

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: P196258

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196258
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-T2-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 4000K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 19736.8 lumens
Efficiency: N/A
Efficacy: 115.4 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

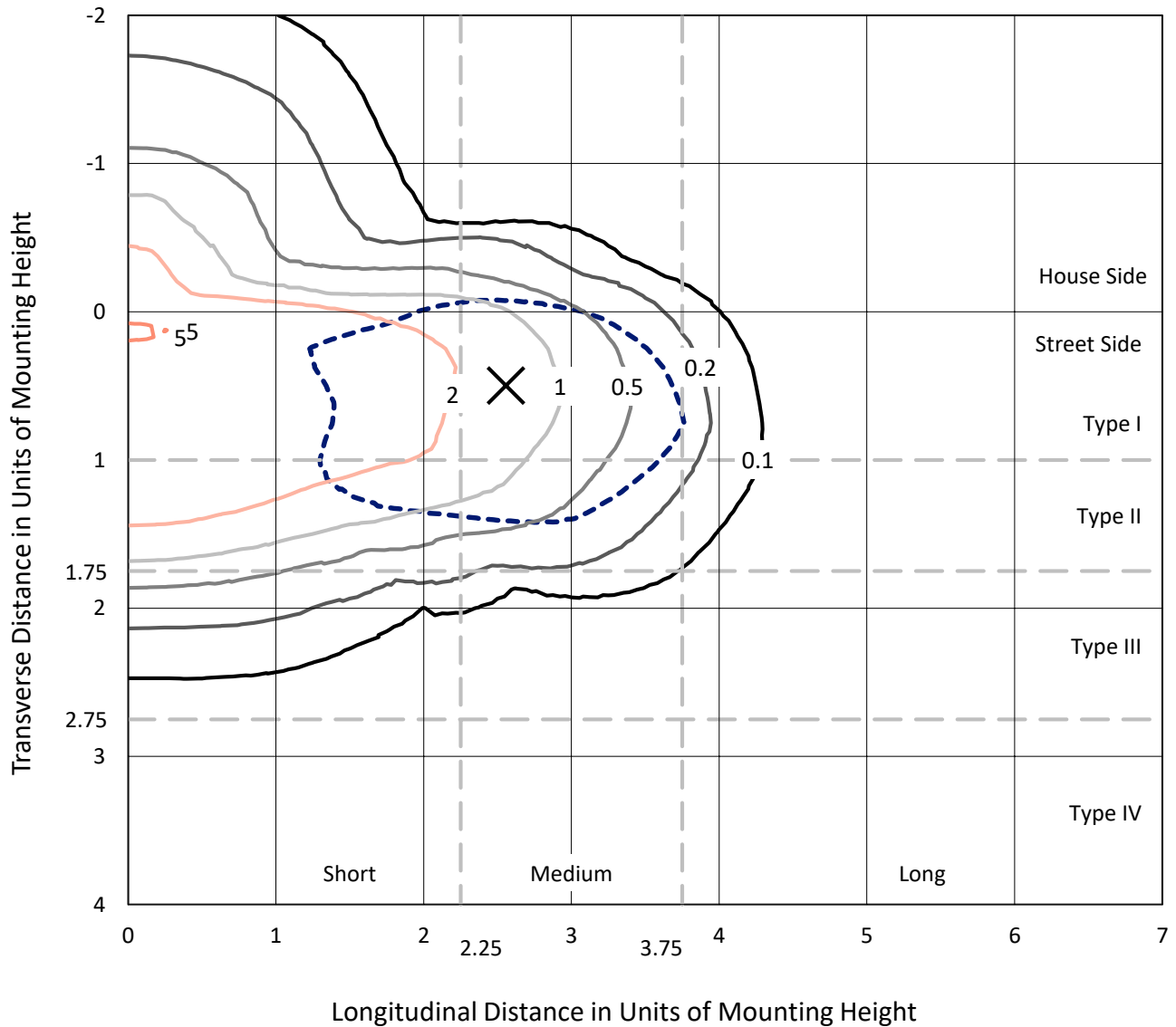


REPORT NUMBER: P196258

CATALOG NUMBER: NAV-AF-04-D-UNV-T2-800

Iso-Footcandle Lines of Horizontal Illumination

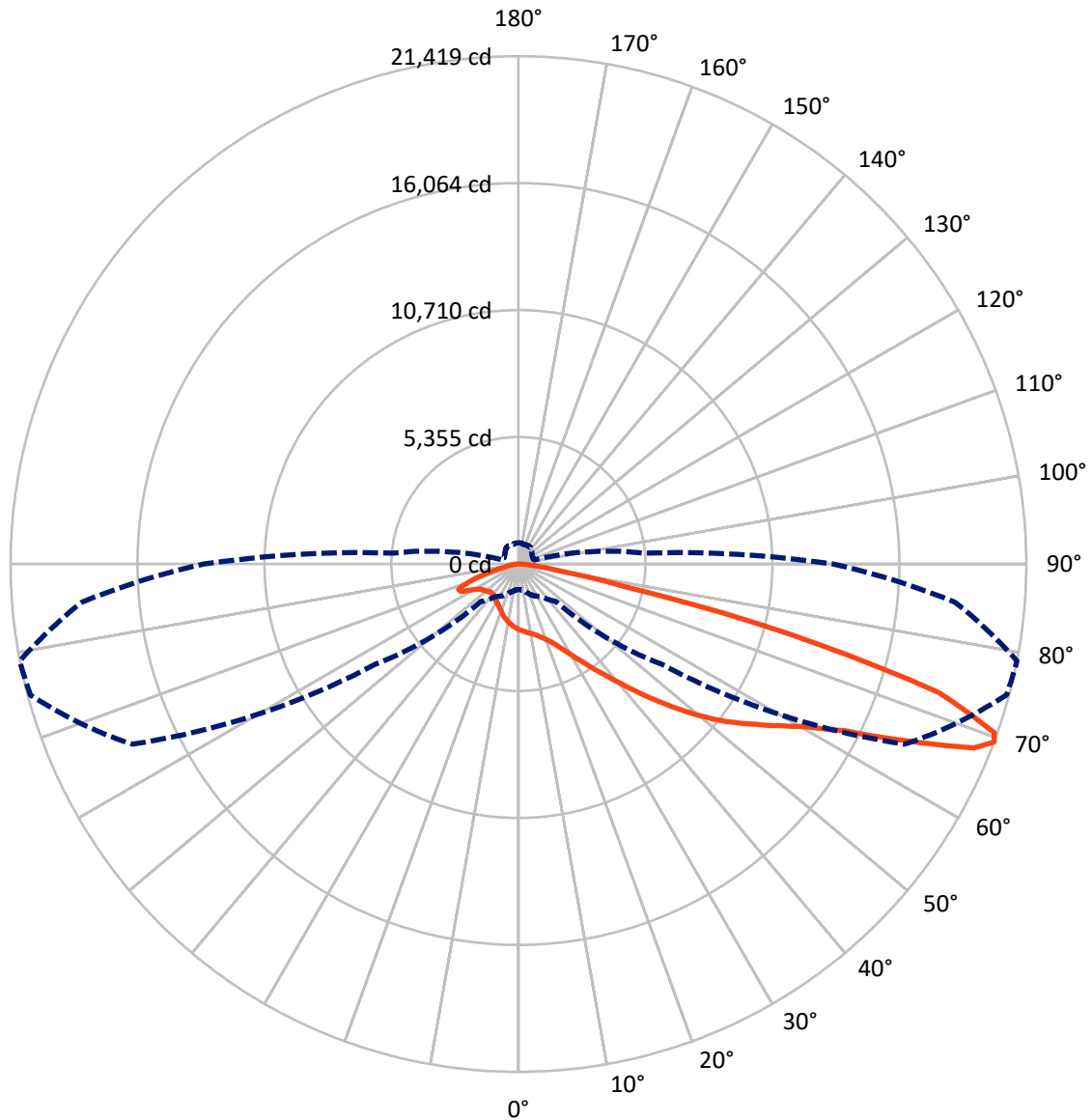
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 5.4 fc
 Type II - Medium - Full Cutoff

REPORT NUMBER: P196258
CATALOG NUMBER: NAV-AF-04-D-UNV-T2-800

Luminous Intensity Polar Plot



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

REPORT NUMBER: P196258

CATALOG NUMBER: NAV-AF-04-D-UNV-T2-800

FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	3712.8	0.0	3712.8
	% Fixture	18.8	0.0	18.8
Street Side	Lumens	16024.0	0.0	16024.0
	% Fixture	81.2	0.0	81.2
Total	Lumens	19736.8	0.0	19736.8
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	256.8	1.3
10°-20°	736.1	3.7
20°-30°	1216.4	6.2
30°-40°	1969.7	10.0
40°-50°	3146.6	15.9
50°-60°	4506.2	22.8
60°-70°	5020.6	25.4
70°-80°	2511.7	12.7
80°-90°	372.7	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°	19736.8	100.0
0°-180°	19736.8	100.0

Coefficient of Utilization



REPORT NUMBER: P196258

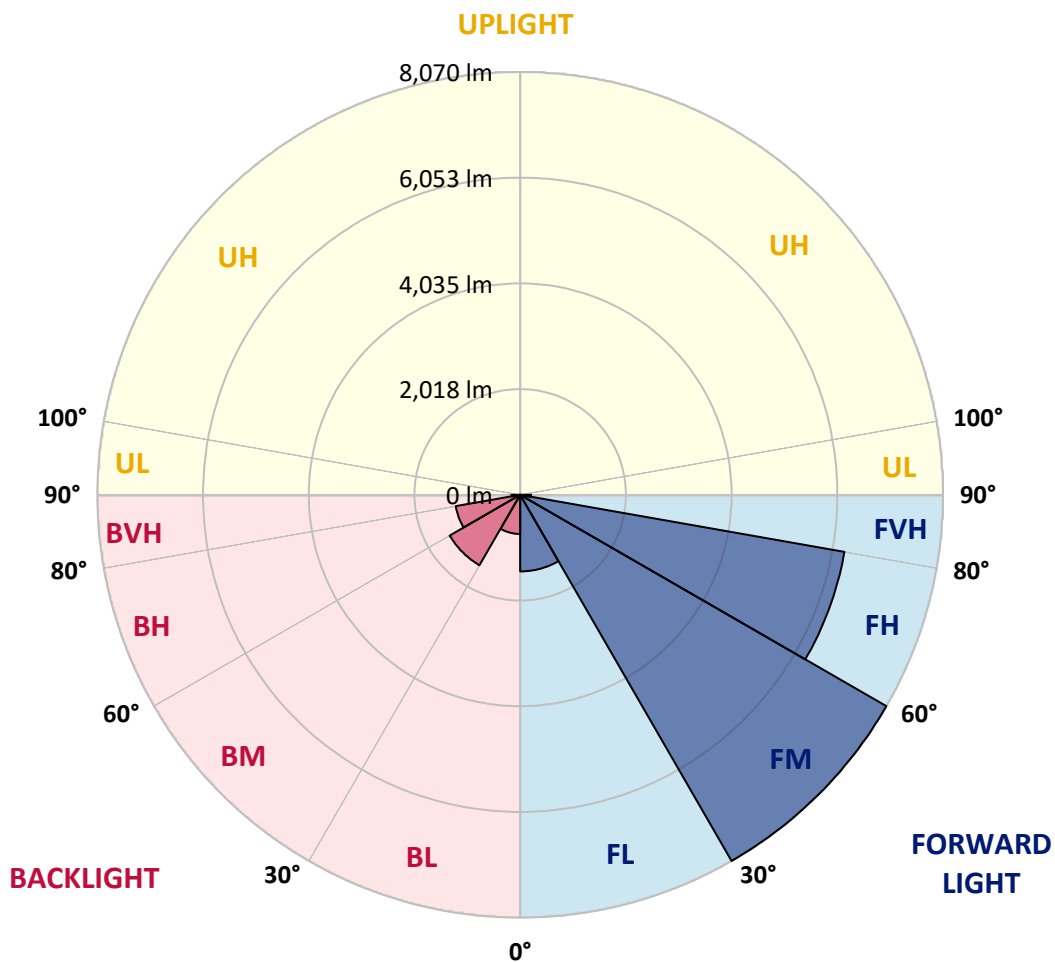
CATALOG NUMBER: NAV-AF-04-D-UNV-T2-800

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1461.3	7.4			
FM (30°-60°)	8070.4	40.9			
FH (60°-80°)	6283.9	31.8			G3/7500
FVH (80°-90°)	208.3	1.1			G2/225
BL (0°-30°)	748.0	3.8	B2/1000		
BM (30°-60°)	1552.0	7.9	B2/2500		
BH (60°-80°)	1248.4	6.3	B3/2500		G3/2500
BVH (80°-90°)	164.5	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





REPORT NUMBER: P196258

CATALOG NUMBER: NAV-AF-04-D-UNV-T2-800

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	79°	85°
0°	2769.7	2769.7	2769.7	2769.7	2769.7	2769.7	2769.7	2769.7	2769.7	2769.7	2769.7
2.5°	3040.8	3034.4	3033.2	3013.7	3003.4	2981.5	2929.8	2876.8	2827.8	2802.0	2774.9
5°	3295.2	3282.3	3275.9	3243.6	3215.1	3166.1	3084.8	3000.8	2913.1	2867.8	2813.6
7.5°	3448.9	3450.2	3450.2	3424.3	3396.0	3336.6	3233.2	3118.4	2987.9	2928.5	2843.3
10°	3461.8	3463.1	3482.4	3488.9	3495.4	3464.4	3368.8	3224.2	3056.4	2978.8	2867.8
12.5°	3334.0	3343.0	3375.3	3421.8	3487.6	3521.2	3479.9	3337.9	3144.1	3049.9	2914.3
15°	3162.2	3171.2	3212.6	3283.6	3389.4	3501.9	3560.0	3468.2	3259.1	3148.0	2982.7
17.5°	3078.3	3088.6	3117.0	3173.8	3277.1	3428.2	3602.5	3607.7	3394.7	3266.8	3064.1
20°	3038.3	3046.0	3082.2	3128.7	3207.5	3352.0	3606.4	3754.9	3556.1	3407.6	3163.5
22.5°	3129.9	3132.6	3150.6	3176.5	3229.4	3340.4	3603.9	3907.3	3757.5	3584.4	3291.3
25°	3398.5	3381.8	3368.8	3336.6	3349.4	3428.2	3645.2	4070.0	4015.7	3816.9	3461.8
27.5°	3716.2	3713.6	3680.1	3605.1	3557.3	3607.7	3762.6	4252.0	4332.1	4112.6	3685.2
30°	4070.0	4071.2	4036.4	3944.7	3847.8	3853.0	3949.9	4462.5	4710.4	4469.0	3960.3
32.5°	4440.5	4463.7	4399.2	4307.5	4190.0	4152.6	4218.4	4716.9	5148.1	4889.9	4279.1
35°	4883.5	4887.4	4816.3	4682.0	4564.5	4505.1	4565.8	5034.6	5653.0	5384.4	4667.8
37.5°	5343.2	5345.7	5272.1	5100.3	4951.9	4913.1	4980.3	5420.6	6187.6	5947.4	5124.9
40°	5718.9	5746.0	5687.9	5526.5	5376.7	5353.4	5450.3	5882.9	6870.6	6613.7	5668.5
42.5°	6145.0	6176.0	6106.3	5938.4	5819.6	5811.9	5962.9	6409.7	7549.9	7384.6	6284.4
45°	6625.3	6669.2	6572.4	6383.8	6283.2	6453.6	6462.6	6993.3	8332.3	8247.1	6977.9
47.5°	7149.6	7185.7	7107.0	6904.2	6794.4	7041.1	6952.0	7624.8	9178.1	9171.7	7728.1
50°	7553.7	7593.8	7601.5	7512.4	7397.5	7428.5	7489.1	8288.5	10021.2	10122.0	8504.1
52.5°	7480.1	7518.9	7693.2	7926.8	8111.5	8031.5	8105.0	8993.5	10836.0	11049.1	9241.3
55°	6886.2	6906.9	7233.5	7788.7	8575.1	8957.3	8962.5	9760.5	11610.8	11909.1	9941.2
57.5°	5815.7	5818.3	6243.2	7061.7	8305.2	9557.7	10315.6	10723.7	12419.1	12859.4	10808.9
60°	4115.1	4125.5	4620.1	5690.5	7338.1	9485.4	11770.9	12447.5	13355.2	13927.3	11927.1
62.5°	2443.0	2466.2	2839.4	3698.1	5450.3	8555.8	12630.9	15514.2	14734.3	15493.5	13716.7
65°	1589.5	1608.9	1832.3	2263.6	3220.4	6225.1	12348.0	18484.0	17343.8	17957.2	16289.0
67.5°	1224.1	1239.6	1415.2	1676.0	1975.6	3365.0	9872.8	19106.4	20520.3	20711.4	18459.5
69°	1075.6	1088.5	1217.6	1468.1	1663.1	2227.4	7357.5	17976.6	21314.4	21419.0	18486.6
70°	996.9	1007.2	1128.5	1345.5	1527.6	1778.0	5631.0	16664.7	21023.9	21291.2	17953.3
72.5°	821.2	830.2	916.8	1083.3	1248.6	1266.7	2494.7	12168.6	17702.9	18557.7	15192.7
75°	685.7	690.8	747.7	869.0	1011.1	1008.4	1274.5	6892.6	10802.5	11821.2	9380.9
77.5°	572.0	575.9	613.4	688.2	798.0	794.1	897.4	2975.0	4769.8	4601.9	3229.4
80°	504.8	507.5	526.8	546.2	615.9	612.0	665.0	1366.2	1940.7	1793.5	1221.5
82.5°	383.5	388.6	486.8	495.8	477.7	460.9	463.6	795.4	994.2	905.1	655.9
85°	217.0	218.2	312.5	365.4	415.7	312.5	300.8	410.6	490.7	429.9	286.6
87.5°	96.9	100.8	149.8	173.0	224.6	183.3	171.8	174.3	211.8	175.6	113.6
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P196258

CATALOG NUMBER: NAV-AF-04-D-UNV-T2-800

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	2769.7	2769.7	2769.7	2769.7	2769.7	2769.7	2769.7	2769.7	2769.7	2769.7	2769.7
2.5°	2749.1	2727.1	2675.4	2622.5	2569.6	2536.0	2501.1	2468.9	2455.9	2454.7	2430.1
5°	2760.6	2709.0	2591.5	2462.3	2339.7	2244.1	2164.2	2112.5	2062.1	2053.1	2031.1
7.5°	2764.5	2680.6	2489.5	2282.9	2095.7	1964.0	1883.9	1849.1	1824.5	1818.1	1810.3
10°	2763.2	2644.4	2375.9	2093.1	1880.1	1780.7	1750.9	1758.7	1769.0	1774.2	1774.2
12.5°	2783.9	2627.7	2262.3	1914.9	1740.6	1692.8	1716.0	1756.1	1787.1	1800.0	1802.5
15°	2821.3	2617.3	2136.9	1760.0	1642.4	1654.1	1710.9	1769.0	1812.9	1832.3	1837.4
17.5°	2867.8	2603.1	1992.4	1632.1	1585.7	1625.7	1699.2	1772.9	1825.8	1850.3	1854.2
20°	2919.5	2582.4	1842.6	1536.6	1535.2	1585.7	1659.2	1741.9	1798.7	1825.8	1824.5
22.5°	2989.2	2563.1	1703.1	1466.8	1479.8	1526.2	1586.9	1661.8	1714.8	1739.3	1734.1
25°	3082.2	2545.0	1577.9	1404.8	1416.5	1447.5	1490.1	1546.9	1584.3	1597.2	1588.2
27.5°	3207.5	2530.8	1479.8	1348.0	1346.7	1360.9	1386.8	1417.8	1435.8	1432.0	1417.8
30°	3361.1	2516.7	1407.5	1297.7	1279.6	1278.3	1289.9	1308.0	1319.6	1296.4	1284.8
32.5°	3532.9	2492.1	1342.9	1253.8	1221.5	1209.8	1215.1	1239.6	1287.4	1264.2	1255.1
35°	3735.5	2463.7	1278.3	1206.1	1181.5	1159.5	1163.4	1216.4	1360.9	1344.2	1335.2
37.5°	3979.6	2437.9	1218.9	1154.4	1153.1	1126.0	1123.4	1186.6	1380.4	1344.2	1336.4
40°	4272.7	2432.7	1166.0	1097.5	1118.2	1107.9	1098.9	1137.6	1273.2	1199.5	1185.4
42.5°	4626.5	2455.9	1127.3	1043.3	1078.2	1102.7	1086.0	1095.0	1150.5	1084.6	1073.0
45°	5039.7	2519.2	1098.9	995.5	1035.5	1098.9	1079.5	1071.7	1080.7	1044.6	1036.9
47.5°	5521.3	2631.5	1079.5	955.5	995.5	1088.5	1076.9	1061.4	1057.5	1036.9	1031.6
50°	6036.5	2782.6	1066.5	919.3	959.4	1070.4	1075.6	1053.6	1047.2	1038.2	1035.5
52.5°	6547.8	2946.6	1051.1	888.3	929.7	1048.5	1076.9	1045.9	1036.9	1031.6	1029.1
55°	7056.6	3117.0	1022.6	861.2	907.8	1022.6	1075.6	1035.5	1025.2	1025.2	1025.2
57.5°	7716.4	3376.6	985.2	839.3	879.3	989.1	1058.9	1024.0	1009.8	1011.1	1012.3
60°	8669.3	3811.7	943.9	814.8	841.9	950.3	1033.0	1003.3	986.5	991.6	993.0
62.5°	10261.4	4572.3	887.1	779.9	803.1	909.0	999.4	974.9	959.4	968.4	969.8
65°	12384.3	5492.9	812.2	736.0	763.1	862.6	956.8	941.3	924.5	946.4	945.2
67.5°	13679.3	5762.8	733.5	689.5	724.4	813.5	903.9	897.4	885.8	924.5	922.0
69°	13254.5	5274.7	688.2	659.8	697.2	779.9	870.3	867.7	858.7	896.1	893.5
70°	12594.7	4818.9	659.8	640.5	683.0	759.2	848.3	848.3	839.3	871.6	865.1
72.5°	10116.8	3574.1	593.9	591.4	634.0	702.5	788.9	795.4	790.2	801.9	795.4
75°	5939.7	2153.8	529.4	537.2	574.6	641.7	723.1	728.2	723.1	721.8	723.1
77.5°	2059.5	965.9	467.4	479.0	511.4	579.8	650.8	661.1	653.4	644.4	646.9
80°	805.8	561.7	400.3	417.1	444.2	510.0	578.5	584.9	573.3	572.0	561.7
82.5°	484.2	342.2	311.2	338.3	371.8	442.9	499.7	497.2	488.0	541.0	473.9
85°	210.4	189.9	227.3	254.4	271.2	331.8	422.3	410.6	388.6	342.2	334.4
87.5°	85.2	98.1	125.2	151.1	162.6	214.3	289.2	278.9	282.7	232.4	231.1
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)