

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: P270474

Luminaire Tested: **NAV-AF-03-D-UNV-T4FT-7027-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P270474
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-7027-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 70 CRI, 2700K, 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: 10450.8 lumens
Efficiency: N/A
Efficacy: 108.9 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

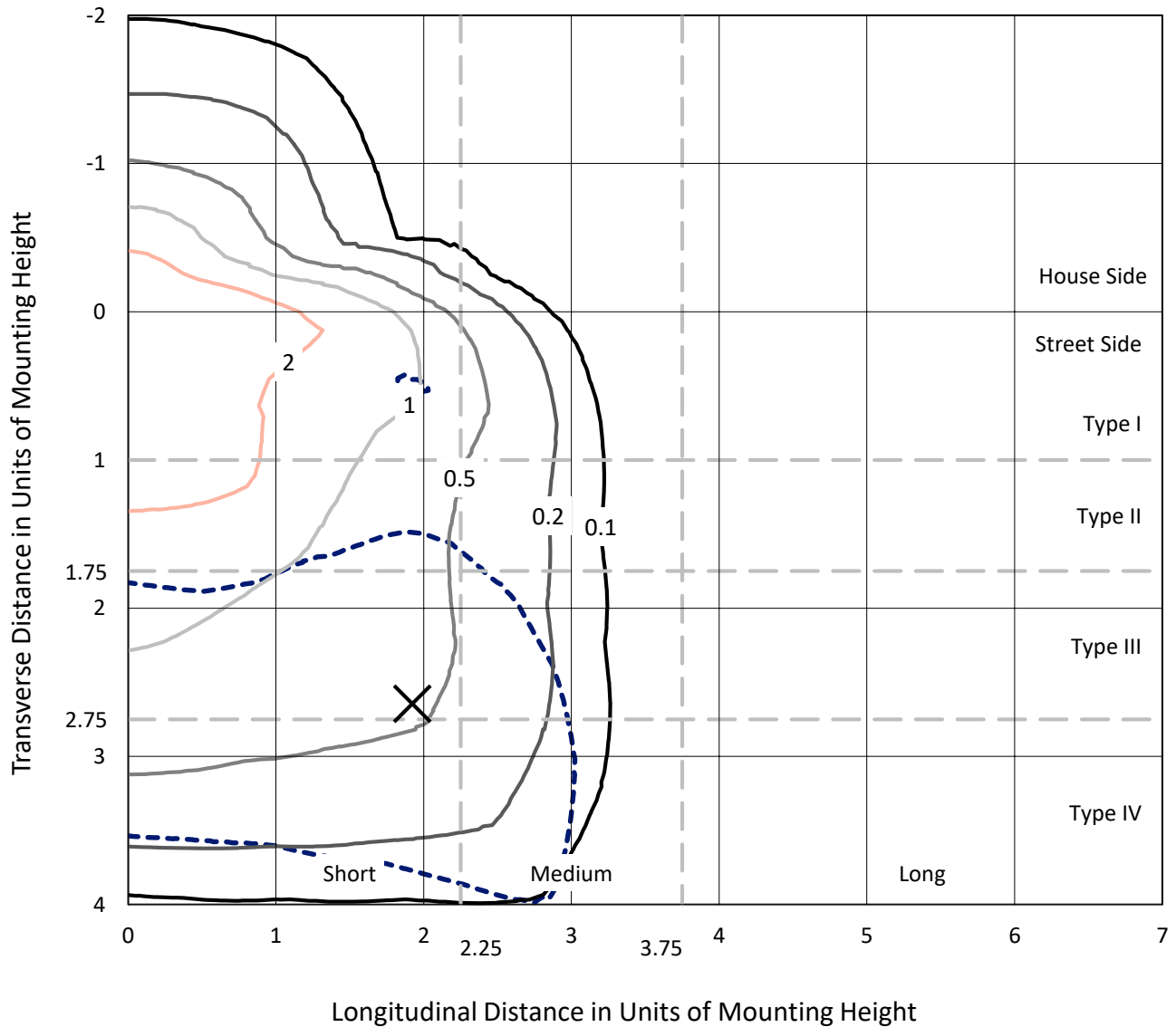


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Iso-Footcandle Lines of Horizontal Illumination

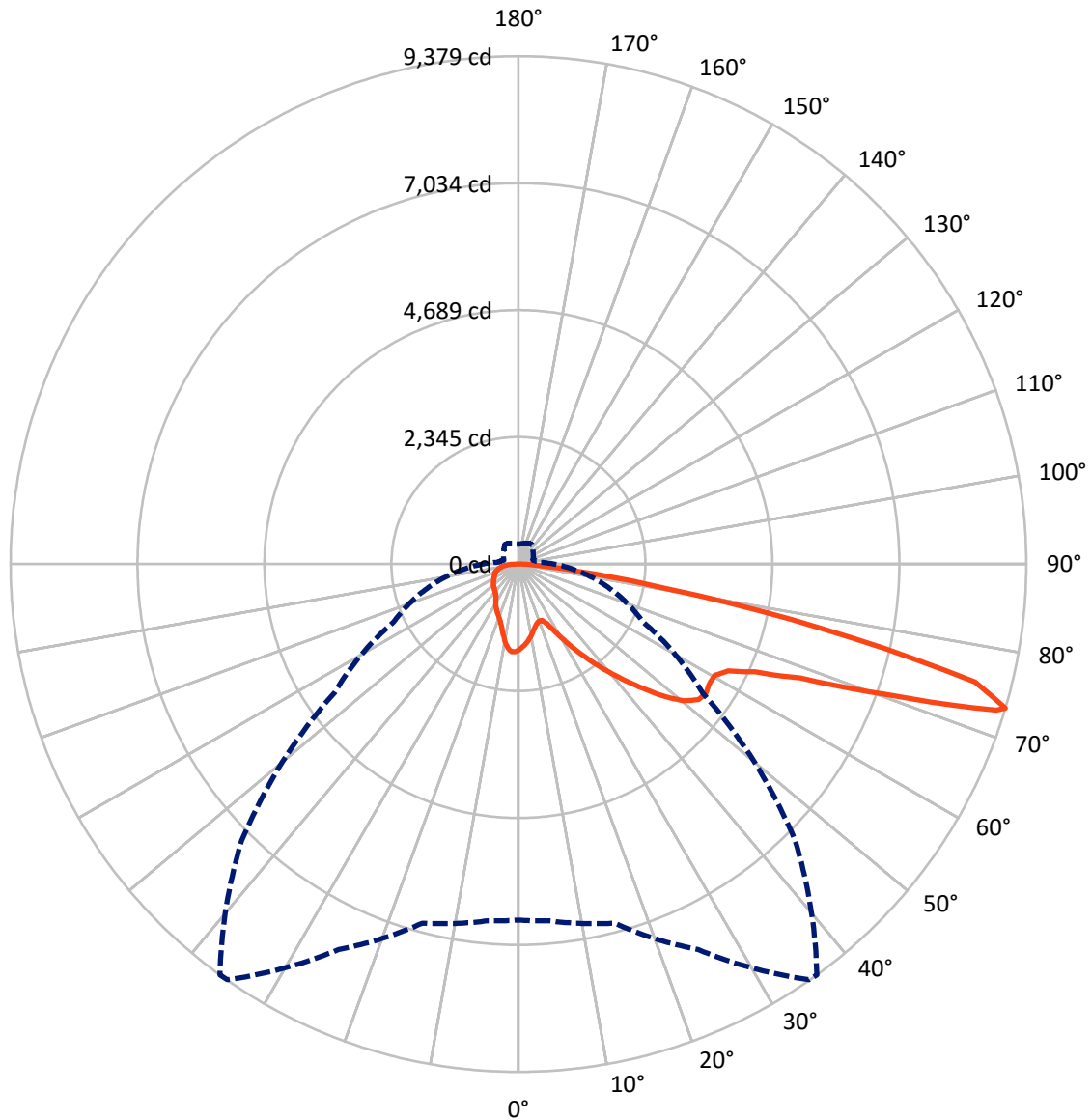
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 4 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	2015.3	0.0	2015.3
	% Fixture	19.3	0.0	19.3
Street Side	Lumens	8435.6	0.0	8435.6
	% Fixture	80.7	0.0	80.7
Total	Lumens	10450.8	0.0	10450.8
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	143.8	1.4
10°-20°	361.1	3.5
20°-30°	579.0	5.5
30°-40°	957.6	9.2
40°-50°	1481.9	14.2
50°-60°	1983.7	19.0
60°-70°	2591.4	24.8
70°-80°	2116.7	20.3
80°-90°	235.6	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°	10450.8	100.0
0°-180°	10450.8	100.0



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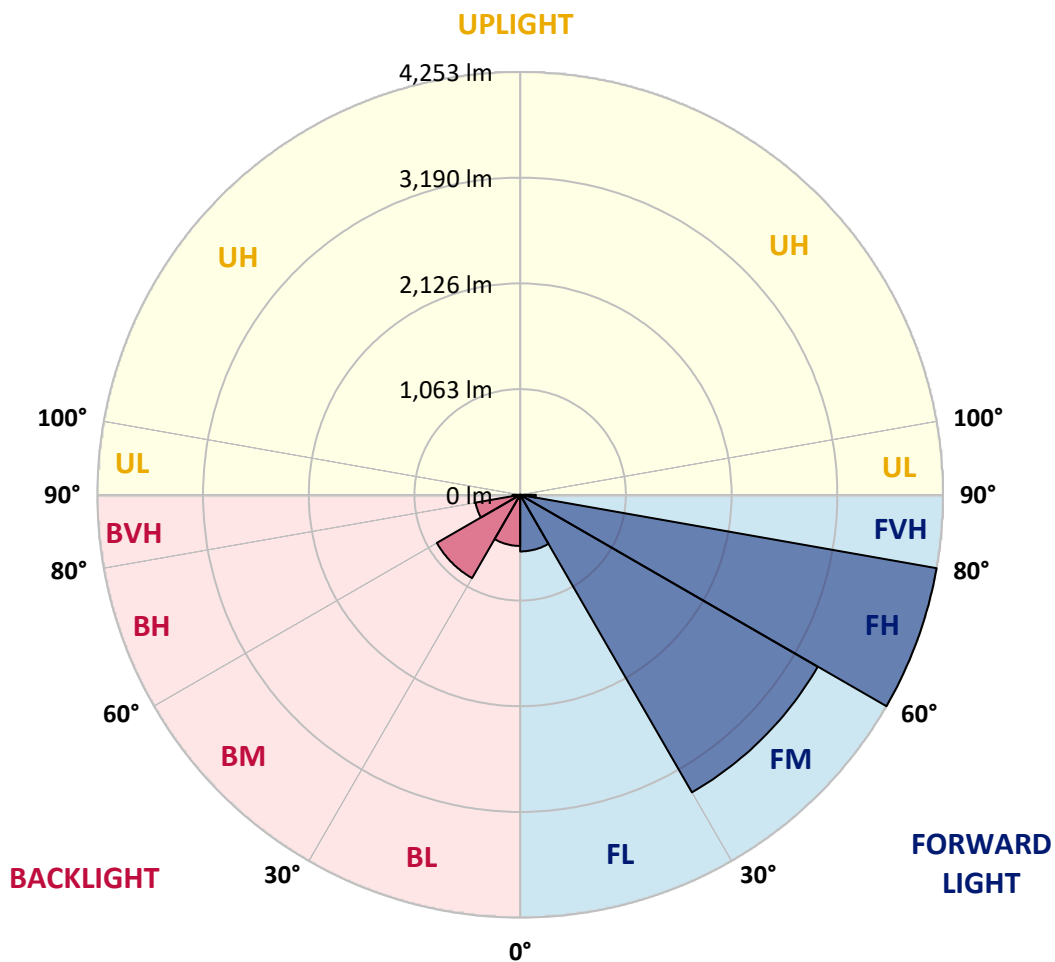
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	569.4	5.4			
FM	(30°-60°)	3455.4	33.1			
FH	(60°-80°)	4252.7	40.7			G2/5000
FVH	(80°-90°)	158.0	1.5			G2/225
BL	(0°-30°)	514.4	4.9	B2/1000		
BM	(30°-60°)	967.8	9.3	B1/1000		
BH	(60°-80°)	455.4	4.4	B1/500		G1/500
BVH	(80°-90°)	77.6	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°	1583.1	1583.1	1583.1	1583.1	1583.1	1583.1	1583.1	1583.1	1583.1	1583.1	1583.1
2.5°	1522.5	1526.6	1527.2	1531.9	1531.9	1531.3	1533.1	1541.1	1545.2	1554.4	1562.4
5°	1447.4	1452.2	1454.1	1462.1	1472.1	1472.9	1480.0	1495.4	1510.0	1530.5	1547.8
7.5°	1363.2	1368.5	1373.9	1390.4	1405.0	1406.3	1420.3	1444.8	1464.1	1489.4	1520.7
10°	1281.5	1282.9	1288.2	1309.4	1328.7	1330.7	1350.6	1378.4	1404.4	1439.5	1474.7
12.5°	1214.5	1218.5	1217.2	1233.1	1249.6	1251.0	1277.6	1312.8	1350.6	1390.4	1432.3
15°	1191.2	1190.6	1176.6	1175.9	1183.2	1184.5	1210.5	1251.7	1294.2	1343.2	1397.0
17.5°	1207.1	1201.8	1165.3	1142.7	1138.2	1139.4	1158.8	1203.9	1249.1	1305.4	1369.8
20°	1294.7	1274.2	1188.5	1134.1	1118.8	1118.8	1130.2	1166.7	1216.5	1282.2	1363.2
22.5°	1502.7	1470.7	1288.2	1191.2	1137.4	1132.1	1123.5	1151.4	1206.6	1285.6	1390.4
25°	1764.4	1749.0	1470.7	1343.2	1232.5	1215.1	1158.0	1167.9	1227.1	1321.3	1464.7
27.5°	2006.6	1980.0	1710.6	1564.4	1407.7	1381.1	1260.3	1219.8	1276.2	1387.8	1572.4
30°	2148.0	2130.2	1956.9	1817.5	1630.9	1596.9	1423.6	1322.0	1363.8	1497.4	1725.0
32.5°	2302.1	2291.4	2203.8	2077.1	1872.4	1833.4	1634.7	1488.8	1498.1	1642.8	1909.0
35°	2451.6	2465.5	2415.6	2322.7	2132.8	2096.3	1918.3	1706.5	1663.3	1806.1	2105.5
37.5°	2630.7	2634.1	2602.8	2542.6	2406.4	2376.5	2229.8	1938.9	1843.3	1980.0	2295.4
40°	2988.8	2936.2	2814.1	2766.2	2685.3	2666.7	2499.4	2152.1	2010.6	2158.6	2474.8
42.5°	3375.8	3294.2	3102.9	3024.6	2992.1	2974.7	2723.8	2294.1	2167.3	2337.3	2650.7
45°	3687.9	3621.4	3434.2	3337.4	3341.2	3313.4	2919.6	2421.0	2337.3	2516.6	2847.3
47.5°	3995.3	3884.5	3674.6	3660.7	3707.1	3666.1	3106.9	2547.9	2514.5	2711.9	3043.7
50°	4015.2	3914.4	3829.4	3940.9	4020.5	3969.4	3276.8	2713.8	2698.5	2948.1	3297.5
52.5°	3772.9	3758.2	3887.8	4075.7	4207.8	4161.9	3415.6	2884.5	2886.4	3243.7	3606.2
55°	3684.6	3666.1	3821.4	4052.4	4231.0	4203.9	3519.2	3077.1	3094.9	3602.3	3937.6
57.5°	3833.2	3786.9	3817.3	4008.5	4176.6	4160.7	3626.7	3290.9	3323.4	4015.2	4243.7
60°	4294.7	4199.8	4037.8	4073.6	4178.6	4169.4	3780.8	3529.3	3583.7	4445.5	4437.5
62.5°	4986.0	4878.4	4548.5	4389.1	4365.9	4347.9	4035.1	3822.0	3849.2	4756.3	4324.7
65°	5744.3	5628.8	5236.4	4975.4	4838.6	4800.2	4445.5	4175.3	4004.6	4755.6	3885.1
67.5°	6595.5	6473.5	6082.3	5833.4	5685.3	5619.4	5111.5	4460.9	3954.2	4353.2	3108.9
70°	7467.4	7351.2	7172.0	7258.9	7324.1	7223.7	6160.7	4555.8	3591.7	3413.0	2087.7
72.5°	7004.7	6995.3	7131.5	7956.2	9210.4	9230.4	7208.4	4287.5	2774.9	2028.6	1112.9
73°	6575.1	6614.2	6866.6	7853.3	9371.7	9378.5	7229.0	4148.7	2547.9	1747.7	977.4
75°	3406.4	3671.9	4608.2	6367.8	8677.9	8709.1	6372.4	3140.7	1518.6	970.8	658.6
77.5°	912.4	900.5	1484.7	3102.2	5785.5	5744.3	4026.6	1520.7	727.7	609.0	462.2
80°	312.7	316.7	505.2	1134.7	2700.6	2796.9	1747.7	663.4	478.7	424.3	327.3
82.5°	159.4	164.7	264.3	482.7	1129.4	1105.5	562.3	390.5	320.8	257.6	183.3
85°	85.0	87.7	145.4	250.4	414.4	419.0	197.8	208.4	203.8	146.1	90.3
87.5°	41.9	43.2	69.7	110.2	153.4	148.1	69.1	90.3	100.3	82.4	49.8
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°	1583.1	1583.1	1583.1	1583.1	1583.1	1583.1	1583.1	1583.1	1583.1	1583.1	1583.1
2.5°	1572.4	1572.4	1580.9	1595.6	1606.2	1616.2	1622.9	1633.5	1639.4	1638.8	1638.1
5°	1561.8	1568.4	1585.7	1603.6	1615.5	1623.4	1623.4	1628.2	1628.2	1626.1	1623.4
7.5°	1537.2	1548.5	1573.7	1589.6	1593.0	1584.3	1567.1	1553.8	1537.2	1528.6	1525.2
10°	1498.1	1512.6	1544.5	1551.8	1534.6	1504.0	1462.1	1426.2	1394.3	1379.7	1375.1
12.5°	1459.4	1478.7	1508.7	1497.4	1456.2	1396.4	1331.9	1282.9	1246.9	1233.1	1228.4
15°	1427.6	1450.9	1474.1	1438.9	1367.2	1284.1	1213.2	1167.3	1140.0	1129.4	1126.8
17.5°	1406.3	1433.5	1441.6	1375.8	1276.2	1183.2	1120.1	1090.4	1078.3	1073.7	1072.3
20°	1407.7	1438.2	1419.1	1314.7	1188.5	1094.9	1053.2	1044.5	1044.5	1044.5	1043.8
22.5°	1444.2	1470.7	1409.7	1257.6	1104.2	1020.6	1002.7	1010.0	1015.3	1015.3	1014.5
25°	1519.9	1534.6	1416.4	1202.6	1025.2	956.2	956.9	970.8	975.4	975.4	974.1
27.5°	1635.5	1623.4	1428.2	1141.4	947.5	897.8	907.0	919.7	923.0	921.0	920.4
30°	1780.3	1732.4	1438.2	1069.7	874.5	843.2	851.2	858.6	855.9	851.2	850.5
32.5°	1942.2	1843.3	1432.3	989.4	810.1	786.8	791.4	795.4	791.4	780.2	780.2
35°	2102.9	1943.6	1399.6	901.7	759.0	732.4	731.7	744.3	743.6	730.4	731.1
37.5°	2243.6	2022.5	1336.7	821.4	715.1	692.6	695.2	703.3	707.1	689.2	687.3
40°	2366.6	2077.1	1247.7	753.0	679.9	681.3	674.0	661.3	656.8	648.8	647.4
42.5°	2482.0	2114.9	1153.3	695.8	662.1	677.3	652.7	622.9	610.2	617.6	622.2
45°	2595.7	2157.4	1062.4	648.8	639.5	665.4	631.5	598.4	583.7	587.0	591.7
47.5°	2734.4	2216.5	952.8	598.4	604.9	643.5	618.3	582.3	560.5	547.2	543.1
50°	2916.9	2302.1	810.8	543.8	568.4	619.6	607.0	559.0	535.2	508.6	502.1
52.5°	3145.4	2383.2	667.4	499.9	538.5	598.9	588.3	539.2	510.0	478.1	472.8
55°	3373.1	2394.4	543.8	462.2	504.7	571.1	565.8	523.3	482.1	456.2	450.9
57.5°	3532.6	2287.5	460.8	430.3	472.1	536.5	545.1	503.9	458.9	438.9	435.6
60°	3535.2	2031.8	410.3	409.0	447.5	506.6	523.9	481.4	444.2	430.9	428.3
62.5°	3254.3	1637.4	377.7	393.1	429.6	482.1	508.0	468.7	440.9	435.6	433.0
65°	2727.8	1209.7	352.0	378.5	413.0	461.5	494.6	464.9	439.6	437.6	435.6
67.5°	2013.9	829.3	329.9	360.0	394.4	440.2	482.1	458.9	431.5	439.6	436.9
70°	1266.9	553.7	309.5	338.7	369.8	415.6	465.5	448.3	421.7	417.1	408.4
72.5°	715.1	400.5	284.9	311.4	338.0	383.1	442.9	430.3	399.0	380.5	371.9
73°	646.2	379.2	278.8	304.7	330.7	376.5	437.6	425.0	392.4	371.9	363.9
75°	472.8	310.1	251.6	277.5	300.2	345.9	412.3	398.4	363.3	338.7	333.4
77.5°	342.7	239.0	216.5	239.7	259.6	303.4	374.6	358.6	324.0	310.8	305.5
80°	247.0	181.3	179.3	201.8	219.1	263.7	334.0	317.5	284.3	323.4	314.8
82.5°	147.4	116.2	131.5	156.8	174.6	221.2	290.2	270.8	239.0	241.7	205.8
85°	70.3	65.8	81.7	102.9	115.5	151.5	241.7	226.5	191.2	156.8	153.4
87.5°	31.3	29.9	39.2	45.9	61.8	91.0	165.4	146.8	138.8	83.1	65.0
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)