

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: P233592

Luminaire Tested: **VRDN-C02-D-UNV-T4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P233592
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1710-389-15)
Test Lab: INNOVATION CENTER(G2)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: VRDN-CO2-D-UNV-T4
Description: VERDEON ROADWAY AND AREA LUMINAIRE
(2) 70 CRI, 4000K, 1140mA LEDS AND TYPE IV OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 10852 lumens
Efficiency: N/A
Efficacy: 120.6 lumens/watt
Luminous Opening: Rectangular (W 0.79' x L: 1.25' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B2 - U0 - G3

Input Watts (W): 90
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

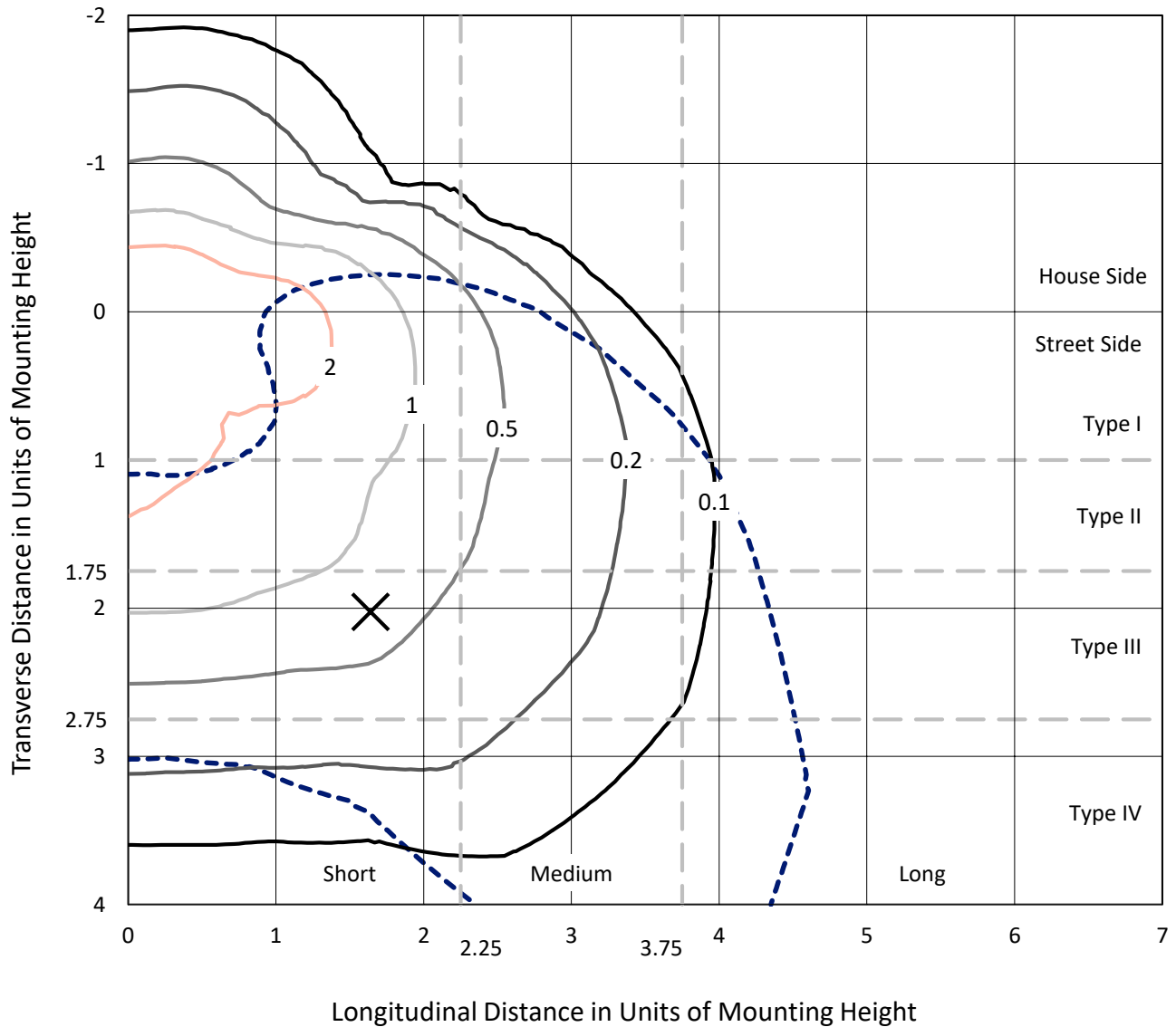


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Iso-Footcandle Lines of Horizontal Illumination

✕ Max cd
 - - - 1/2 Max cd

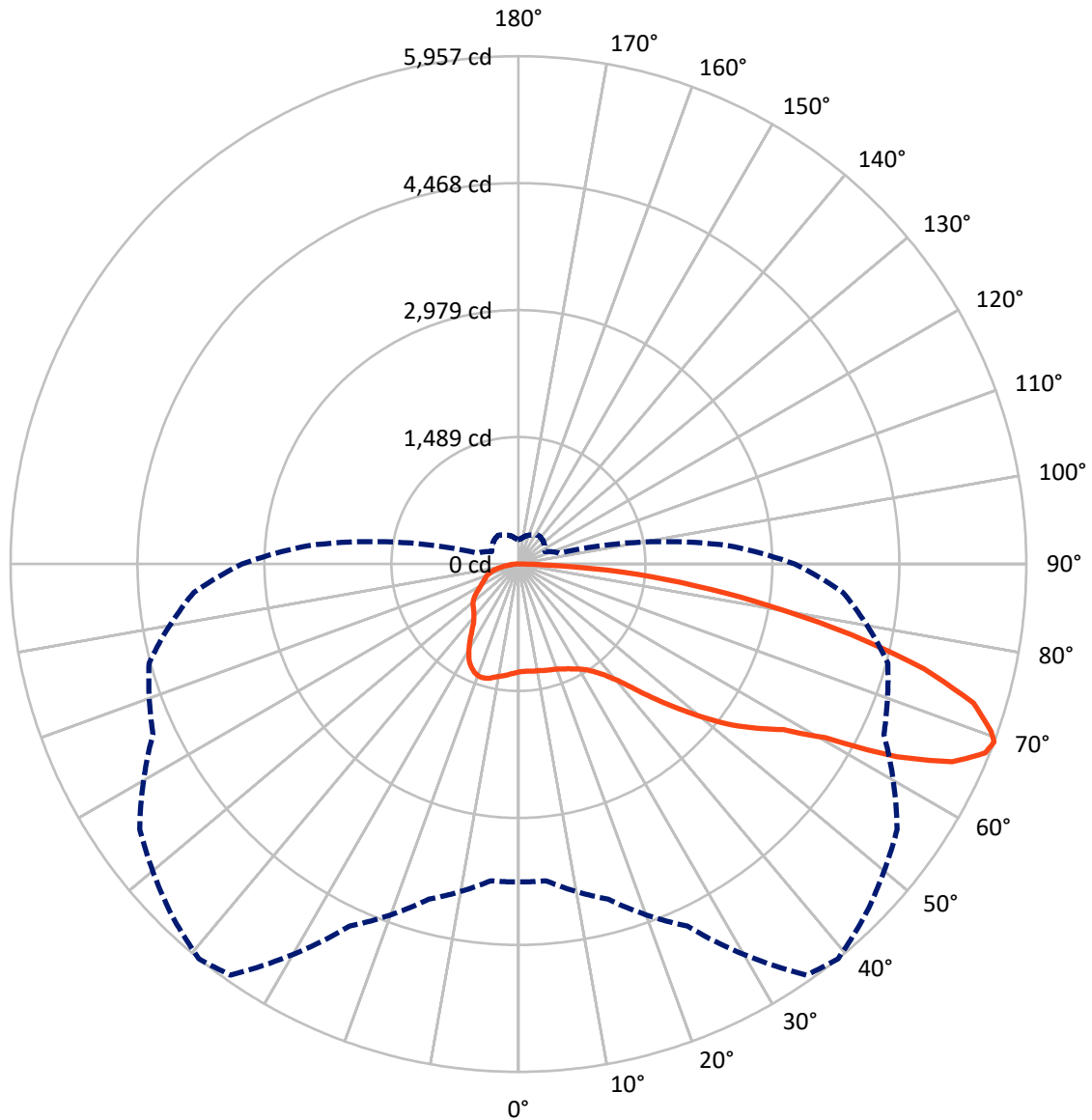


Based on 20 foot mounting height. Maximum calculated value = 3.3 fc
 Type IV - Short - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 39-Deg Lateral - - - Horizontal Cone Through 69-Deg Vertical

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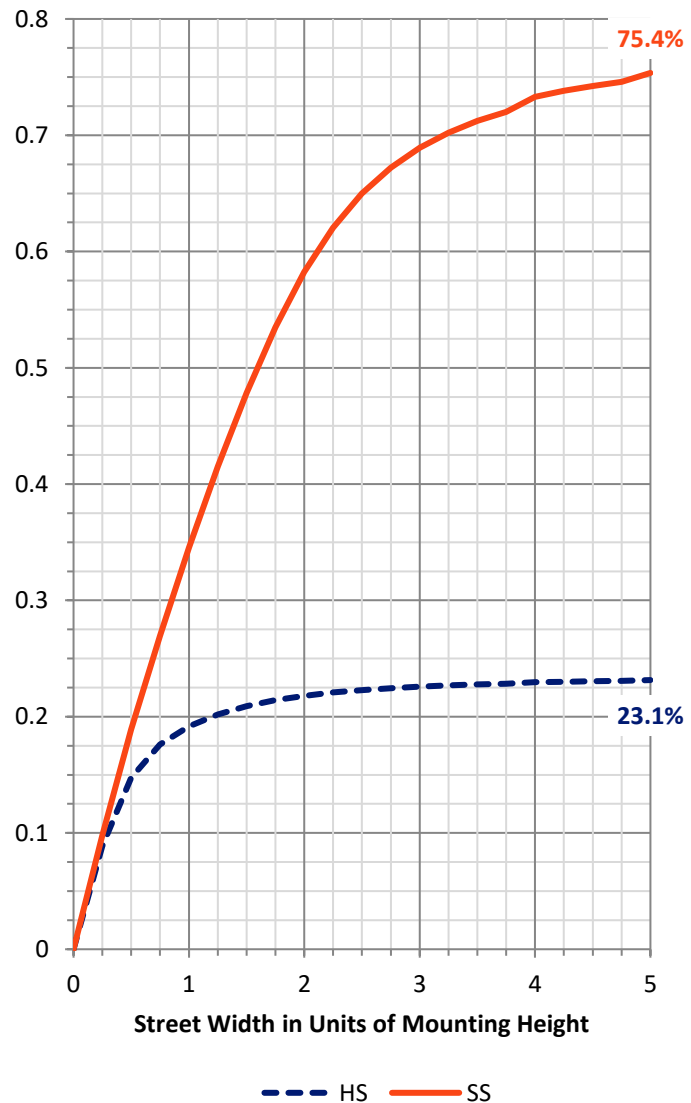
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2543.9	0.0	2543.9
	% Fixture	23.4	0.0	23.4
Street Side	Lumens	8308.1	0.0	8308.1
	% Fixture	76.6	0.0	76.6
Total	Lumens	10852.0	0.0	10852.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	122.8	1.1
10°-20°	379.7	3.5
20°-30°	639.2	5.9
30°-40°	926.0	8.5
40°-50°	1496.7	13.8
50°-60°	2191.2	20.2
60°-70°	2742.6	25.3
70°-80°	1960.7	18.1
80°-90°	393.1	3.6
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°	10852.0	100.0
0°-180°	10852.0	100.0



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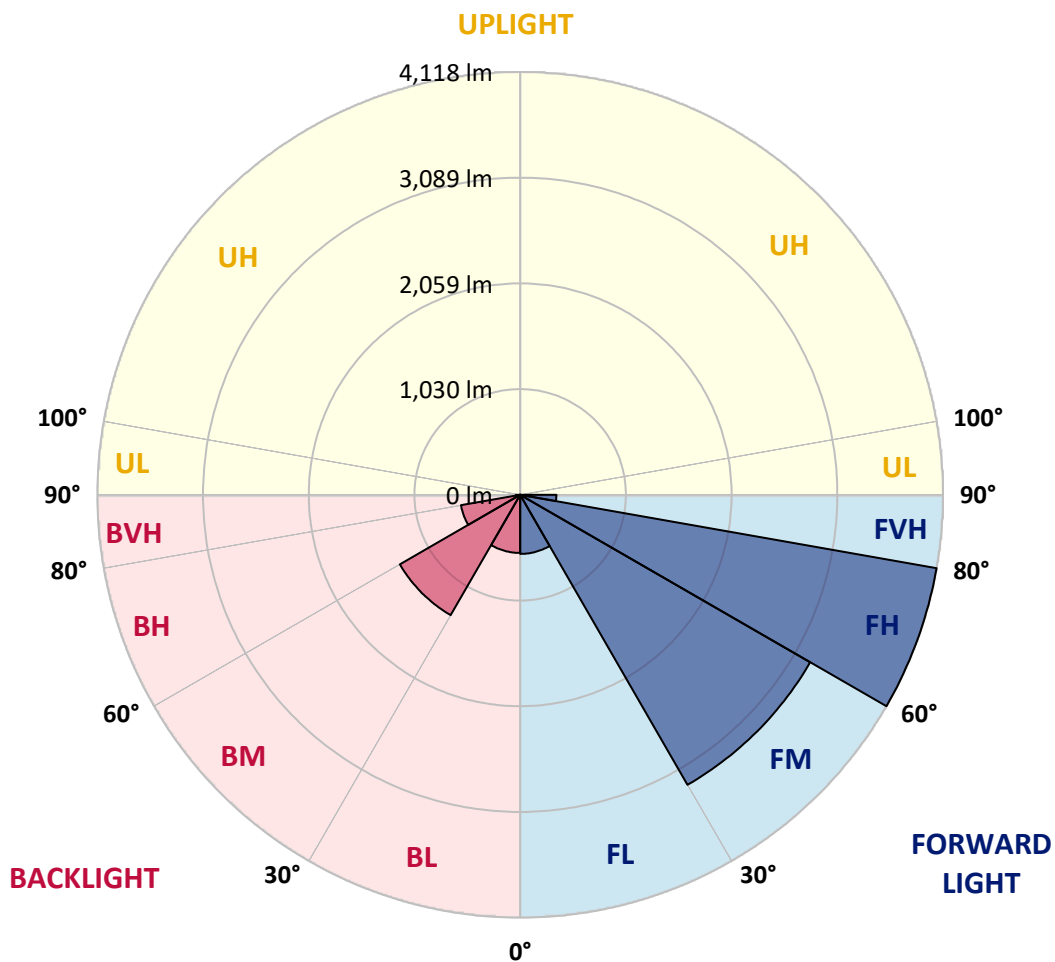
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	575.7	5.3			
FM (30°-60°)	3261.2	30.1			
FH (60°-80°)	4118.3	37.9			G2/5000
FVH (80°-90°)	352.9	3.3			G3/500
BL (0°-30°)	565.9	5.2	B2/1000		
BM (30°-60°)	1352.8	12.5	B2/2500		
BH (60°-80°)	585.0	5.4	B2/1000		G2/1000
BVH (80°-90°)	40.2	0.4			G1/100
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°	39°	45°	55°	65°	75°	85°
0°	1264.0	1264.0	1264.0	1264.0	1264.0	1264.0	1264.0	1264.0	1264.0	1264.0	1264.0
2.5°	1286.0	1284.0	1280.0	1264.0	1262.0	1261.0	1263.0	1257.0	1256.0	1258.0	1256.0
5°	1287.0	1285.0	1280.0	1266.0	1264.0	1262.0	1263.0	1258.0	1259.0	1264.0	1264.0
7.5°	1289.0	1287.0	1282.0	1267.0	1271.0	1269.0	1273.0	1266.0	1266.0	1270.0	1271.0
10°	1284.0	1283.0	1280.0	1269.0	1275.0	1271.0	1275.0	1276.0	1280.0	1283.0	1282.0
12.5°	1271.0	1271.0	1271.0	1266.0	1283.0	1282.0	1289.0	1296.0	1306.0	1311.0	1314.0
15°	1263.0	1262.0	1269.0	1268.0	1289.0	1292.0	1304.0	1322.0	1337.0	1350.1	1354.1
17.5°	1271.0	1271.0	1280.0	1278.0	1299.0	1301.0	1314.0	1340.1	1365.1	1390.1	1401.1
20°	1280.0	1281.0	1292.0	1295.0	1315.0	1314.0	1327.0	1359.1	1393.1	1430.1	1449.1
22.5°	1308.0	1307.0	1316.0	1310.0	1333.0	1337.0	1348.1	1376.1	1424.1	1471.1	1502.1
25°	1329.0	1332.0	1341.1	1337.0	1356.1	1361.1	1379.1	1406.1	1463.1	1519.1	1574.1
27.5°	1349.1	1355.1	1362.1	1361.1	1387.1	1393.1	1407.1	1449.1	1515.1	1582.1	1659.1
30°	1379.1	1377.1	1382.1	1391.1	1425.1	1429.1	1446.1	1497.1	1577.1	1664.1	1767.1
32.5°	1419.1	1417.1	1422.1	1430.1	1471.1	1481.1	1504.1	1559.1	1660.1	1765.1	1891.1
35°	1482.1	1487.1	1491.1	1501.1	1541.1	1555.1	1586.1	1656.1	1773.1	1941.1	2121.1
37.5°	1701.1	1690.1	1668.1	1628.1	1639.1	1655.1	1699.1	1799.1	1969.1	2254.1	2419.1
40°	2043.1	2030.1	1961.1	1844.1	1791.1	1795.1	1838.1	1974.1	2206.1	2622.1	2774.1
42.5°	2365.1	2349.1	2267.1	2121.1	2016.1	2004.1	2008.1	2165.1	2466.1	2990.1	3071.1
45°	2669.1	2677.1	2552.1	2440.1	2320.1	2265.1	2248.1	2365.1	2755.1	3309.1	3334.1
47.5°	2960.1	2966.1	2825.1	2717.1	2601.1	2537.1	2504.1	2595.1	3021.1	3567.1	3544.1
50°	3257.1	3273.1	3080.1	2988.1	2881.1	2835.1	2803.1	2863.1	3315.1	3814.1	3743.1
52.5°	3676.1	3609.1	3356.1	3226.1	3150.1	3136.1	3103.1	3152.1	3627.1	4032.2	3884.1
55°	4142.2	3999.1	3733.1	3506.1	3401.1	3401.1	3372.1	3429.1	3949.1	4195.2	3999.1
57.5°	4293.2	4307.2	4215.2	3968.1	3686.1	3664.1	3636.1	3714.1	4225.2	4341.2	4042.2
60°	4557.2	4596.2	4667.2	4461.2	4322.2	4135.2	3965.1	4007.1	4463.2	4461.2	4088.2
62.5°	4688.2	4725.2	4947.2	4836.2	4967.2	4980.2	4662.2	4338.2	4639.2	4521.2	4110.2
65°	4564.2	4590.2	4886.2	5032.2	5412.2	5593.2	5436.2	4783.2	4732.2	4496.2	4028.2
67.5°	4157.2	4206.2	4451.2	4896.2	5809.2	5910.2	5763.2	5394.2	4772.2	4504.2	3962.1
69°	3729.1	3730.1	4070.2	4687.2	5887.2	5957.2	5777.2	5423.2	4730.2	4485.2	3821.1
70°	3488.1	3513.1	3765.1	4506.2	5858.2	5881.2	5743.2	5422.2	4701.2	4479.2	3687.1
72.5°	2722.1	2709.1	2960.1	3768.1	5530.2	5581.2	5429.2	5269.2	4677.2	4221.2	3119.1
75°	1903.1	1943.1	2189.1	2855.1	4765.2	4918.2	4918.2	5062.2	4305.2	3607.1	2255.1
77.5°	1416.1	1422.1	1619.1	2181.1	3834.1	3993.1	4139.2	4260.2	3365.1	2471.1	1008.0
80°	959.0	968.0	1148.0	1609.1	2841.1	2987.1	3218.1	2931.1	2002.1	855.0	115.0
82.5°	604.0	616.0	759.0	1130.0	2025.1	2091.1	2162.1	1655.1	667.0	99.0	73.0
85°	359.0	361.0	458.0	722.0	1235.0	1239.0	1163.0	762.0	179.0	59.0	46.0
87.5°	150.0	158.0	200.0	320.0	362.0	286.0	178.0	61.0	27.0	24.0	16.0
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°	1264.0	1264.0	1264.0	1264.0	1264.0	1264.0	1264.0	1264.0	1264.0	1264.0	1264.0
2.5°	1250.0	1261.0	1259.0	1262.0	1266.0	1274.0	1283.0	1279.0	1284.0	1295.0	1295.0
5°	1261.0	1270.0	1273.0	1279.0	1284.0	1292.0	1298.0	1296.0	1307.0	1323.0	1323.0
7.5°	1270.0	1277.0	1287.0	1294.0	1299.0	1315.0	1321.0	1317.0	1325.0	1344.1	1345.1
10°	1283.0	1290.0	1305.0	1312.0	1322.0	1330.0	1338.1	1337.0	1345.1	1362.1	1365.1
12.5°	1315.0	1320.0	1341.1	1351.1	1351.1	1361.1	1355.1	1345.1	1349.1	1359.1	1361.1
15°	1357.1	1364.1	1391.1	1396.1	1391.1	1393.1	1379.1	1347.1	1331.0	1334.0	1335.0
17.5°	1405.1	1417.1	1448.1	1441.1	1435.1	1420.1	1384.1	1336.0	1288.0	1270.0	1273.0
20°	1456.1	1471.1	1507.1	1492.1	1470.1	1431.1	1373.1	1291.0	1217.0	1174.0	1172.0
22.5°	1515.1	1534.1	1568.1	1542.1	1493.1	1425.1	1336.0	1236.0	1142.0	1075.0	1071.0
25°	1596.1	1617.1	1629.1	1577.1	1497.1	1403.1	1283.0	1161.0	1043.0	963.0	957.0
27.5°	1688.1	1699.1	1675.1	1597.1	1478.1	1356.1	1217.0	1066.0	936.0	870.0	861.0
30°	1790.1	1781.1	1706.1	1587.1	1429.1	1282.0	1114.0	945.0	841.0	788.0	780.0
32.5°	1908.1	1880.1	1730.1	1559.1	1364.1	1185.0	1002.0	868.0	785.0	732.0	728.0
35°	2102.1	2022.1	1769.1	1516.1	1278.0	1071.0	899.0	802.0	737.0	671.0	661.0
37.5°	2383.1	2232.1	1826.1	1476.1	1185.0	961.0	821.0	749.0	692.0	618.0	604.0
40°	2675.1	2479.1	1920.1	1432.1	1098.0	880.0	778.0	727.0	671.0	601.0	582.0
42.5°	2942.1	2714.1	2030.1	1377.1	1007.0	815.0	757.0	721.0	665.0	599.0	584.0
45°	3184.1	2935.1	2143.1	1314.0	907.0	763.0	740.0	710.0	653.0	590.0	578.0
47.5°	3388.1	3123.1	2257.1	1241.0	811.0	731.0	722.0	690.0	637.0	576.0	566.0
50°	3557.1	3258.1	2322.1	1164.0	732.0	707.0	696.0	656.0	602.0	545.0	539.0
52.5°	3682.1	3342.1	2381.1	1123.0	670.0	668.0	661.0	622.0	570.0	511.0	499.0
55°	3769.1	3411.1	2355.1	1091.0	604.0	619.0	615.0	591.0	547.0	478.0	468.0
57.5°	3774.1	3417.1	2299.1	901.0	539.0	560.0	567.0	571.0	522.0	461.0	449.0
60°	3769.1	3373.1	2195.1	661.0	476.0	501.0	527.0	527.0	493.0	433.0	424.0
62.5°	3746.1	3286.1	1953.1	471.0	426.0	459.0	493.0	478.0	449.0	401.0	392.0
65°	3641.1	3141.1	1528.1	384.0	405.0	435.0	451.0	430.0	393.0	343.0	339.0
67.5°	3450.1	2809.1	884.0	352.0	387.0	414.0	427.0	395.0	360.0	312.0	310.0
69°	3240.1	2473.1	498.0	344.0	376.0	400.0	411.0	376.0	342.0	296.0	287.0
70°	3052.1	2173.1	324.0	337.0	365.0	391.0	399.0	363.0	331.0	284.0	278.0
72.5°	2312.1	1309.0	218.0	308.0	335.0	355.0	367.0	333.0	297.0	250.0	238.0
75°	1263.0	356.0	192.0	264.0	298.0	325.0	328.0	285.0	233.0	185.0	180.0
77.5°	246.0	122.0	165.0	218.0	237.0	269.0	267.0	238.0	202.0	157.0	151.0
80°	93.0	88.0	138.0	156.0	167.0	201.0	213.0	192.0	168.0	107.0	92.0
82.5°	63.0	65.0	103.0	92.0	102.0	119.0	150.0	146.0	133.0	73.0	65.0
85°	44.0	51.0	57.0	39.0	50.0	75.0	99.0	96.0	82.0	51.0	46.0
87.5°	13.0	14.0	16.0	20.0	31.0	56.0	81.0	67.0	45.0	38.0	33.0
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)