

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: P195298

Luminaire Tested: **NAV-AF-04-D-UNV-T2-7060-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195298
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-T2-7060-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 5700K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 19294 lumens
Efficiency: N/A
Efficacy: 112.8 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type II - Medium - Full Cutoff
BUG Rating: B3 - U0 - G3

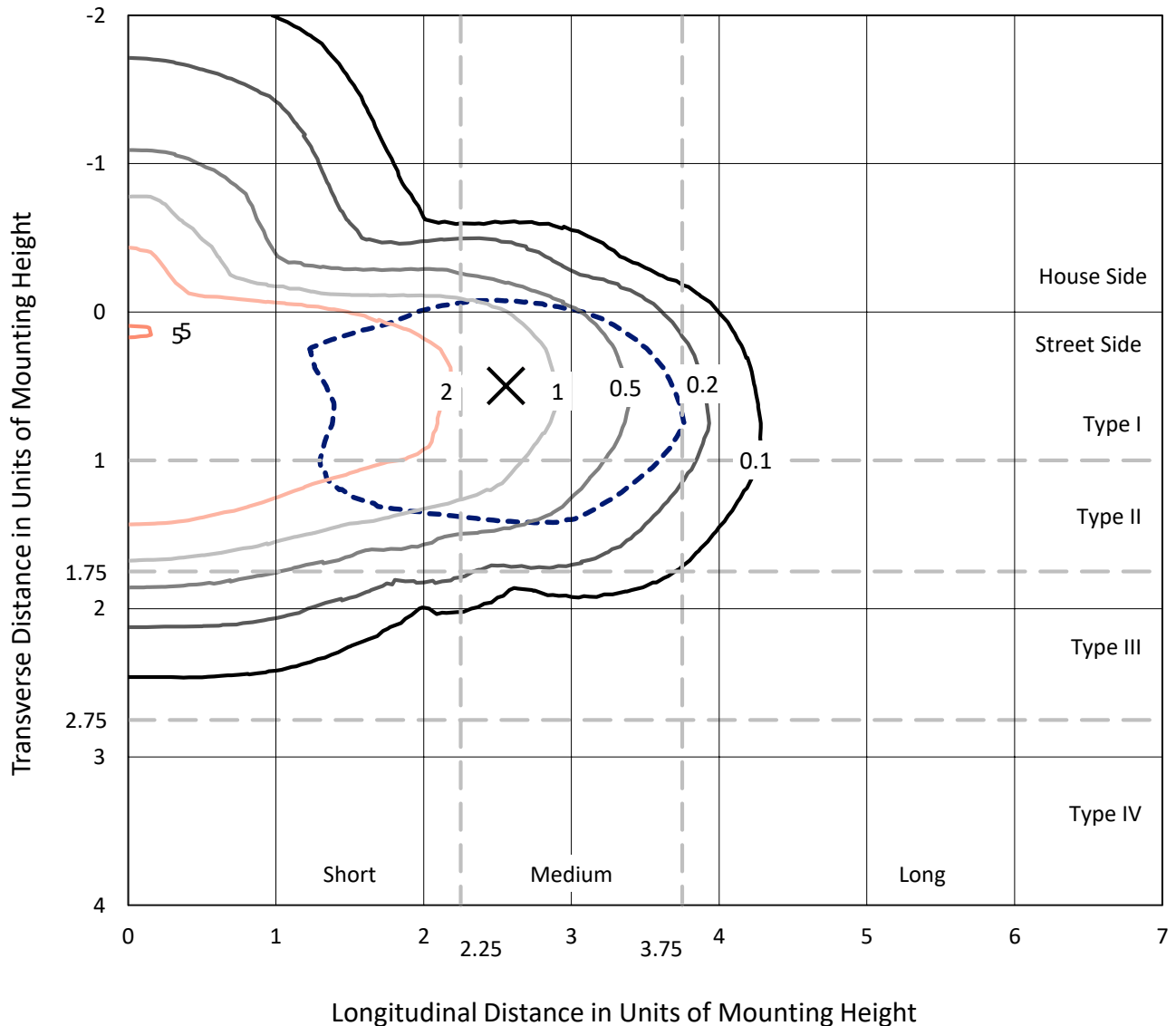
Input Watts (W): 171
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

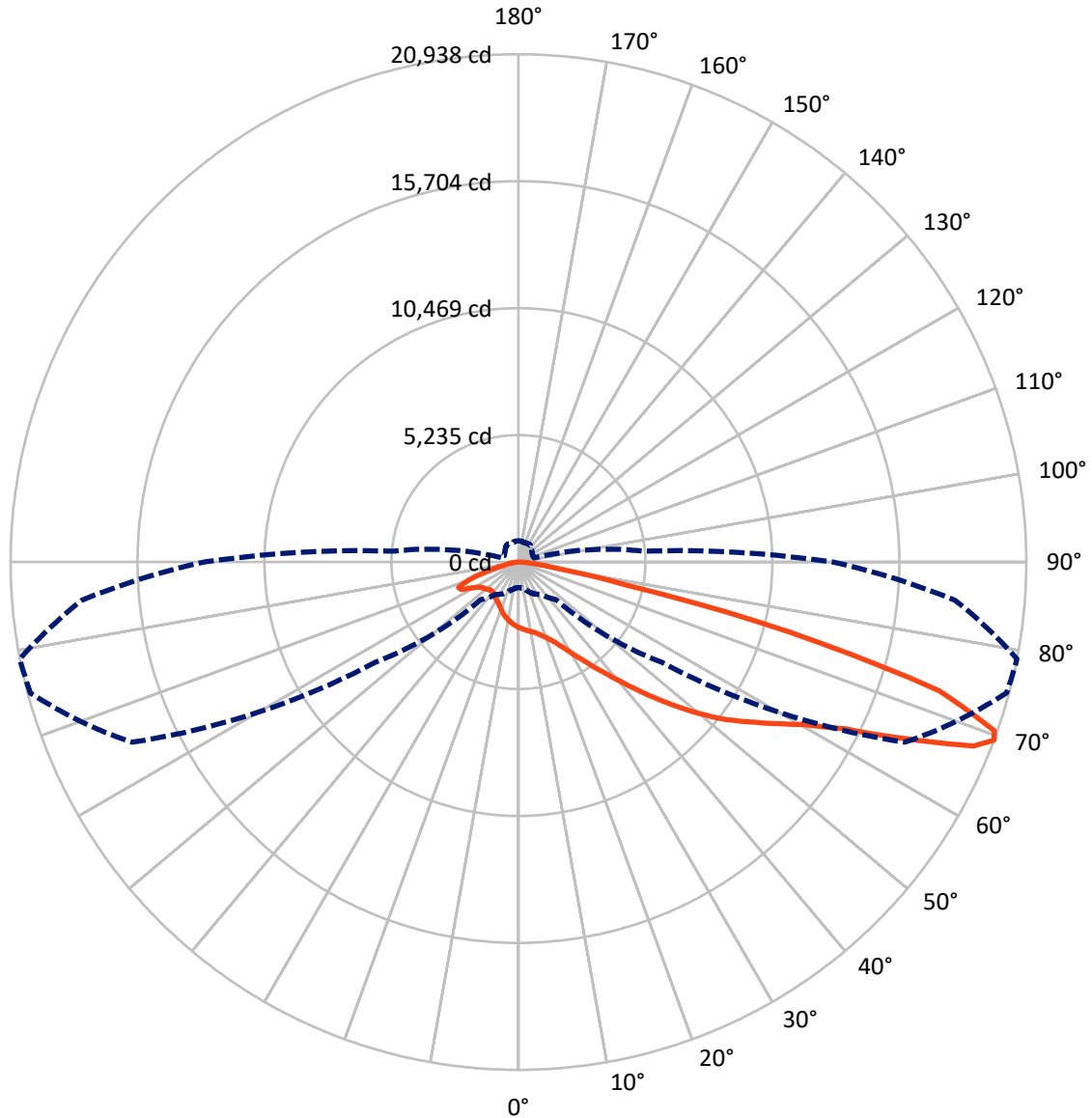
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 5.2 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	3629.6	0.0	3629.6
	% Fixture	18.8	0.0	18.8
Street Side	Lumens	15664.4	0.0	15664.4
	% Fixture	81.2	0.0	81.2
Total	Lumens	19294.0	0.0	19294.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	251.0	1.3
10°-20°	719.6	3.7
20°-30°	1189.1	6.2
30°-40°	1925.5	10.0
40°-50°	3076.0	15.9
50°-60°	4405.1	22.8
60°-70°	4907.9	25.4
70°-80°	2455.4	12.7
80°-90°	364.4	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°	19294.0	100.0
0°-180°	19294.0	100.0



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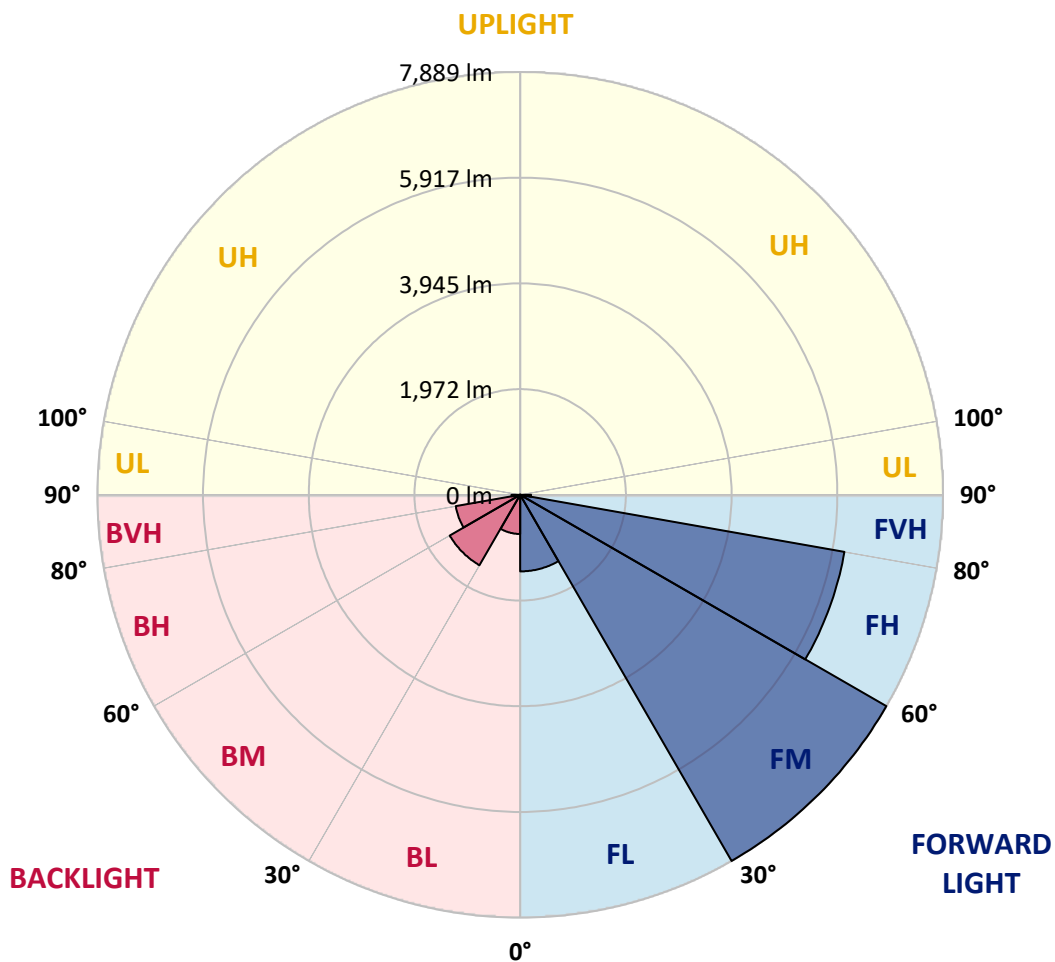
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1428.6	7.4			
FM	(30°-60°)	7889.3	40.9			
FH	(60°-80°)	6142.9	31.8			G3/7500
FVH	(80°-90°)	203.6	1.1			G2/225
BL	(0°-30°)	731.2	3.8	B2/1000		
BM	(30°-60°)	1517.2	7.9	B2/2500		
BH	(60°-80°)	1220.4	6.3	B3/2500		G3/2500
BVH	(80°-90°)	160.8	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-G3

Type II Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	79°	85°
0°	2707.6	2707.6	2707.6	2707.6	2707.6	2707.6	2707.6	2707.6	2707.6	2707.6	2707.6
2.5°	2972.6	2966.3	2965.1	2946.1	2936.0	2914.6	2864.1	2812.3	2764.4	2739.1	2712.6
5°	3221.3	3208.7	3202.4	3170.8	3143.0	3095.1	3015.6	2933.5	2847.7	2803.5	2750.5
7.5°	3371.5	3372.8	3372.8	3347.5	3319.8	3261.7	3160.7	3048.4	2920.9	2862.8	2779.5
10°	3384.1	3385.4	3404.3	3410.6	3417.0	3386.7	3293.2	3151.9	2987.8	2912.0	2803.5
12.5°	3259.2	3268.0	3299.6	3345.0	3409.4	3442.2	3401.8	3263.0	3073.6	2981.5	2848.9
15°	3091.3	3100.1	3140.5	3209.9	3313.4	3423.3	3480.1	3390.4	3186.0	3077.4	2915.8
17.5°	3009.2	3019.3	3047.1	3102.6	3203.6	3351.3	3521.7	3526.8	3318.5	3193.5	2995.4
20°	2970.1	2977.7	3013.0	3058.5	3135.5	3276.8	3525.5	3670.7	3476.3	3331.1	3092.5
22.5°	3059.7	3062.3	3079.9	3105.2	3156.9	3265.5	3523.0	3819.6	3673.2	3504.0	3217.5
25°	3322.3	3305.9	3293.2	3261.7	3274.3	3351.3	3563.4	3978.7	3925.6	3731.3	3384.1
27.5°	3632.8	3630.3	3597.5	3524.2	3477.5	3526.8	3678.2	4156.6	4234.9	4020.3	3602.5
30°	3978.7	3979.9	3945.8	3856.2	3761.5	3766.6	3861.3	4362.4	4604.7	4368.7	3871.4
32.5°	4340.9	4363.6	4300.5	4210.9	4096.0	4059.4	4123.8	4611.1	5032.6	4780.2	4183.1
35°	4773.9	4777.7	4708.2	4577.0	4462.1	4404.0	4463.4	4921.6	5526.2	5263.6	4563.1
37.5°	5223.3	5225.8	5153.8	4985.9	4840.8	4802.9	4868.6	5299.0	6048.8	5814.0	5009.9
40°	5590.6	5617.1	5560.3	5402.5	5256.1	5233.3	5328.0	5750.9	6716.5	6465.3	5541.3
42.5°	6007.1	6037.4	5969.3	5805.2	5689.0	5681.5	5829.1	6265.9	7380.5	7218.9	6143.4
45°	6476.7	6519.6	6424.9	6240.6	6142.2	6308.8	6317.6	6836.4	8145.4	8062.1	6821.3
47.5°	6989.2	7024.5	6947.5	6749.3	6642.0	6883.1	6796.0	7453.7	8972.2	8965.9	7554.7
50°	7384.2	7423.4	7431.0	7343.9	7231.5	7261.8	7321.1	8102.5	9796.4	9894.9	8313.3
52.5°	7312.3	7350.2	7520.6	7749.0	7929.5	7851.3	7923.2	8791.7	10592.9	10801.2	9034.0
55°	6731.7	6751.9	7071.2	7614.0	8382.7	8756.3	8761.4	9541.5	11350.3	11641.9	9718.2
57.5°	5685.2	5687.8	6103.1	6903.3	8118.9	9343.3	10084.2	10483.1	12140.5	12570.9	10566.4
60°	4022.8	4032.9	4516.4	5562.8	7173.5	9272.6	11506.8	12168.2	13055.6	13614.8	11659.5
62.5°	2388.2	2410.9	2775.7	3615.1	5328.0	8363.8	12347.5	15166.1	14403.7	15145.9	13409.0
65°	1553.8	1572.8	1791.2	2212.8	3148.1	6085.4	12071.0	18069.3	16954.7	17554.3	15923.5
67.5°	1196.6	1211.8	1383.4	1638.4	1931.3	3289.5	9651.3	18677.7	20059.9	20246.7	18045.3
69°	1051.5	1064.1	1190.3	1435.2	1625.8	2177.4	7192.4	17573.3	20836.2	20938.4	18071.8
70°	974.5	984.6	1103.2	1315.3	1493.3	1738.1	5504.7	16290.8	20552.2	20813.5	17550.5
72.5°	802.8	811.6	896.2	1059.0	1220.6	1238.3	2438.7	11895.6	17305.7	18141.3	14851.8
75°	670.3	675.3	730.9	849.5	988.4	985.8	1245.9	6738.0	10560.1	11556.0	9170.4
77.5°	559.2	563.0	599.6	672.8	780.1	776.3	877.3	2908.3	4662.8	4498.7	3156.9
80°	493.5	496.1	515.0	533.9	602.1	598.3	650.1	1335.5	1897.2	1753.3	1194.1
82.5°	374.9	379.9	475.9	484.7	467.0	450.6	453.2	777.6	971.9	884.8	641.2
85°	212.1	213.3	305.5	357.2	406.4	305.5	294.1	401.4	479.7	420.3	280.2
87.5°	94.7	98.5	146.4	169.1	219.6	179.2	167.9	170.4	207.0	171.7	111.1
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°	2707.6	2707.6	2707.6	2707.6	2707.6	2707.6	2707.6	2707.6	2707.6	2707.6	2707.6
2.5°	2687.4	2665.9	2615.4	2563.7	2511.9	2479.1	2445.0	2413.5	2400.8	2399.6	2375.6
5°	2698.7	2648.2	2533.4	2407.1	2287.2	2193.8	2115.6	2065.1	2015.8	2007.0	1985.5
7.5°	2702.5	2620.5	2433.6	2231.7	2048.7	1919.9	1841.6	1807.6	1783.6	1777.3	1769.7
10°	2701.2	2585.1	2322.6	2046.1	1837.9	1740.7	1711.6	1719.2	1729.3	1734.4	1734.4
12.5°	2721.4	2568.7	2211.5	1871.9	1701.5	1654.8	1677.5	1716.7	1747.0	1759.6	1762.1
15°	2758.0	2558.6	2089.0	1720.5	1605.6	1617.0	1672.5	1729.3	1772.2	1791.2	1796.2
17.5°	2803.5	2544.7	1947.7	1595.5	1550.1	1589.2	1661.1	1733.1	1784.8	1808.8	1812.6
20°	2854.0	2524.5	1801.3	1502.1	1500.8	1550.1	1622.0	1702.8	1758.3	1784.8	1783.6
22.5°	2922.1	2505.6	1664.9	1433.9	1446.6	1492.0	1551.3	1624.5	1676.3	1700.3	1695.2
25°	3013.0	2487.9	1542.5	1373.3	1384.7	1415.0	1456.7	1512.2	1548.8	1561.4	1552.6
27.5°	3135.5	2474.0	1446.6	1317.8	1316.5	1330.4	1355.7	1386.0	1403.6	1399.9	1386.0
30°	3285.7	2460.2	1375.9	1268.6	1250.9	1249.6	1261.0	1278.7	1290.0	1267.3	1256.0
32.5°	3453.6	2436.2	1312.8	1225.7	1194.1	1182.7	1187.8	1211.8	1258.5	1235.8	1226.9
35°	3651.7	2408.4	1249.6	1179.0	1155.0	1133.5	1137.3	1189.1	1330.4	1314.0	1305.2
37.5°	3890.3	2383.2	1191.6	1128.5	1127.2	1100.7	1098.2	1160.0	1349.4	1314.0	1306.4
40°	4176.8	2378.1	1139.8	1072.9	1093.1	1083.0	1074.2	1112.1	1244.6	1172.6	1158.8
42.5°	4522.7	2400.8	1102.0	1019.9	1054.0	1078.0	1061.6	1070.4	1124.7	1060.3	1048.9
45°	4926.6	2462.7	1074.2	973.2	1012.3	1074.2	1055.3	1047.7	1056.5	1021.2	1013.6
47.5°	5397.4	2572.5	1055.3	934.1	973.2	1064.1	1052.7	1037.6	1033.8	1013.6	1008.5
50°	5901.1	2720.2	1042.6	898.7	937.9	1046.4	1051.5	1030.0	1023.7	1014.9	1012.3
52.5°	6400.9	2880.5	1027.5	868.4	908.8	1025.0	1052.7	1022.4	1013.6	1008.5	1006.0
55°	6898.3	3047.1	999.7	841.9	887.4	999.7	1051.5	1012.3	1002.2	1002.2	1002.2
57.5°	7543.3	3300.8	963.1	820.5	859.6	966.9	1035.1	1001.0	987.1	988.4	989.6
60°	8474.8	3726.2	922.7	796.5	823.0	929.0	1009.8	980.8	964.4	969.4	970.7
62.5°	10031.2	4469.7	867.2	762.4	785.1	888.6	977.0	953.0	937.9	946.7	948.0
65°	12106.4	5369.7	794.0	719.5	746.0	843.2	935.3	920.2	903.8	925.2	924.0
67.5°	13372.4	5633.5	717.0	674.0	708.1	795.2	883.6	877.3	865.9	903.8	901.3
69°	12957.1	5156.4	672.8	645.0	681.6	762.4	850.8	848.2	839.4	876.0	873.5
70°	12312.1	4710.8	645.0	626.1	667.7	742.2	829.3	829.3	820.5	852.0	845.7
72.5°	9889.8	3493.9	580.6	578.1	619.8	686.7	771.2	777.6	772.5	783.9	777.6
75°	5806.4	2105.5	517.5	525.1	561.7	627.3	706.9	711.9	706.9	705.6	706.9
77.5°	2013.3	944.2	456.9	468.3	499.9	566.8	636.2	646.3	638.7	629.9	632.4
80°	787.7	549.1	391.3	407.7	434.2	498.6	565.5	571.8	560.4	559.2	549.1
82.5°	473.3	334.5	304.2	330.7	363.5	433.0	488.5	486.0	477.1	528.9	463.3
85°	205.7	185.6	222.2	248.7	265.1	324.4	412.8	401.4	379.9	334.5	326.9
87.5°	83.3	95.9	122.4	147.7	159.0	209.5	282.7	272.6	276.4	227.2	225.9
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)