

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: P197276

Luminaire Tested: **NAV-AF-02-D-UNV-T3-8030-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P197276
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (p24135)
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-T3-8030-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 80 CRI, 3000K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 10907 lumens
Efficiency: N/A
Efficacy: 84.6 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type III - Short - Semi-Cutoff
BUG Rating: B2 - U0 - G2

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

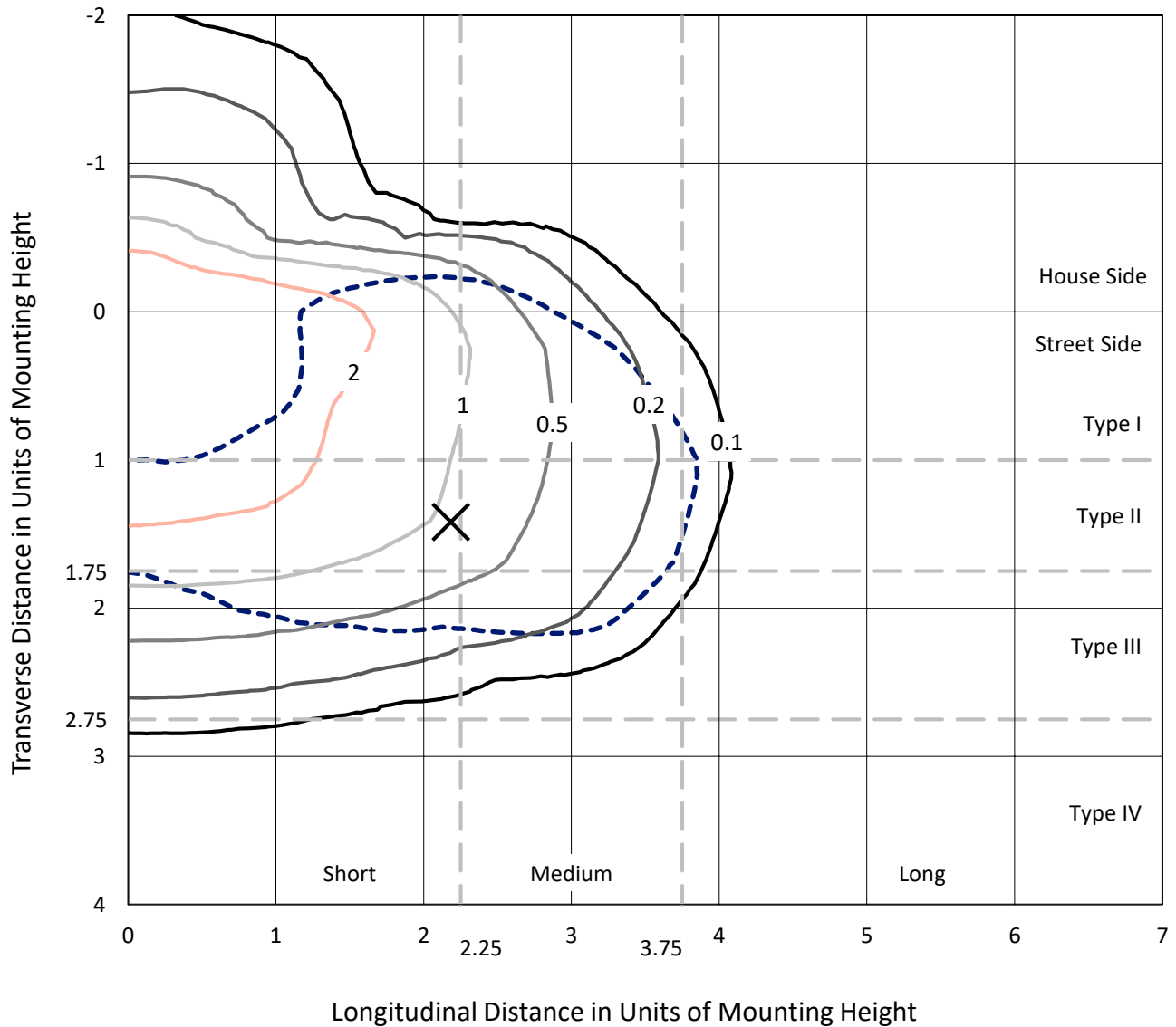


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Iso-Footcandle Lines of Horizontal Illumination

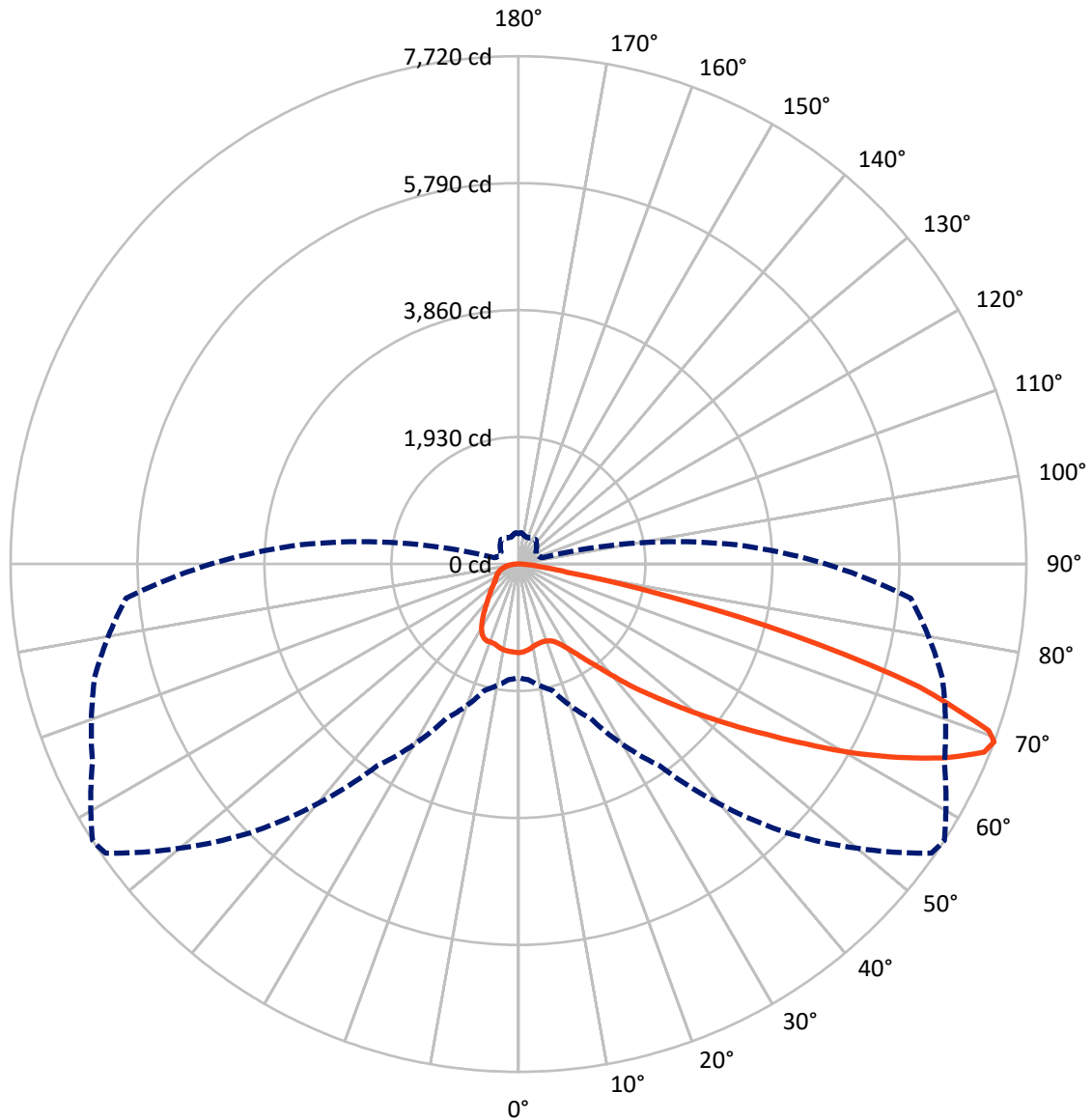
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 3.4 fc
 Type III - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 57-Deg Lateral - - - Horizontal Cone Through 69-Deg Vertical

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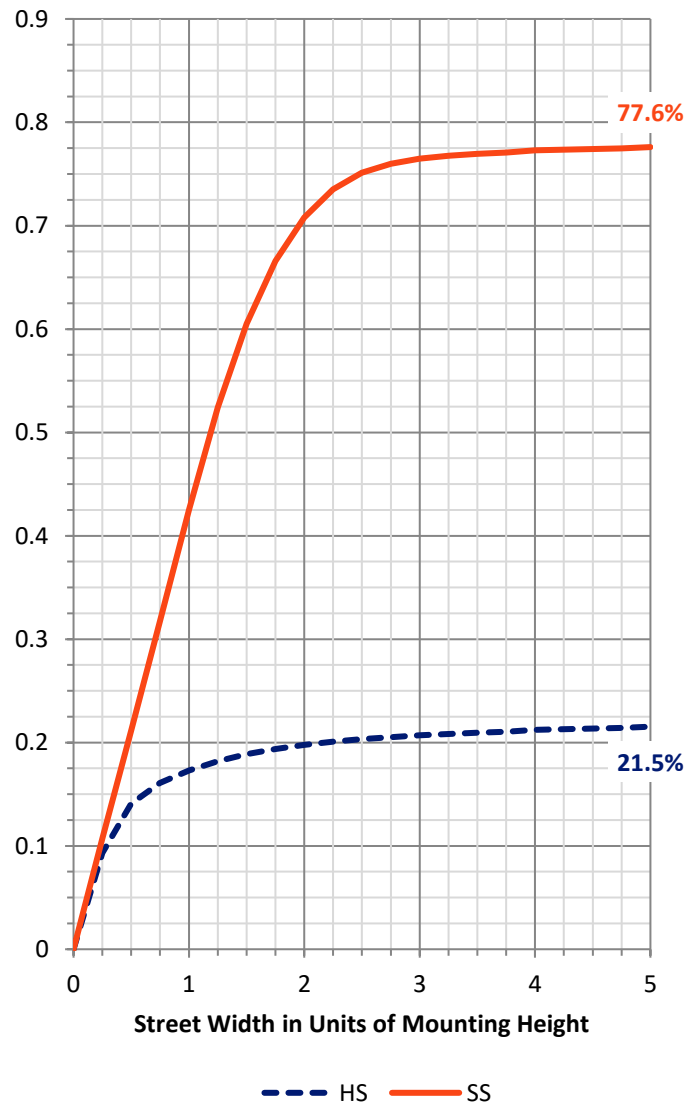
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2406.8	0.0	2406.8
	% Fixture	22.1	0.0	22.1
Street Side	Lumens	8500.2	0.0	8500.2
	% Fixture	77.9	0.0	77.9
Total	Lumens	10907.0	0.0	10907.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	126.2	1.2
10°-20°	358.7	3.3
20°-30°	596.7	5.5
30°-40°	974.5	8.9
40°-50°	1644.7	15.1
50°-60°	2558.4	23.5
60°-70°	3047.6	27.9
70°-80°	1419.8	13.0
80°-90°	180.6	1.7
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°	10907.0	100.0
0°-180°	10907.0	100.0



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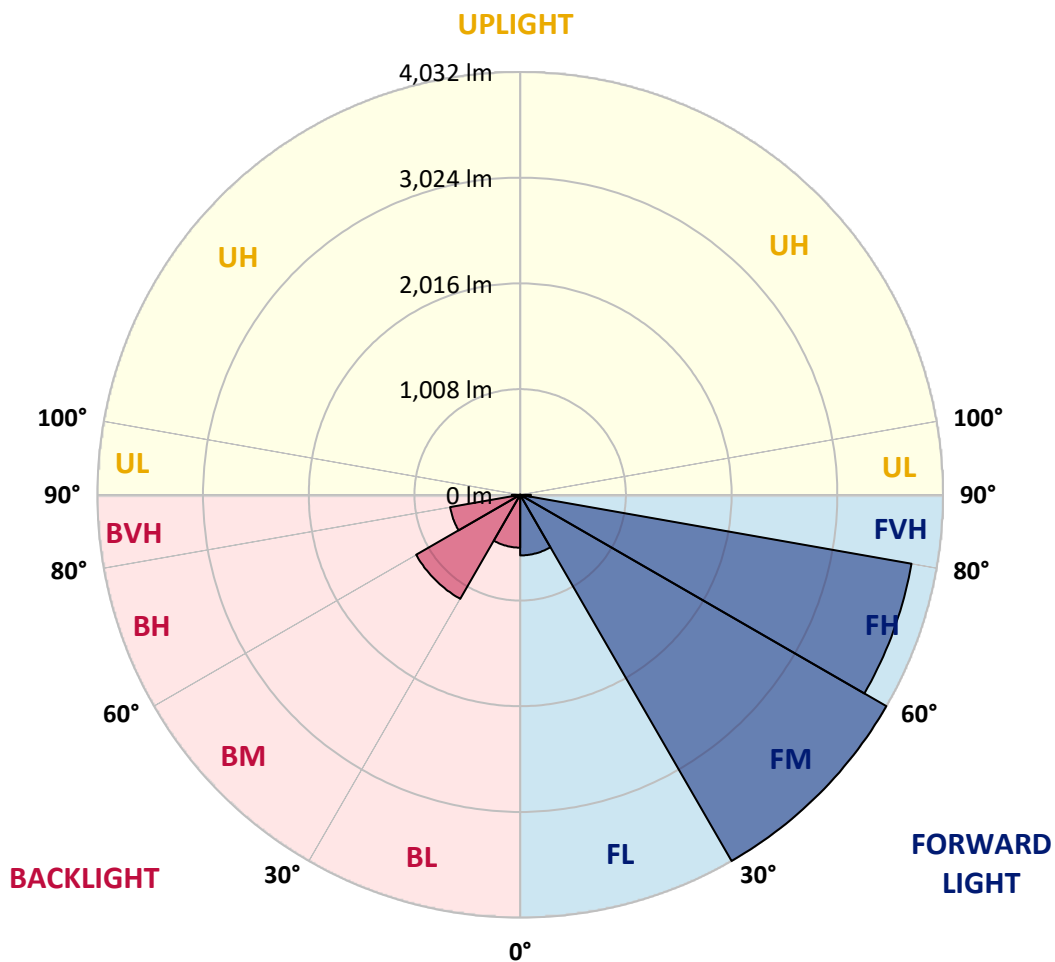
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	577.6	5.3			
FM	(30°-60°)	4032.0	37.0			
FH	(60°-80°)	3789.1	34.7			G2/5000
FVH	(80°-90°)	101.5	0.9			G2/225
BL	(0°-30°)	504.0	4.6	B2/1000		
BM	(30°-60°)	1145.5	10.5	B2/2500		
BH	(60°-80°)	678.2	6.2	B2/1000		G2/1000
BVH	(80°-90°)	79.1	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 III Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	57°	65°	75°	85°
0°	1347.7	1347.7	1347.7	1347.7	1347.7	1347.7	1347.7	1347.7	1347.7	1347.7	1347.7
2.5°	1340.0	1340.0	1343.5	1343.5	1343.5	1342.1	1337.9	1339.3	1336.5	1334.4	1330.9
5°	1312.8	1314.1	1318.3	1319.7	1321.8	1322.5	1322.5	1321.8	1322.5	1322.5	1320.4
7.5°	1275.0	1276.4	1281.3	1284.1	1290.4	1296.0	1298.8	1298.8	1302.3	1305.1	1305.8
10°	1252.0	1252.0	1254.8	1254.8	1259.7	1262.5	1271.6	1270.9	1280.6	1289.7	1293.9
12.5°	1249.2	1249.2	1247.8	1242.9	1240.1	1239.4	1248.5	1249.9	1264.6	1280.6	1288.3
15°	1258.3	1258.3	1254.1	1244.3	1233.8	1229.0	1238.0	1240.8	1256.9	1275.7	1287.6
17.5°	1287.6	1286.9	1277.8	1258.3	1240.1	1232.5	1235.2	1238.0	1252.7	1274.3	1289.0
20°	1352.6	1352.6	1333.0	1297.4	1266.0	1247.8	1243.6	1245.7	1256.2	1276.4	1295.3
22.5°	1466.4	1468.5	1433.6	1374.9	1321.1	1282.7	1266.0	1268.1	1273.0	1292.5	1313.5
25°	1634.0	1628.4	1578.8	1495.7	1411.9	1346.3	1312.1	1314.1	1314.1	1332.3	1354.0
27.5°	1811.3	1812.7	1741.5	1652.1	1541.8	1444.0	1389.6	1388.9	1388.2	1405.6	1428.7
30°	2011.7	2012.4	1930.0	1826.7	1700.3	1575.3	1493.6	1492.9	1486.6	1508.3	1538.3
32.5°	2231.0	2230.3	2134.6	2018.0	1877.7	1735.9	1629.8	1629.1	1624.2	1653.5	1689.8
35°	2474.0	2474.0	2379.0	2235.2	2083.6	1925.8	1802.9	1802.2	1805.0	1844.8	1879.1
37.5°	2766.6	2772.8	2658.3	2483.8	2318.3	2150.0	2006.8	2002.6	1981.7	2048.7	2105.3
40°	3071.7	3089.2	2970.5	2766.6	2587.8	2413.9	2256.1	2253.3	2235.2	2306.4	2397.9
42.5°	3402.0	3441.8	3309.8	3101.7	2906.9	2719.1	2560.6	2552.9	2483.1	2594.1	2737.2
45°	3834.9	3860.7	3669.4	3480.9	3297.2	3082.9	2894.3	2853.1	2783.3	2925.8	3111.5
47.5°	4129.6	4117.0	3997.6	3871.2	3753.2	3547.9	3258.1	3205.8	3120.6	3309.1	3513.7
50°	4312.5	4321.6	4254.6	4248.3	4242.0	4098.9	3668.7	3605.9	3507.4	3730.9	3969.7
52.5°	4433.3	4392.1	4404.0	4546.5	4718.9	4650.5	4133.1	4063.2	3962.0	4185.4	4455.0
55°	4383.1	4328.6	4438.2	4718.9	5124.6	5140.0	4642.8	4570.9	4484.3	4668.7	5038.7
57.5°	4175.0	4202.2	4375.4	4765.7	5401.8	5578.5	5228.7	5155.3	4985.0	5172.1	5593.2
60°	3882.4	3937.6	4202.2	4691.7	5596.0	5920.0	5871.8	5822.9	5529.6	5662.3	6175.5
62.5°	3568.2	3622.6	3948.0	4565.3	5508.7	6222.3	6503.0	6473.0	6130.8	6134.3	6544.9
65°	3103.8	3126.2	3458.5	4220.4	5266.4	6495.3	7134.9	7108.4	6705.5	6537.2	6648.3
67.5°	2344.1	2372.0	2645.1	3331.5	4529.0	6347.3	7639.8	7635.6	7051.2	6686.7	6402.5
69°	1731.0	1765.2	1988.0	2586.4	3744.8	5783.1	7663.5	7720.1	7144.7	6671.3	5987.0
70°	1266.7	1305.8	1511.8	2052.9	3119.2	5160.2	7460.3	7581.8	7109.1	6574.2	5663.0
72.5°	538.4	551.6	652.9	926.6	1582.3	3111.5	6110.6	6366.2	6420.6	5890.6	4424.3
75°	337.3	341.5	381.3	475.5	703.9	1286.9	3957.1	4305.5	4793.6	4570.2	2962.1
77.5°	254.2	257.7	280.7	327.5	437.1	480.4	1835.8	2189.1	2745.6	2688.3	1474.1
80°	194.8	196.9	212.3	238.1	307.9	301.0	595.6	748.5	1145.9	1011.1	521.6
82.5°	152.9	153.6	166.9	171.8	215.1	202.5	298.9	333.1	463.0	384.7	254.9
85°	135.5	137.6	150.8	125.7	137.6	122.2	164.1	178.1	245.8	231.8	96.4
87.5°	69.1	72.6	126.4	107.5	69.1	58.0	71.9	77.5	99.9	108.2	46.8
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°	1347.7	1347.7	1347.7	1347.7	1347.7	1347.7	1347.7	1347.7	1347.7	1347.7	1347.7
2.5°	1331.6	1332.3	1334.4	1337.9	1343.5	1350.5	1358.8	1367.2	1372.1	1375.6	1374.2
5°	1320.4	1321.1	1325.3	1331.6	1338.6	1349.1	1363.0	1373.5	1381.2	1386.1	1385.4
7.5°	1306.5	1308.6	1316.9	1323.9	1333.7	1342.1	1353.3	1363.0	1370.7	1375.6	1374.9
10°	1296.0	1298.1	1308.6	1317.6	1326.0	1327.4	1325.3	1322.5	1321.8	1325.3	1323.9
12.5°	1291.1	1295.3	1305.1	1311.4	1307.9	1294.6	1279.2	1273.0	1270.9	1277.8	1278.5
15°	1292.5	1296.0	1304.4	1300.2	1281.3	1259.0	1250.6	1255.5	1259.7	1263.9	1264.6
17.5°	1296.0	1298.1	1300.2	1284.8	1258.3	1243.6	1240.8	1235.9	1223.4	1216.4	1215.7
20°	1302.3	1305.1	1301.6	1277.1	1253.4	1233.8	1200.3	1170.3	1141.7	1126.3	1120.0
22.5°	1323.9	1326.0	1315.5	1291.8	1255.5	1192.0	1124.2	1072.5	1028.6	1004.8	995.7
25°	1366.5	1370.0	1355.3	1325.3	1230.4	1119.3	1023.7	953.8	898.7	870.0	862.4
27.5°	1441.2	1444.7	1428.7	1350.5	1171.7	1022.3	906.4	837.2	789.7	765.3	761.8
30°	1553.0	1557.8	1543.2	1349.8	1082.3	898.7	791.8	751.3	724.1	707.4	706.7
32.5°	1708.0	1726.1	1666.1	1326.0	972.0	773.7	705.3	691.3	678.0	666.9	666.9
35°	1904.9	1947.5	1787.6	1276.4	850.5	688.5	657.1	643.8	627.0	615.2	613.8
37.5°	2140.2	2206.5	1874.2	1188.5	745.8	647.3	627.7	606.1	579.6	556.5	550.9
40°	2463.5	2478.9	1916.8	1045.3	667.5	625.0	600.5	573.3	539.8	513.9	511.1
42.5°	2788.2	2737.9	1908.4	891.7	622.9	604.7	572.6	542.6	512.5	490.9	490.9
45°	3157.6	2964.2	1844.8	737.4	582.4	581.7	546.7	518.1	495.1	479.0	475.5
47.5°	3510.9	3167.4	1735.2	623.6	540.5	558.6	530.0	506.9	486.0	470.6	467.8
50°	3939.7	3402.7	1618.6	544.0	500.0	538.4	523.0	511.1	490.9	464.4	461.6
52.5°	4365.6	3677.8	1528.5	483.9	464.4	522.3	527.2	528.6	509.7	458.1	454.6
55°	4823.0	3971.8	1433.6	437.1	435.0	514.6	537.0	535.6	526.5	459.5	453.9
57.5°	5258.0	4267.1	1291.8	404.3	412.0	506.9	539.1	516.7	500.7	466.4	457.4
60°	5618.3	4511.5	1083.7	381.3	392.4	491.6	525.1	491.6	464.4	465.0	456.7
62.5°	5793.6	4580.0	828.8	354.7	376.4	466.4	504.9	472.7	447.6	467.8	463.0
65°	5660.2	4385.2	590.7	330.3	356.8	437.1	493.0	456.7	439.2	481.8	476.2
67.5°	5181.2	3854.5	428.7	308.6	338.0	407.1	470.6	442.0	430.8	492.3	479.7
69°	4672.1	3328.0	371.5	296.1	324.7	391.0	456.0	434.3	424.5	477.6	459.5
70°	4249.0	2922.3	342.9	288.4	313.5	382.0	444.8	429.4	418.3	460.2	438.5
72.5°	3046.6	1888.8	288.4	265.3	284.2	361.7	420.4	411.3	394.5	415.5	401.5
75°	1840.6	986.0	245.1	241.6	253.5	333.8	391.7	380.6	363.8	365.9	358.9
77.5°	845.6	455.3	205.3	213.7	221.4	298.9	356.8	344.2	328.9	323.3	324.0
80°	370.8	266.0	171.8	182.2	186.4	268.8	319.1	305.1	288.4	318.4	295.4
82.5°	200.4	154.3	134.1	141.1	152.9	233.9	277.2	259.1	243.0	282.8	228.3
85°	81.0	78.9	90.8	97.8	106.1	168.3	231.8	213.0	193.4	173.2	169.0
87.5°	34.9	37.7	44.7	47.5	56.6	104.7	155.7	136.2	136.9	117.3	115.2
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)