

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: P197318

Luminaire Tested: **NAV-AF-02-D-UNV-T4FT-8030**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P197318
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-02-D-UNV-T4FT-8030
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 80 CRI, 3000K, 1050mA 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: 10018 lumens
Efficiency: N/A
Efficacy: 88.7 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B1 - U0 - G2

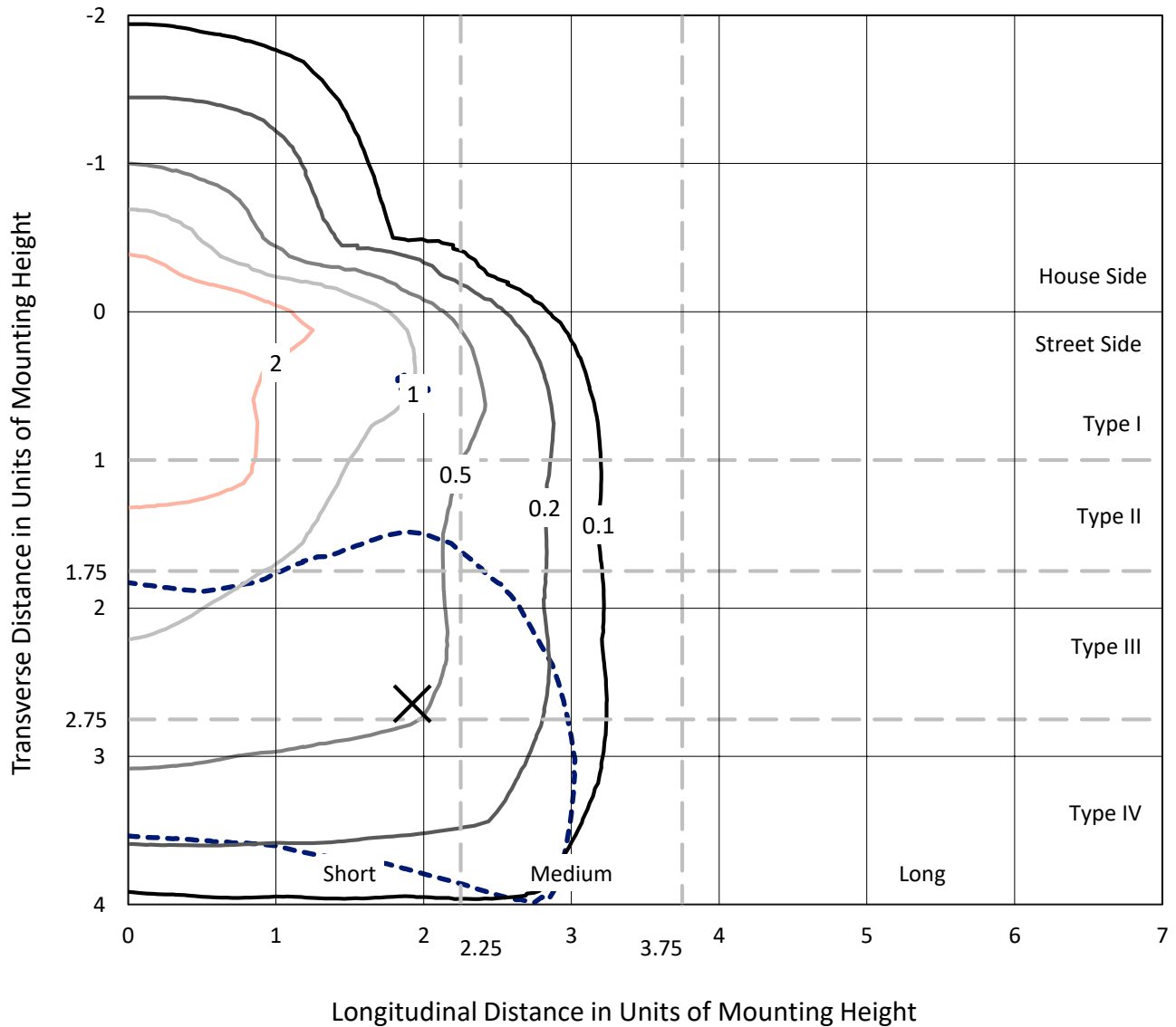
Input Watts (W): 113
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

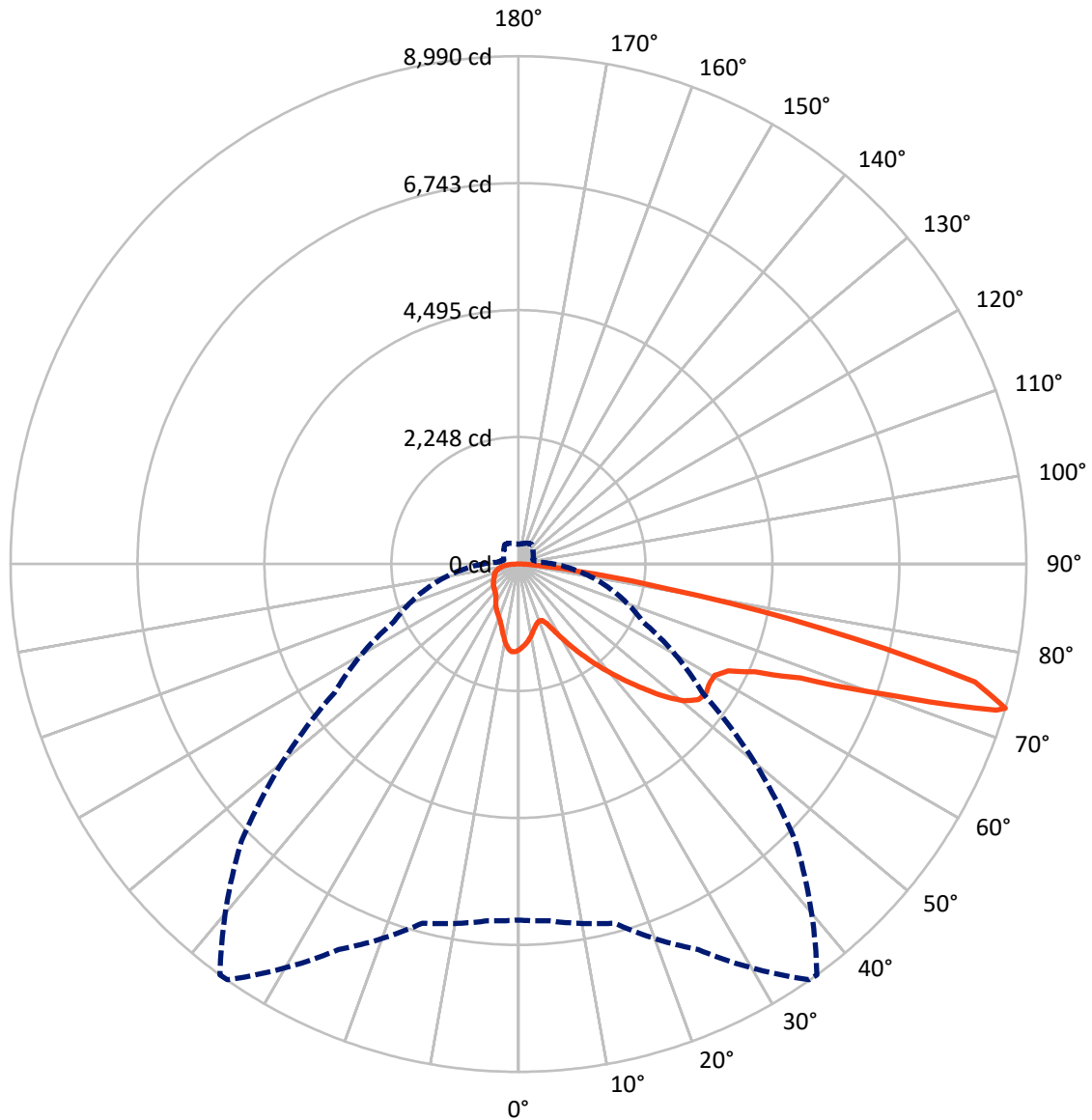
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 3.8 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	1931.8	0.0	1931.8
	% Fixture	19.3	0.0	19.3
Street Side	Lumens	8086.2	0.0	8086.2
	% Fixture	80.7	0.0	80.7
Total	Lumens	10018.0	0.0	10018.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	137.8	1.4
10°-20°	346.2	3.5
20°-30°	555.0	5.5
30°-40°	918.0	9.2
40°-50°	1420.5	14.2
50°-60°	1901.6	19.0
60°-70°	2484.1	24.8
70°-80°	2029.1	20.3
80°-90°	225.9	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°	10018.0	100.0
0°-180°	10018.0	100.0



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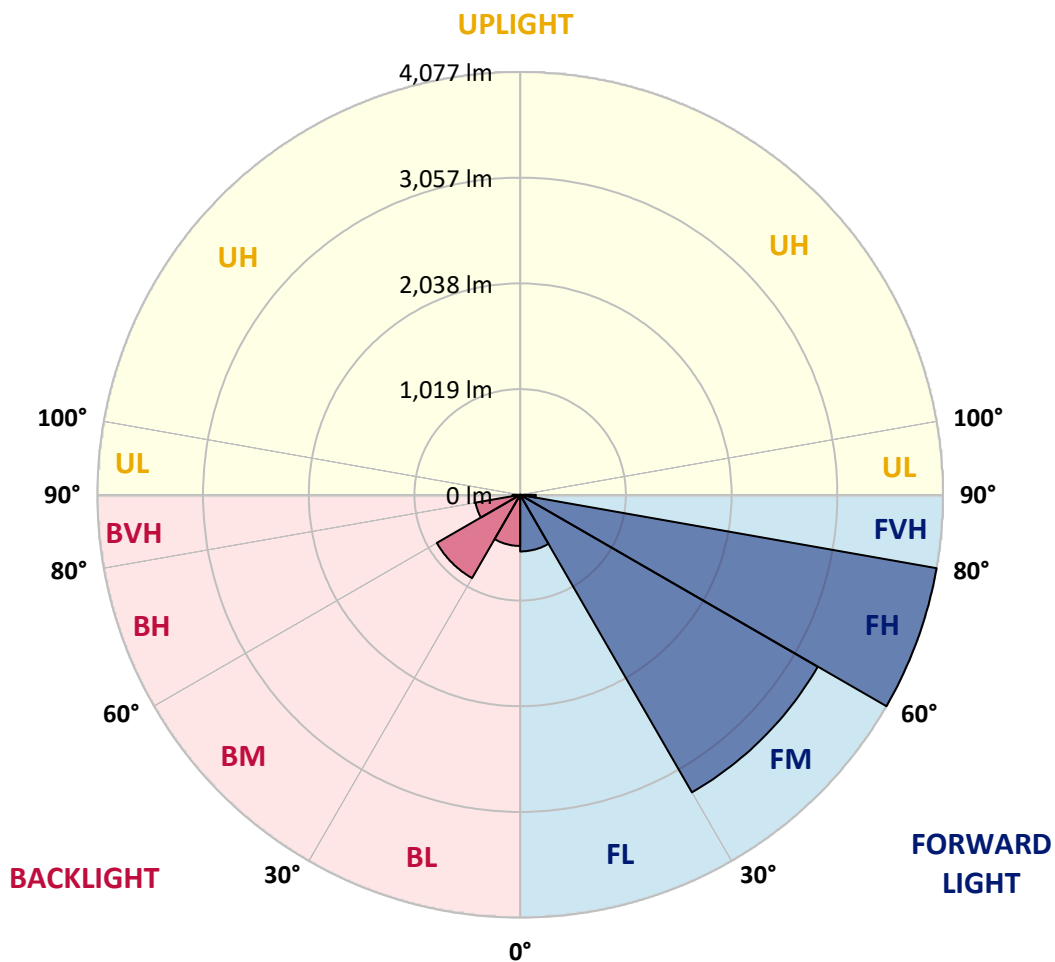
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	545.9	5.4			
FM (30°-60°)	3312.3	33.1			
FH (60°-80°)	4076.6	40.7			G2/5000
FVH (80°-90°)	151.5	1.5			G2/225
BL (0°-30°)	493.1	4.9	B1/500		
BM (30°-60°)	927.7	9.3	B1/1000		
BH (60°-80°)	436.5	4.4	B1/500		G1/500
BVH (80°-90°)	74.4	0.7			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G2

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	36°	45°	55°	65°	75°	85°
0°	1517.4	1517.4	1517.4	1517.4	1517.4	1517.4	1517.4	1517.4	1517.4	1517.4	1517.4
2.5°	1459.5	1463.3	1464.0	1468.4	1468.4	1467.8	1469.7	1477.3	1481.2	1490.1	1497.7
5°	1387.6	1392.0	1394.0	1401.6	1411.1	1411.8	1418.8	1433.4	1447.4	1467.2	1483.7
7.5°	1306.8	1311.8	1316.9	1332.8	1346.9	1348.1	1361.5	1385.0	1403.5	1427.7	1457.6
10°	1228.5	1229.7	1234.8	1255.2	1273.7	1275.6	1294.7	1321.4	1346.2	1379.9	1413.7
12.5°	1164.2	1168.0	1166.7	1182.0	1197.9	1199.2	1224.6	1258.4	1294.7	1332.8	1372.9
15°	1141.9	1141.3	1127.9	1127.3	1134.3	1135.5	1160.4	1199.8	1240.6	1287.7	1339.2
17.5°	1157.2	1152.1	1117.1	1095.4	1091.0	1092.2	1110.7	1154.0	1197.3	1251.4	1313.1
20°	1241.2	1221.5	1139.3	1087.2	1072.5	1072.5	1083.3	1118.3	1166.1	1229.1	1306.8
22.5°	1440.4	1409.9	1234.8	1141.9	1090.3	1085.2	1077.0	1103.7	1156.5	1232.3	1332.8
25°	1691.2	1676.6	1409.9	1287.7	1181.4	1164.8	1110.1	1119.6	1176.3	1266.7	1404.1
27.5°	1923.5	1898.1	1639.6	1499.6	1349.4	1323.9	1208.1	1169.3	1223.4	1330.3	1507.3
30°	2059.1	2041.9	1875.8	1742.1	1563.3	1530.8	1364.7	1267.3	1307.4	1435.3	1653.6
32.5°	2206.8	2196.6	2112.6	1991.0	1795.0	1757.4	1567.1	1427.1	1436.0	1574.7	1830.0
35°	2350.0	2363.4	2315.6	2226.5	2044.5	2009.5	1838.9	1635.8	1594.5	1731.3	2018.4
37.5°	2521.8	2525.0	2495.1	2437.2	2306.7	2278.1	2137.4	1858.6	1766.9	1898.1	2200.4
40°	2864.9	2814.6	2697.5	2651.7	2574.0	2556.2	2395.8	2062.9	1927.3	2069.3	2372.3
42.5°	3236.0	3157.7	2974.4	2899.3	2868.1	2851.6	2611.0	2199.1	2077.6	2240.5	2540.9
45°	3535.2	3471.5	3292.0	3199.1	3202.9	3176.2	2798.7	2320.7	2240.5	2412.4	2729.3
47.5°	3829.9	3723.6	3522.4	3509.1	3553.6	3514.2	2978.2	2442.3	2410.5	2599.5	2917.8
50°	3849.0	3752.2	3670.7	3777.7	3854.1	3805.0	3141.2	2601.4	2586.8	2826.1	3160.9
52.5°	3616.6	3602.6	3726.8	3906.9	4033.6	3989.6	3274.2	2765.0	2766.9	3109.3	3456.9
55°	3532.0	3514.2	3663.1	3884.6	4055.8	4029.7	3373.5	2949.6	2966.8	3453.1	3774.5
57.5°	3674.6	3630.0	3659.3	3842.6	4003.6	3988.4	3476.6	3154.5	3185.7	3849.0	4067.9
60°	4116.9	4025.9	3870.6	3905.0	4005.5	3996.6	3624.3	3383.0	3435.2	4261.4	4253.8
62.5°	4779.5	4676.4	4360.1	4207.3	4185.0	4167.9	3868.1	3663.7	3689.8	4559.3	4145.6
65°	5506.4	5395.7	5019.5	4769.4	4638.2	4601.3	4261.4	4002.4	3838.8	4558.7	3724.2
67.5°	6322.4	6205.3	5830.4	5591.7	5449.8	5386.8	4899.8	4276.1	3790.4	4172.9	2980.1
70°	7158.2	7046.8	6874.9	6958.3	7020.7	6924.6	5905.5	4367.1	3442.9	3271.7	2001.2
72.5°	6714.5	6705.6	6836.1	7626.6	8829.0	8848.1	6909.9	4109.9	2660.0	1944.5	1066.8
73°	6302.7	6340.3	6582.1	7528.0	8983.7	8990.0	6929.7	3976.9	2442.3	1675.3	936.9
75°	3265.3	3519.9	4417.4	6104.1	8318.5	8348.4	6108.6	3010.7	1455.7	930.6	631.4
77.5°	874.6	863.1	1423.2	2973.8	5545.9	5506.4	3859.8	1457.6	697.6	583.7	443.0
80°	299.8	303.6	484.4	1087.8	2588.7	2681.0	1675.3	635.9	458.9	406.7	313.8
82.5°	152.8	157.9	253.3	462.7	1082.7	1059.8	539.1	374.3	307.4	247.0	175.7
85°	81.5	84.0	139.4	240.0	397.2	401.6	189.7	199.9	195.4	140.0	86.6
87.5°	40.1	41.4	66.8	105.7	147.0	141.9	66.2	86.6	96.1	78.9	47.7
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°	1517.4	1517.4	1517.4	1517.4	1517.4	1517.4	1517.4	1517.4	1517.4	1517.4	1517.4
2.5°	1507.3	1507.3	1515.5	1529.5	1539.7	1549.3	1555.6	1565.8	1571.5	1570.9	1570.3
5°	1497.1	1503.4	1520.0	1537.2	1548.6	1556.3	1556.3	1560.7	1560.7	1558.8	1556.3
7.5°	1473.5	1484.3	1508.5	1523.8	1527.0	1518.7	1502.2	1489.4	1473.5	1465.2	1462.1
10°	1436.0	1450.0	1480.5	1487.5	1471.0	1441.7	1401.6	1367.2	1336.7	1322.7	1318.2
12.5°	1399.0	1417.5	1446.1	1435.3	1395.9	1338.6	1276.8	1229.7	1195.4	1182.0	1177.5
15°	1368.5	1390.8	1413.0	1379.3	1310.6	1231.0	1162.9	1119.0	1092.9	1082.7	1080.2
17.5°	1348.1	1374.2	1381.9	1318.8	1223.4	1134.3	1073.8	1045.1	1033.7	1029.2	1028.0
20°	1349.4	1378.7	1360.2	1260.3	1139.3	1049.6	1009.5	1001.2	1001.2	1001.2	1000.6
22.5°	1384.4	1409.9	1351.3	1205.5	1058.5	978.3	961.1	968.1	973.2	973.2	972.6
25°	1457.0	1471.0	1357.7	1152.7	982.8	916.6	917.2	930.6	935.0	935.0	933.8
27.5°	1567.7	1556.3	1369.1	1094.2	908.3	860.6	869.5	881.6	884.7	882.8	882.2
30°	1706.5	1660.7	1378.7	1025.4	838.3	808.4	816.0	823.0	820.5	816.0	815.4
32.5°	1861.8	1766.9	1372.9	948.4	776.5	754.3	758.7	762.5	758.7	747.9	747.9
35°	2015.8	1863.1	1341.8	864.4	727.5	702.1	701.4	713.5	712.9	700.2	700.8
37.5°	2150.8	1938.8	1281.3	787.4	685.5	663.9	666.4	674.1	677.9	660.7	658.8
40°	2268.5	1991.0	1196.0	721.8	651.8	653.1	646.1	634.0	629.5	621.9	620.6
42.5°	2379.3	2027.3	1105.6	667.1	634.6	649.2	625.7	597.0	585.0	592.0	596.4
45°	2488.1	2068.0	1018.4	621.9	613.0	637.8	605.3	573.5	559.5	562.7	567.1
47.5°	2621.1	2124.7	913.4	573.5	579.9	616.8	592.6	558.2	537.2	524.5	520.7
50°	2796.2	2206.8	777.2	521.3	544.9	593.9	581.8	535.9	513.0	487.6	481.2
52.5°	3015.1	2284.4	639.7	479.3	516.2	574.1	563.9	516.8	488.8	458.3	453.2
55°	3233.5	2295.2	521.3	443.0	483.7	547.4	542.3	501.6	462.1	437.3	432.2
57.5°	3386.2	2192.8	441.7	412.5	452.6	514.3	522.6	483.1	439.8	420.7	417.5
60°	3388.8	1947.7	393.4	392.1	429.0	485.7	502.2	461.5	425.8	413.1	410.5
62.5°	3119.5	1569.6	362.2	376.8	411.8	462.1	486.9	449.4	422.6	417.5	415.0
65°	2614.8	1159.7	337.3	362.8	395.9	442.4	474.2	445.6	421.4	419.5	417.5
67.5°	1930.5	795.0	316.3	345.0	378.1	422.0	462.1	439.8	413.7	421.4	418.8
70°	1214.5	530.8	296.6	324.6	354.5	398.5	446.2	429.6	404.2	399.7	391.5
72.5°	685.5	383.8	273.1	298.5	324.0	367.3	424.6	412.5	382.5	364.7	356.4
73°	619.3	363.4	267.3	292.2	317.0	360.9	419.5	407.4	376.2	356.4	348.8
75°	453.2	297.2	241.2	266.1	287.7	331.6	395.3	381.9	348.2	324.6	319.5
77.5°	328.4	229.1	207.5	229.8	248.9	290.9	359.0	343.7	310.6	297.9	292.8
80°	236.8	173.8	171.9	193.5	210.0	252.7	320.2	304.3	272.4	310.0	301.7
82.5°	141.3	111.4	126.0	150.2	167.4	212.0	278.2	259.7	229.1	231.7	197.3
85°	67.5	63.0	78.3	98.7	110.8	145.1	231.7	217.0	183.3	150.2	147.0
87.5°	29.9	28.6	37.6	43.9	59.2	87.2	158.5	140.7	133.0	79.6	62.4
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)