

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: P195066

Luminaire Tested: **NAV-AF-06-D-UNV-AFL-7060**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195066
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24160)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-AF-06-D-UNV-AFL-7060
Description: NAVION ROADWAY AND AREA LUMINAIRE
(6) 70 CRI, 5700K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND AUTOMOTIVE FRONTLINE OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 36909 lumens
Efficiency: N/A
Efficacy: 110.8 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type II - Short - Full Cutoff
BUG Rating: B3 - U0 - G3

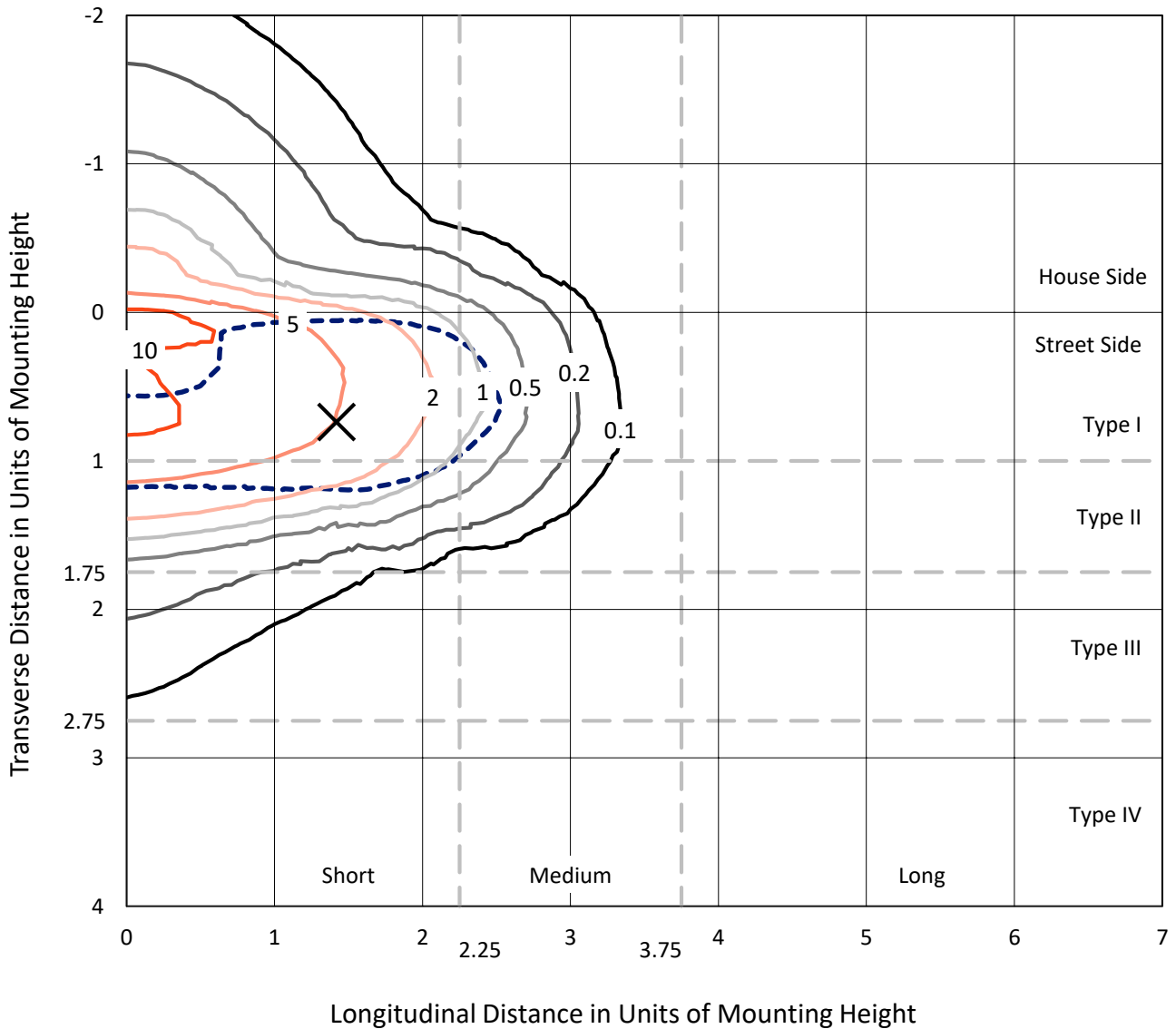
Input Watts (W): 333
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

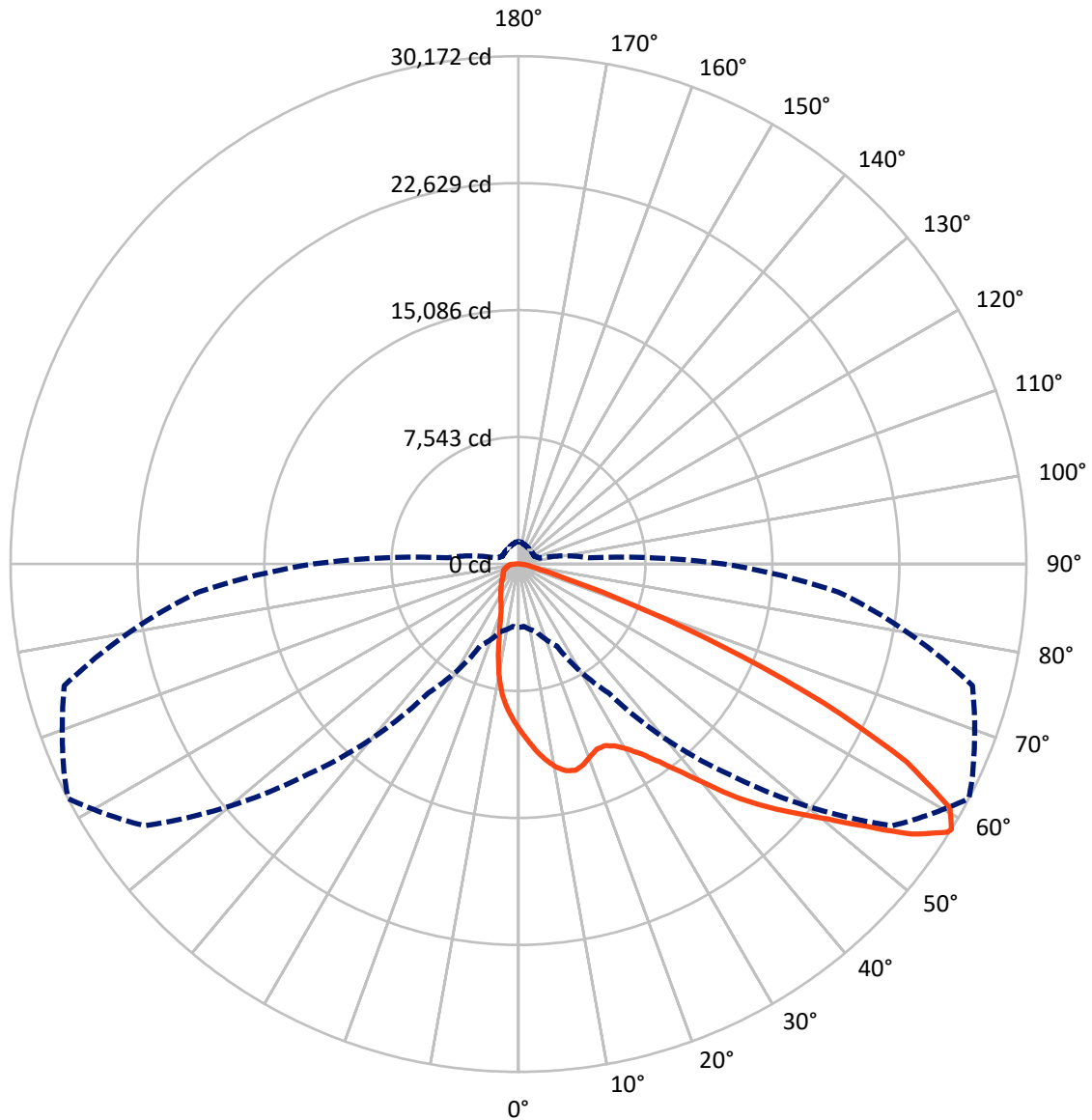
✕ Max cd
 - - - 1/2 Max cd



Based on 30 foot mounting height. Maximum calculated value = 12.8 fc
 Type II - Short - Full Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 62.5-Deg Lateral - - - Horizontal Cone Through 58-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	5666.9	0.0	5666.9
	% Fixture	15.4	0.0	15.4
Street Side	Lumens	31242.1	0.0	31242.1
	% Fixture	84.6	0.0	84.6
Total	Lumens	36909.0	0.0	36909.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	880.8	2.4
10°-20°	2223.0	6.0
20°-30°	3602.6	9.8
30°-40°	5751.9	15.6
40°-50°	8366.3	22.7
50°-60°	8754.5	23.7
60°-70°	5337.1	14.5
70°-80°	1492.5	4.0
80°-90°	500.3	1.4
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°	36909.0	100.0
0°-180°	36909.0	100.0



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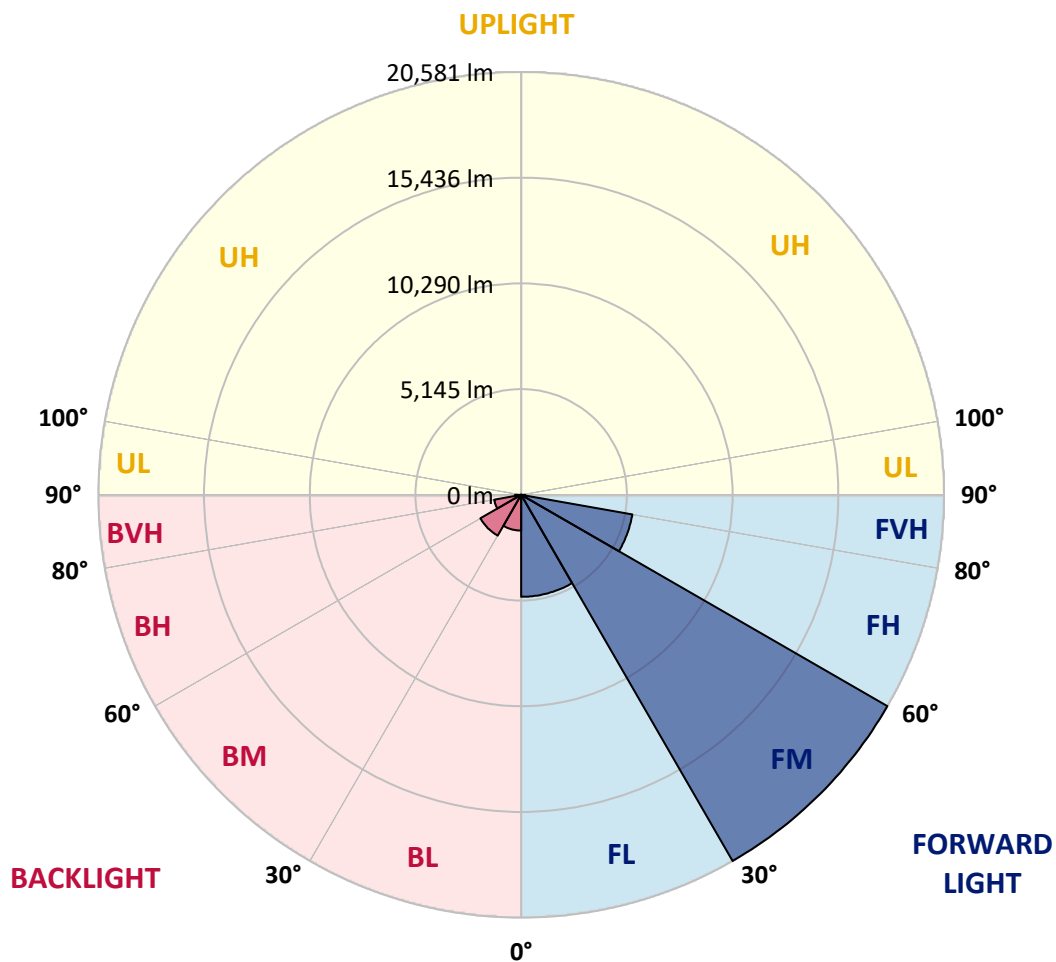
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	4964.4	13.5			
FM	(30°-60°)	20580.9	55.8			
FH	(60°-80°)	5495.5	14.9			G3/7500
FVH	(80°-90°)	201.3	0.5			G2/225
BL	(0°-30°)	1742.0	4.7	B3/2500		
BM	(30°-60°)	2291.8	6.2	B2/2500		
BH	(60°-80°)	1334.1	3.6	B3/2500		G3/2500
BVH	(80°-90°)	299.1	0.8			G3/500
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 Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	62.5°	65°	75°	85°
0°	9854.5	9854.5	9854.5	9854.5	9854.5	9854.5	9854.5	9854.5	9854.5	9854.5	9854.5
2.5°	11185.5	11178.5	11084.0	11021.7	10947.9	10777.2	10606.5	10479.6	10415.0	10168.2	9928.3
5°	12110.5	12082.8	12029.7	11962.8	11866.0	11651.4	11381.5	11148.6	11056.3	10618.0	10177.4
7.5°	11621.4	11665.3	11829.0	12013.6	12207.4	12221.2	12029.7	11752.9	11651.4	11065.5	10419.6
10°	10267.4	10248.9	10454.2	10814.1	11453.0	12085.1	12401.1	12265.0	12158.9	11490.0	10661.8
12.5°	9856.8	9852.2	9886.8	9979.0	10380.4	11247.7	12306.5	12601.8	12564.9	11939.8	10920.2
15°	9981.3	9985.9	9983.6	9995.2	10105.9	10518.8	11778.3	12714.8	12830.2	12385.0	11183.2
17.5°	10380.4	10364.3	10313.5	10258.1	10274.3	10421.9	11208.5	12521.1	12867.1	12781.7	11404.6
20°	10996.3	10996.3	10860.2	10705.7	10604.2	10636.5	10970.9	12188.9	12696.4	13118.5	11570.7
22.5°	11769.1	11780.6	11579.9	11298.5	11067.8	10980.2	11107.0	11942.1	12488.8	13429.9	11718.3
25°	12728.7	12726.4	12433.4	12029.7	11665.3	11455.3	11453.0	11953.6	12424.2	13794.4	11872.9
27.5°	13916.7	13808.2	13466.8	12892.5	12378.1	12057.4	11912.1	12244.3	12560.3	14241.9	12080.5
30°	15256.9	15146.2	14698.6	13960.5	13263.8	12795.6	12555.7	12747.1	12975.5	14811.7	12394.2
32.5°	16583.3	16608.6	16082.7	15250.0	14354.9	13695.2	13340.0	13457.6	13616.8	15508.3	12818.6
35°	18525.6	18523.2	17835.8	16795.5	15732.1	14818.6	14368.8	14431.1	14576.4	16491.0	13413.8
37.5°	19974.2	19951.1	19508.2	18587.8	17390.6	16294.9	15644.4	15653.6	15778.2	17725.1	14198.1
40°	20121.8	20117.2	20114.9	19983.4	19164.5	18131.1	17316.8	17148.4	17199.2	19035.3	15030.8
42.5°	18993.8	19162.2	19646.6	20389.4	20617.8	20075.7	19305.2	18929.2	18818.5	20539.4	15912.0
45°	17386.0	17471.4	18320.3	19990.3	21349.0	21902.6	21323.7	20530.1	20341.0	22001.8	16629.4
47.5°	16638.6	16601.7	17093.1	18913.1	21277.5	23355.9	23397.4	22096.4	21775.8	23263.6	17240.7
50°	15035.4	14987.0	15607.5	17328.3	20497.8	24077.9	25526.6	23803.4	23210.6	24463.1	17794.3
52.5°	11840.6	11794.4	12627.2	14844.0	18753.9	23808.0	27321.2	25897.9	24887.6	25618.8	18311.0
55°	7704.6	7709.2	8502.7	10788.7	15176.1	22234.8	28163.2	28317.7	27185.1	26774.5	18728.6
57.5°	4242.1	4202.9	4768.1	6172.9	10440.4	18661.7	27461.9	30061.6	29471.1	27766.4	19030.7
58°	3771.5	3725.4	4161.4	5372.4	9360.8	17653.6	27109.0	30172.4	29764.1	27930.2	19074.6
60°	2687.4	2608.9	2542.0	3028.8	5393.2	12728.7	24756.1	29455.0	29849.4	28257.8	19033.0
62.5°	2265.2	2175.3	1935.4	1916.9	2539.7	6225.9	19577.4	25868.0	26972.9	27503.4	18364.1
65°	2103.8	2013.8	1697.8	1584.7	1723.1	2687.4	12105.9	19974.2	21450.5	24880.7	16680.2
67.5°	1988.4	1882.3	1543.2	1395.6	1423.3	1607.8	5137.1	13063.2	14774.8	19402.1	13381.5
70°	1884.6	1767.0	1421.0	1250.3	1227.2	1222.6	2006.9	6821.1	8470.4	12696.4	8964.1
72.5°	1767.0	1651.6	1312.5	1130.3	1079.6	991.9	1206.4	2818.9	3863.8	6223.6	4108.3
75°	1596.3	1501.7	1192.6	1031.1	943.5	805.1	890.4	1351.8	1665.5	2382.9	1907.7
77.5°	1404.8	1328.7	1070.3	948.1	830.4	657.4	680.5	915.8	1028.8	1342.5	1104.9
80°	994.2	1021.9	934.2	835.0	731.2	530.6	523.6	671.3	738.2	901.9	742.8
82.5°	685.1	705.9	761.2	659.7	590.5	412.9	385.2	466.0	500.6	544.4	359.9
85°	489.0	475.2	528.2	472.9	433.7	263.0	246.8	295.3	316.0	332.2	173.0
87.5°	297.6	295.3	304.5	244.5	226.1	133.8	122.3	140.7	149.9	145.3	83.0
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°	9854.5	9854.5	9854.5	9854.5	9854.5	9854.5	9854.5	9854.5	9854.5	9854.5	9854.5
2.5°	9838.3	9725.3	9478.5	9280.1	9065.6	8901.8	8738.0	8645.7	8544.2	8486.6	8479.6
5°	9946.7	9716.1	9190.1	8701.1	8198.2	7746.1	7303.2	6975.6	6708.0	6555.8	6546.6
7.5°	10066.7	9704.5	8892.5	8046.0	7150.9	6260.5	5473.9	4918.0	4560.5	4394.4	4382.8
10°	10159.0	9656.1	8530.4	7213.2	5794.6	4618.1	3903.0	3575.5	3467.1	3439.4	3434.8
12.5°	10269.7	9621.5	8073.6	6145.2	4429.0	3515.5	3298.7	3277.9	3301.0	3314.8	3317.1
15°	10373.5	9554.6	7457.7	4961.8	3467.1	3141.8	3146.4	3190.2	3236.4	3257.1	3259.4
17.5°	10421.9	9390.8	6648.1	3910.0	3033.4	2973.4	3026.5	3084.1	3125.7	3141.8	3141.8
20°	10421.9	9127.8	5709.2	3167.2	2807.3	2818.9	2883.4	2927.3	2936.5	2922.7	2915.7
22.5°	10378.1	8802.6	4795.7	2763.5	2622.8	2666.6	2717.4	2687.4	2579.0	2495.9	2479.8
25°	10338.9	8417.4	3916.9	2516.7	2461.3	2519.0	2498.2	2292.9	2126.8	2041.5	2027.6
27.5°	10274.3	7951.4	3183.3	2313.7	2304.4	2350.6	2145.3	1946.9	1863.9	1817.7	1808.5
30°	10258.1	7446.2	2664.3	2133.7	2149.9	2085.3	1850.0	1785.4	1767.0	1741.6	1730.1
32.5°	10311.2	6941.0	2339.1	1986.1	2002.3	1790.0	1700.1	1709.3	1707.0	1674.7	1663.2
35°	10456.5	6449.7	2131.4	1852.3	1806.2	1603.2	1614.7	1642.4	1642.4	1603.2	1589.4
37.5°	10710.3	5993.0	2000.0	1739.3	1580.1	1506.3	1536.3	1573.2	1573.2	1545.5	1534.0
40°	10980.2	5547.7	1900.8	1649.3	1437.1	1439.4	1469.4	1497.1	1508.6	1513.2	1504.0
42.5°	11224.7	5086.4	1794.7	1552.4	1372.5	1388.7	1402.5	1423.3	1471.7	1504.0	1499.4
45°	11367.7	4622.7	1679.3	1432.5	1328.7	1335.6	1331.0	1367.9	1425.6	1474.0	1474.0
47.5°	11499.2	4242.1	1584.7	1312.5	1284.9	1284.9	1271.0	1307.9	1361.0	1418.7	1423.3
50°	11623.7	3995.3	1517.8	1220.3	1229.5	1222.6	1218.0	1252.6	1324.1	1393.3	1404.8
52.5°	11750.6	3912.3	1457.9	1153.4	1171.8	1162.6	1167.2	1215.7	1296.4	1367.9	1379.4
55°	11928.2	3965.3	1395.6	1107.2	1116.5	1114.2	1132.6	1188.0	1259.5	1331.0	1335.6
57.5°	12147.4	4159.1	1342.5	1072.6	1063.4	1077.3	1107.2	1160.3	1229.5	1314.9	1321.8
58°	12191.2	4205.2	1333.3	1063.4	1051.9	1072.6	1102.6	1153.4	1224.9	1314.9	1321.8
60°	12258.1	4369.0	1310.2	1045.0	1012.7	1049.6	1086.5	1137.2	1215.7	1326.4	1340.2
62.5°	11935.2	4401.3	1303.3	1024.2	971.1	1017.3	1061.1	1118.8	1206.4	1365.6	1395.6
65°	10816.4	4069.1	1254.9	989.6	936.5	991.9	1038.0	1104.9	1234.1	1483.2	1497.1
67.5°	8682.6	3379.4	1137.2	936.5	897.3	961.9	1019.6	1104.9	1245.6	1501.7	1510.9
70°	5969.9	2539.7	989.6	878.9	851.2	925.0	1012.7	1130.3	1206.4	1421.0	1393.3
72.5°	3118.7	1767.0	867.3	812.0	795.8	892.7	1079.6	1104.9	1160.3	1326.4	1298.7
75°	1570.9	1201.8	763.5	735.9	733.5	881.2	1208.7	1063.4	1111.9	1248.0	1307.9
77.5°	927.3	941.2	680.5	664.3	675.9	860.4	1211.0	1021.9	1056.5	1148.8	1213.4
80°	634.4	777.4	615.9	611.3	620.5	791.2	1116.5	971.1	991.9	1086.5	1155.7
82.5°	357.5	429.1	539.8	569.8	565.2	648.2	964.2	883.5	908.9	1284.9	1358.7
85°	173.0	258.4	452.1	532.9	482.1	431.4	784.3	784.3	791.2	920.4	931.9
87.5°	64.6	115.3	304.5	422.1	336.8	258.4	532.9	555.9	618.2	636.7	650.5
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)