.0	1526.8	1518.4	1483.0	1430.3	1367.0	1297.5
20°	1586.5	1592.5	1582.6	1536.6	1513.2	1493.7	1489.1	1460.5	1411.4	1348.0	1279.4
22.5°	1510.9	1516.3	1517.1	1474.0	1466.5	1458.9	1455.2	1434.8	1394.8	1336.7	1267.3
25°	1458.9	1464.9	1466.5	1428.8	1433.3	1435.5	1434.8	1420.5	1391.8	1336.7	1268.8
27.5°	1445.4	1448.3	1446.8	1412.1	1420.5	1433.3	1434.0	1431.0	1403.9	1351.9	1290.0
30°	1492.2	1493.7	1474.8	1422.8	1431.0	1447.5	1448.3	1446.8	1429.5	1391.1	1337.5
32.5°	1694.3	1692.8	1627.9	1493.7	1464.9	1470.9	1473.3	1486.8	1488.3	1455.9	1406.1
35°	2002.0	2001.3	1925.9	1696.6	1561.6	1529.8	1532.9	1554.0	1572.8	1550.9	1522.3
37.5°	2340.8	2343.1	2297.0	1986.3	1769.7	1637.7	1634.7	1650.6	1684.4	1692.0	1695.8
40°	2716.4	2727.7	2725.5	2318.9	2061.6	1821.8	1791.7	1773.5	1839.2	1880.6	1934.2
42.5°	3145.7	3142.7	3144.2	2684.0	2395.1	2111.4	2055.6	1971.1	2047.3	2119.0	2236.6
45°	3514.6	3526.7	3535.6	3072.5	2768.5	2442.6	2386.0	2232.1	2300.8	2408.0	2587.5
47.5°	3885.7	3864.6	3881.2	3504.7	3184.2	2820.5	2747.4	2540.0	2604.0	2755.0	3028.0
50°	4317.9	4308.1	4232.7	4069.1	3686.5	3203.8	3108.0	2861.3	2954.8	3156.3	3571.9
52.5°	4705.7	4653.0	4594.1	4512.6	4180.7	3591.5	3470.1	3195.5	3367.5	3617.1	4247.0
55°	4847.5	4812.1	4883.1	4988.6	4703.4	3986.8	3851.0	3585.5	3833.0	4144.4	5041.3
57.5°	4998.4	5010.4	5170.3	5383.9	5198.3	4408.5	4261.3	4047.2	4343.6	4734.3	5929.3
60°	5073.8	5122.1	5441.2	5841.8	5669.0	4870.9	4729.9	4577.4	4910.1	5386.2	6814.8
62.5°	5086.7	5151.5	5603.4	6002.4	6317.1	5579.3	5416.3	5251.1	5617.7	6106.5	7456.1
65°	4851.3	4950.9	5589.0	6200.0	6907.7	6762.8	6659.5	6371.4	6565.2	6741.0	7565.4
67.5°	4159.5	4268.2	5036.1	6118.6	7381.4	7990.9	7971.3	7545.9	7296.9	6986.1	6754.5
70°	3052.9	3140.4	3878.1	5230.7	7174.7	8955.0	8989.8	8307.0	7501.3	6465.6	5022.5
71°	2469.0	2544.4	3240.0	4643.8	6771.9	9004.8	9077.1	8341.0	7288.5	5995.6	4204.9
72.5°	1536.6	1578.9	2151.5	3504.7	5831.1	8491.8	8614.0	7906.4	6618.7	5067.8	2972.2
75°	580.0	596.7	798.1	1545.7	3480.6	6379.6	6527.4	5975.3	4649.8	2892.9	1243.9
77.5°	311.5	319.8	396.1	642.7	1394.8	3657.1	3847.2	3408.3	2230.6	1012.4	508.4
80°	208.9	214.2	273.8	381.0	641.3	1392.5	1550.9	1368.4	835.1	577.9	362.0
82.5°	135.1	138.0	186.3	250.4	414.1	489.6	559.0	583.9	521.2	414.1	218.7
85°	89.0	91.2	122.9	159.9	256.4	241.4	247.5	323.6	355.3	273.0	111.7
87.5°	51.3	52.8	74.0	82.3	115.4	90.5	98.2	153.8	211.2	178.0	64.1
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°	1384.2	1384.2	1384.2	1384.2	1384.2	1384.2	1384.2	1384.2	1384.2	1384.2	1384.2
2.5°	1367.0	1360.9	1347.2	1339.0	1335.2	1333.7	1332.2	1335.2	1335.2	1333.7	1330.7
5°	1342.0	1330.7	1308.1	1292.2	1283.9	1281.6	1284.7	1288.5	1290.7	1290.7	1288.5
7.5°	1323.9	1307.3	1277.1	1255.3	1242.4	1238.7	1246.9	1260.6	1269.6	1274.1	1274.8
10°	1308.8	1286.2	1252.9	1230.4	1219.8	1218.2	1228.8	1246.2	1265.1	1273.3	1274.8
12.5°	1295.3	1269.6	1233.4	1212.2	1204.7	1208.5	1222.8	1238.7	1260.6	1272.7	1273.3
15°	1282.3	1256.1	1217.5	1195.7	1194.2	1200.2	1213.8	1226.6	1243.2	1258.2	1258.2
17.5°	1267.3	1238.7	1198.7	1178.4	1178.4	1183.6	1192.7	1199.4	1209.9	1224.4	1223.6
20°	1249.3	1219.8	1179.0	1157.9	1153.4	1150.4	1150.4	1151.9	1161.0	1173.8	1176.0
22.5°	1235.6	1205.4	1162.5	1136.9	1116.4	1096.9	1088.5	1085.5	1093.8	1105.9	1108.9
25°	1235.6	1205.4	1157.2	1114.2	1064.4	1026.7	1010.8	1006.3	1014.6	1026.0	1030.5
27.5°	1256.1	1225.8	1169.3	1093.8	1002.6	942.2	923.4	919.5	927.1	936.2	940.7
30°	1303.6	1274.1	1203.9	1070.4	933.9	854.7	833.5	829.9	833.5	837.4	842.6
32.5°	1382.7	1357.9	1260.6	1049.3	864.5	775.5	749.8	743.8	745.2	746.0	750.6
35°	1511.7	1500.4	1336.0	1024.5	798.9	710.6	684.2	672.2	671.4	675.1	680.4
37.5°	1709.4	1716.1	1433.3	988.2	744.6	664.7	638.2	626.2	620.0	627.5	633.7
40°	1988.5	2004.4	1545.7	939.2	700.1	637.4	609.5	598.2	589.9	587.6	590.6
42.5°	2351.4	2346.8	1660.3	876.6	651.7	619.3	589.9	577.9	564.3	547.0	543.1
45°	2781.3	2716.4	1756.2	799.7	596.7	602.0	571.8	555.2	534.1	508.4	505.5
47.5°	3289.0	3110.2	1815.1	717.4	545.4	579.4	551.4	525.7	494.8	478.2	476.1
50°	3900.8	3571.1	1856.5	633.7	499.5	550.6	522.8	488.8	458.7	454.1	453.3
52.5°	4625.0	4115.0	1907.7	558.2	463.2	513.7	494.1	459.4	435.3	437.5	437.5
55°	5395.2	4677.8	1909.3	498.7	431.5	470.7	473.0	445.1	426.2	433.8	436.1
57.5°	6097.4	5169.6	1759.2	456.3	401.3	436.8	466.2	450.3	436.1	462.3	464.7
60°	6710.0	5548.3	1436.3	421.7	376.4	423.9	481.3	482.8	479.7	551.4	556.6
62.5°	6934.0	5552.1	1019.9	392.2	362.8	431.5	513.0	515.2	515.2	581.6	591.4
65°	6620.2	5089.7	678.9	374.9	353.8	448.1	538.6	528.9	505.5	551.4	540.9
67.5°	5514.4	3961.8	496.4	363.7	341.0	448.8	561.3	536.4	496.4	535.6	517.5
70°	3789.8	2521.0	415.6	353.0	325.9	429.3	573.3	534.1	482.8	499.5	475.3
71°	3050.6	2011.9	394.5	349.3	319.8	417.9	574.8	531.1	476.1	486.5	464.7
72.5°	2009.6	1239.4	368.9	341.0	310.9	398.2	571.1	524.2	467.0	467.7	453.3
75°	792.7	513.7	331.9	322.1	285.1	366.6	554.5	509.9	449.6	434.6	428.6
77.5°	400.6	335.7	291.9	295.6	255.0	334.3	531.1	486.5	425.4	405.2	400.6
80°	292.7	255.0	249.6	256.4	221.0	302.5	501.6	454.8	394.5	415.6	406.6
82.5°	178.0	155.3	195.3	212.0	184.8	270.1	467.0	417.9	355.3	327.3	316.9
85°	84.4	91.2	141.1	156.1	136.6	215.8	426.9	377.2	310.1	267.8	272.3
87.5°	41.5	50.6	80.8	93.5	89.8	158.4	322.1	292.7	244.4	201.4	196.8
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)