

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: P195784

Luminaire Tested: **NAV-AF-04-D-UNV-T2-7050**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195784
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24136)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-AF-04-D-UNV-T2-7050
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 5000K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 23881 lumens
Efficiency: N/A
Efficacy: 106.1 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type II - Medium - Full Cutoff
BUG Rating: B3 - U0 - G4

Input Watts (W): 225
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

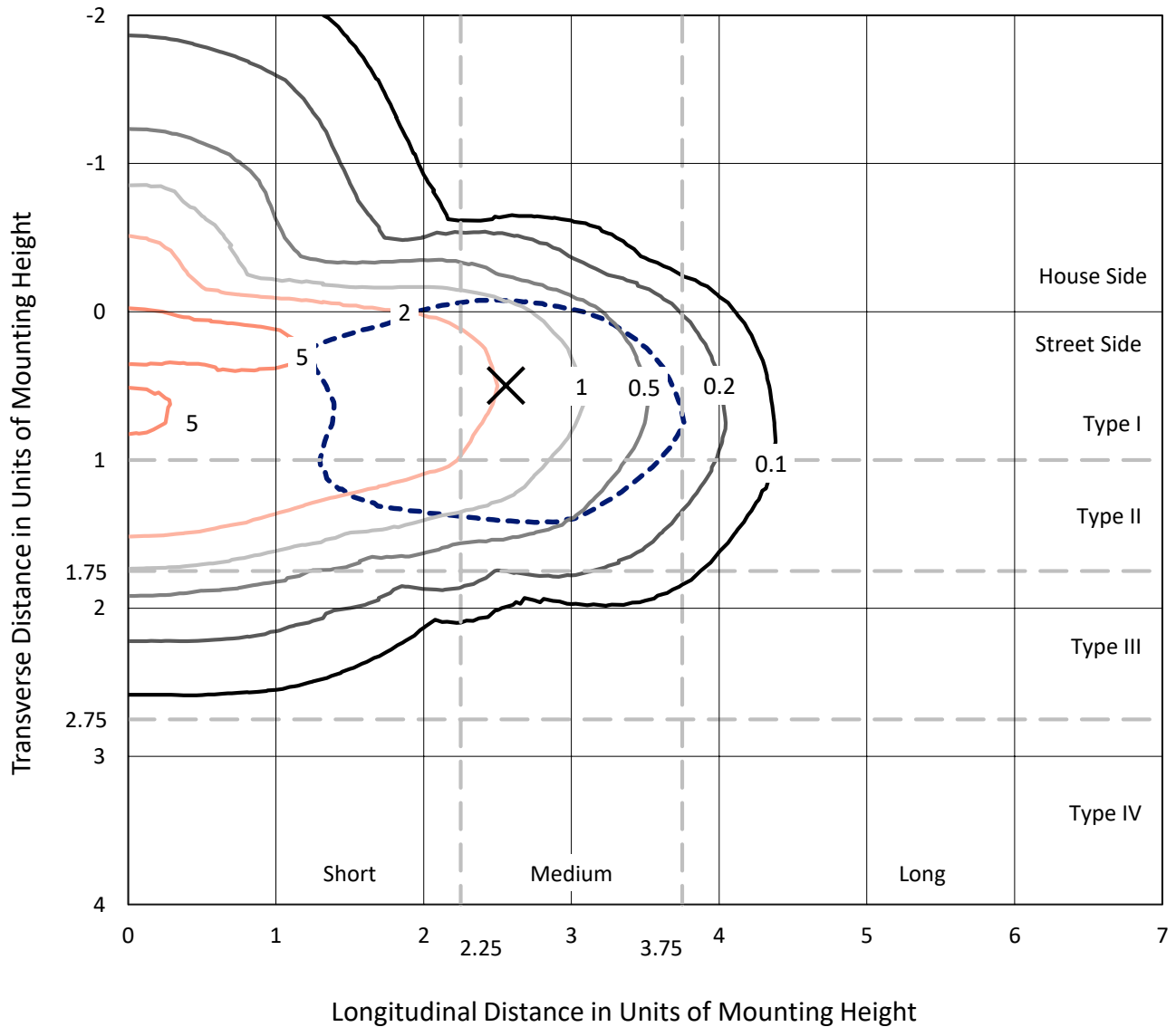


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Iso-Footcandle Lines of Horizontal Illumination

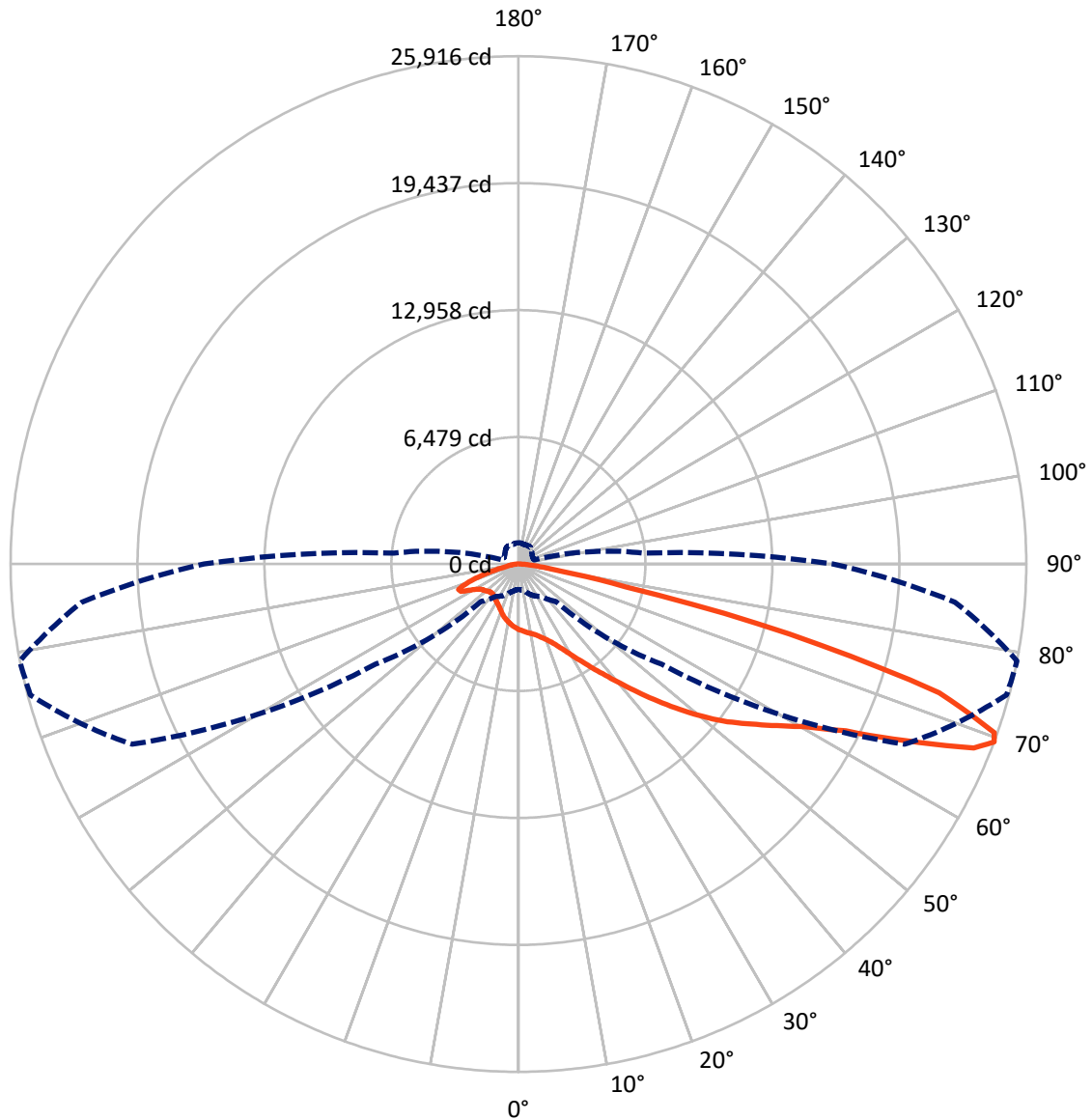
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 6.5 fc
 Type II - Medium - Full Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 79-Deg Lateral - - - Horizontal Cone Through 69-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	4492.5	0.0	4492.5
	% Fixture	18.8	0.0	18.8
Street Side	Lumens	19388.5	0.0	19388.5
	% Fixture	81.2	0.0	81.2
Total	Lumens	23881.0	0.0	23881.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	310.7	1.3
10°-20°	890.7	3.7
20°-30°	1471.8	6.2
30°-40°	2383.3	10.0
40°-50°	3807.2	15.9
50°-60°	5452.4	22.8
60°-70°	6074.8	25.4
70°-80°	3039.1	12.7
80°-90°	451.0	1.9
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°	23881.0	100.0
0°-180°	23881.0	100.0



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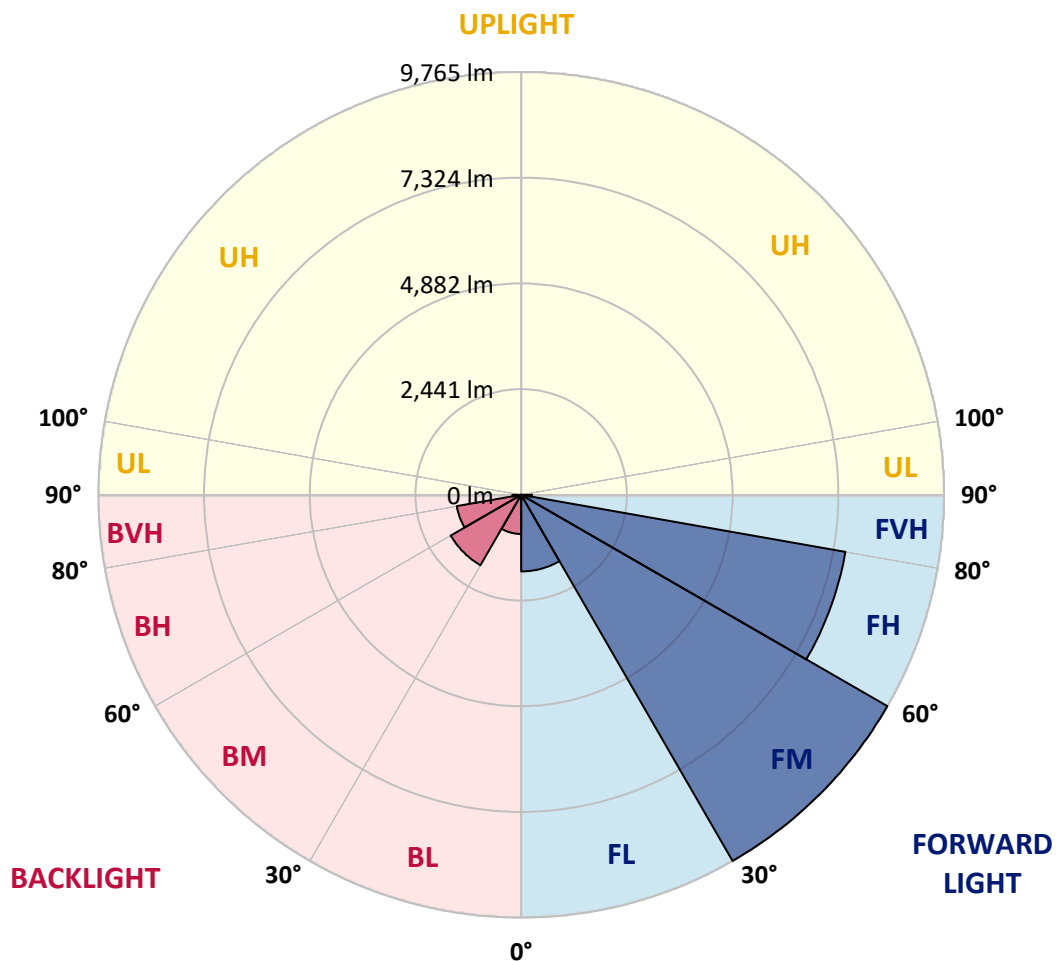
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1768.2	7.4			
FM (30°-60°)	9765.0	40.9			
FH (60°-80°)	7603.4	31.8			G4/12000
FVH (80°-90°)	252.0	1.1			G3/500
BL (0°-30°)	905.0	3.8	B2/1000		
BM (30°-60°)	1877.9	7.9	B2/2500		
BH (60°-80°)	1510.5	6.3	B3/2500		G3/2500
BVH (80°-90°)	199.0	0.8			G2/225
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G4

Type II Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	79°	85°
0°	3351.3	3351.3	3351.3	3351.3	3351.3	3351.3	3351.3	3351.3	3351.3	3351.3	3351.3
2.5°	3679.4	3671.5	3670.0	3646.5	3634.0	3607.5	3545.0	3480.9	3421.6	3390.3	3357.5
5°	3987.1	3971.5	3963.7	3924.6	3890.3	3830.9	3732.5	3630.9	3524.7	3470.0	3404.4
7.5°	4173.1	4174.6	4174.6	4143.4	4109.0	4037.1	3912.1	3773.1	3615.3	3543.4	3440.3
10°	4188.7	4190.2	4213.7	4221.5	4229.3	4191.8	4076.2	3901.2	3698.1	3604.4	3470.0
12.5°	4034.0	4044.9	4084.0	4140.3	4219.9	4260.6	4210.6	4038.7	3804.3	3690.3	3526.2
15°	3826.2	3837.2	3887.1	3973.1	4101.2	4237.1	4307.4	4196.5	3943.4	3809.0	3609.0
17.5°	3724.7	3737.2	3771.5	3840.3	3965.3	4148.1	4359.0	4365.2	4107.4	3952.8	3707.5
20°	3676.2	3685.6	3729.3	3785.6	3880.9	4055.9	4363.7	4543.3	4302.7	4123.1	3827.8
22.5°	3787.2	3790.3	3812.2	3843.4	3907.5	4041.8	4360.5	4727.7	4546.5	4337.1	3982.5
25°	4112.1	4091.8	4076.2	4037.1	4052.8	4148.1	4410.5	4924.6	4858.9	4618.3	4188.7
27.5°	4496.5	4493.3	4452.7	4362.1	4304.3	4365.2	4552.7	5144.8	5241.7	4976.1	4459.0
30°	4924.6	4926.1	4883.9	4773.0	4655.8	4662.1	4779.3	5399.5	5699.5	5407.3	4791.8
32.5°	5373.0	5401.1	5323.0	5212.0	5069.9	5024.5	5104.2	5707.3	6229.1	5916.7	5177.7
35°	5908.8	5913.5	5827.6	5665.1	5522.9	5451.1	5524.5	6091.6	6840.0	6515.0	5647.9
37.5°	6465.0	6468.2	6379.1	6171.3	5991.6	5944.8	6026.0	6558.8	7486.8	7196.2	6201.0
40°	6919.7	6952.5	6882.2	6686.9	6505.7	6477.5	6594.7	7118.1	8313.3	8002.4	6858.8
42.5°	7435.3	7472.8	7388.4	7185.3	7041.5	7032.2	7215.0	7755.5	9135.1	8935.1	7604.0
45°	8016.5	8069.6	7952.4	7724.3	7602.4	7808.7	7819.6	8461.7	10081.9	9978.8	8443.0
47.5°	8650.8	8694.5	8599.2	8353.9	8221.1	8519.5	8411.7	9225.7	11105.2	11097.4	9350.7
50°	9139.8	9188.2	9197.6	9089.8	8950.8	8988.2	9061.7	10028.8	12125.5	12247.3	10289.7
52.5°	9050.7	9097.6	9308.5	9591.3	9814.7	9717.9	9806.9	10881.8	13111.3	13369.1	11181.8
55°	8332.1	8357.1	8752.3	9424.1	10375.6	10838.1	10844.3	11809.9	14048.7	14409.6	12028.6
57.5°	7036.9	7040.0	7554.0	8544.5	10049.1	11564.6	12481.7	12975.4	15026.8	15559.5	13078.5
60°	4979.2	4991.7	5590.1	6885.3	8878.9	11477.1	14242.5	15061.1	16159.5	16851.6	14431.5
62.5°	2956.0	2984.1	3435.6	4474.6	6594.7	10352.2	15283.0	18771.7	17828.1	18746.7	16596.9
65°	1923.3	1946.7	2217.0	2738.8	3896.5	7532.1	14940.8	22365.2	20985.6	21727.7	19709.2
67.5°	1481.1	1499.9	1712.3	2027.9	2390.4	4071.5	11945.8	23118.2	24829.0	25060.2	22335.5
69°	1301.4	1317.1	1473.3	1776.4	2012.3	2695.1	8902.3	21751.2	25789.9	25916.4	22368.3
70°	1206.1	1218.6	1365.5	1628.0	1848.3	2151.4	6813.4	20163.8	25438.3	25761.7	21723.0
72.5°	993.7	1004.6	1109.3	1310.8	1510.8	1532.7	3018.5	14723.7	21419.9	22454.2	18382.7
75°	829.6	835.9	904.6	1051.5	1223.3	1220.2	1542.0	8339.9	13070.7	14303.4	11350.5
77.5°	692.1	696.8	742.1	832.7	965.5	960.9	1085.8	3599.7	5771.4	5568.2	3907.5
80°	610.9	614.0	637.4	660.9	745.2	740.6	804.6	1653.0	2348.2	2170.1	1478.0
82.5°	464.0	470.3	589.0	599.9	578.1	557.8	560.9	962.4	1203.0	1095.2	793.7
85°	262.5	264.0	378.1	442.1	503.1	378.1	364.0	496.8	593.7	520.3	346.8
87.5°	117.2	121.9	181.2	209.4	271.9	221.9	207.8	210.9	256.2	212.5	137.5
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°	3351.3	3351.3	3351.3	3351.3	3351.3	3351.3	3351.3	3351.3	3351.3	3351.3	3351.3
2.5°	3326.3	3299.7	3237.2	3173.2	3109.1	3068.5	3026.3	2987.2	2971.6	2970.0	2940.4
5°	3340.3	3277.8	3135.7	2979.4	2831.0	2715.4	2618.5	2556.0	2495.1	2484.2	2457.6
7.5°	3345.0	3243.5	3012.2	2762.2	2535.7	2376.3	2279.5	2237.3	2207.6	2199.8	2190.4
10°	3343.4	3199.7	2874.7	2532.6	2274.8	2154.5	2118.6	2127.9	2140.4	2146.7	2146.7
12.5°	3368.4	3179.4	2737.3	2317.0	2106.1	2048.3	2076.4	2124.8	2162.3	2177.9	2181.1
15°	3413.8	3166.9	2585.7	2129.5	1987.3	2001.4	2070.1	2140.4	2193.6	2217.0	2223.2
17.5°	3470.0	3149.7	2410.7	1974.8	1918.6	1967.0	2056.1	2145.1	2209.2	2238.9	2243.5
20°	3532.5	3124.7	2229.5	1859.2	1857.6	1918.6	2007.6	2107.6	2176.4	2209.2	2207.6
22.5°	3616.9	3101.3	2060.8	1774.8	1790.5	1846.7	1920.1	2010.8	2074.8	2104.5	2098.2
25°	3729.3	3079.4	1909.2	1699.8	1713.9	1751.4	1803.0	1871.7	1917.0	1932.6	1921.7
27.5°	3880.9	3062.2	1790.5	1631.1	1629.5	1646.7	1678.0	1715.5	1737.3	1732.7	1715.5
30°	4066.8	3045.0	1703.0	1570.2	1548.3	1546.7	1560.8	1582.7	1596.7	1568.6	1554.5
32.5°	4274.6	3015.4	1624.9	1517.1	1478.0	1463.9	1470.2	1499.9	1557.7	1529.5	1518.6
35°	4519.9	2981.0	1546.7	1459.2	1429.6	1403.0	1407.7	1471.7	1646.7	1626.4	1615.5
37.5°	4815.2	2949.7	1474.9	1396.7	1395.2	1362.4	1359.3	1435.8	1670.2	1626.4	1617.0
40°	5169.8	2943.5	1410.8	1328.0	1353.0	1340.5	1329.6	1376.4	1540.5	1451.4	1434.2
42.5°	5597.9	2971.6	1363.9	1262.4	1304.6	1334.3	1313.9	1324.9	1392.1	1312.4	1298.3
45°	6097.9	3048.2	1329.6	1204.6	1253.0	1329.6	1306.1	1296.8	1307.7	1263.9	1254.6
47.5°	6680.6	3184.1	1306.1	1156.1	1204.6	1317.1	1303.0	1284.3	1279.6	1254.6	1248.3
50°	7304.0	3366.9	1290.5	1112.4	1160.8	1295.2	1301.4	1274.9	1267.1	1256.1	1253.0
52.5°	7922.7	3565.3	1271.8	1074.9	1124.9	1268.6	1303.0	1265.5	1254.6	1248.3	1245.2
55°	8538.3	3771.5	1237.4	1042.1	1098.3	1237.4	1301.4	1253.0	1240.5	1240.5	1240.5
57.5°	9336.7	4085.6	1192.1	1015.5	1064.0	1196.8	1281.1	1239.0	1221.8	1223.3	1224.9
60°	10489.7	4612.1	1142.1	985.8	1018.7	1149.9	1249.9	1214.0	1193.6	1199.9	1201.5
62.5°	12416.1	5532.3	1073.3	943.7	971.8	1099.9	1209.3	1179.6	1160.8	1171.8	1173.3
65°	14984.6	6646.3	982.7	890.5	923.4	1043.7	1157.7	1139.0	1118.6	1145.2	1143.6
67.5°	16551.6	6972.8	887.4	834.3	876.5	984.3	1093.7	1085.8	1071.8	1118.6	1115.5
69°	16037.6	6382.2	832.7	798.4	843.7	943.7	1053.0	1049.9	1039.0	1084.3	1081.2
70°	15239.2	5830.7	798.4	774.9	826.5	918.7	1026.5	1026.5	1015.5	1054.6	1046.8
72.5°	12241.1	4324.6	718.7	715.6	767.1	849.9	954.6	962.4	956.2	970.2	962.4
75°	7186.8	2606.0	640.6	649.9	695.2	776.5	874.9	881.2	874.9	873.4	874.9
77.5°	2492.0	1168.6	565.6	579.6	618.7	701.5	787.4	799.9	790.6	779.6	782.7
80°	974.9	679.6	484.3	504.6	537.5	617.1	699.9	707.7	693.7	692.1	679.6
82.5°	585.9	414.0	376.5	409.3	450.0	535.9	604.6	601.5	590.6	654.6	573.4
85°	254.7	229.7	275.0	307.8	328.1	401.5	510.9	496.8	470.3	414.0	404.7
87.5°	103.1	118.7	151.5	182.8	196.9	259.4	350.0	337.5	342.2	281.2	279.7
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)