

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: P196313

Luminaire Tested: **NAV-AF-05-D-UNV-T3**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196313
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (p24135)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-AF-05-D-UNV-T3
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 4000K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 30768.3 lumens
Efficiency: N/A
Efficacy: 110.3 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type III - Short - Semi-Cutoff
BUG Rating: B3 - U0 - G4

Input Watts (W): 279
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

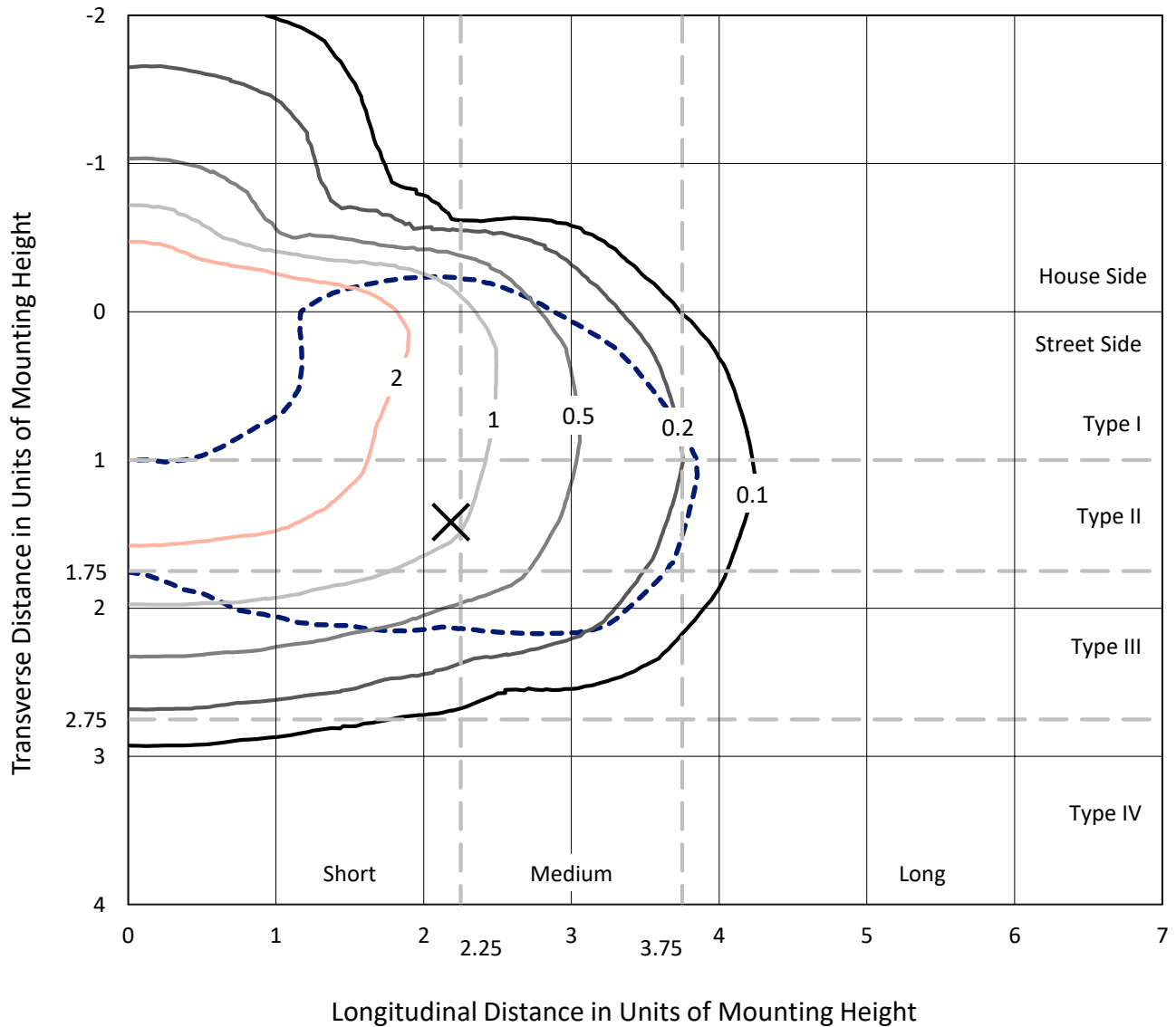


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Iso-Footcandle Lines of Horizontal Illumination

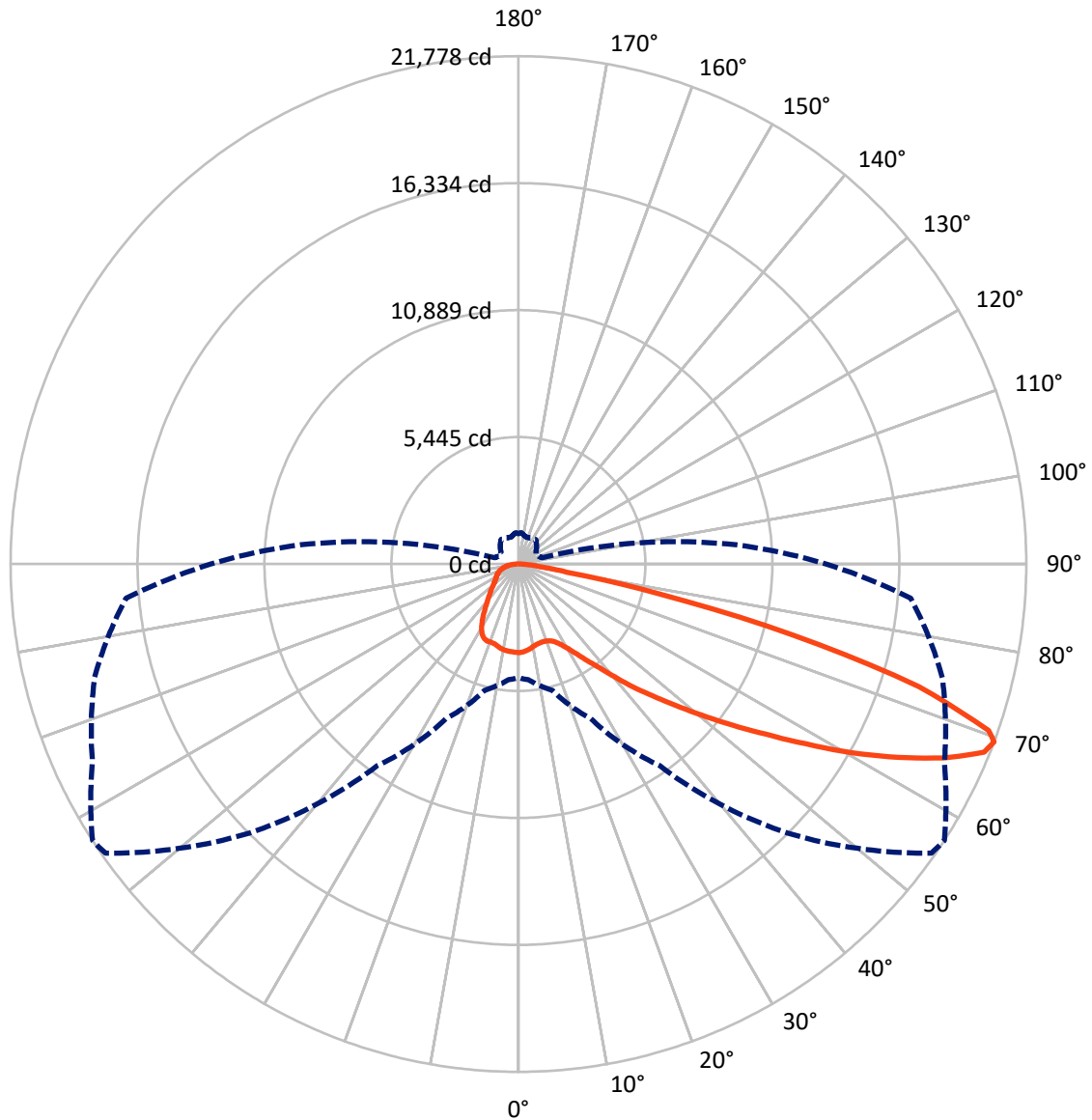
× Max cd
 - - - 1/2 Max cd



Based on 30 foot mounting height. Maximum calculated value = 4.3 fc
 Type III - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 57-Deg Lateral - - - Horizontal Cone Through 69-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	6789.5	0.0	6789.5
	% Fixture	22.1	0.0	22.1
Street Side	Lumens	23978.8	0.0	23978.8
	% Fixture	77.9	0.0	77.9
Total	Lumens	30768.3	0.0	30768.3
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	355.9	1.2
10°-20°	1012.0	3.3
20°-30°	1683.4	5.5
30°-40°	2748.9	8.9
40°-50°	4639.6	15.1
50°-60°	7217.0	23.5
60°-70°	8597.1	27.9
70°-80°	4005.1	13.0
80°-90°	509.4	1.7
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°	30768.3	100.0
0°-180°	30768.3	100.0



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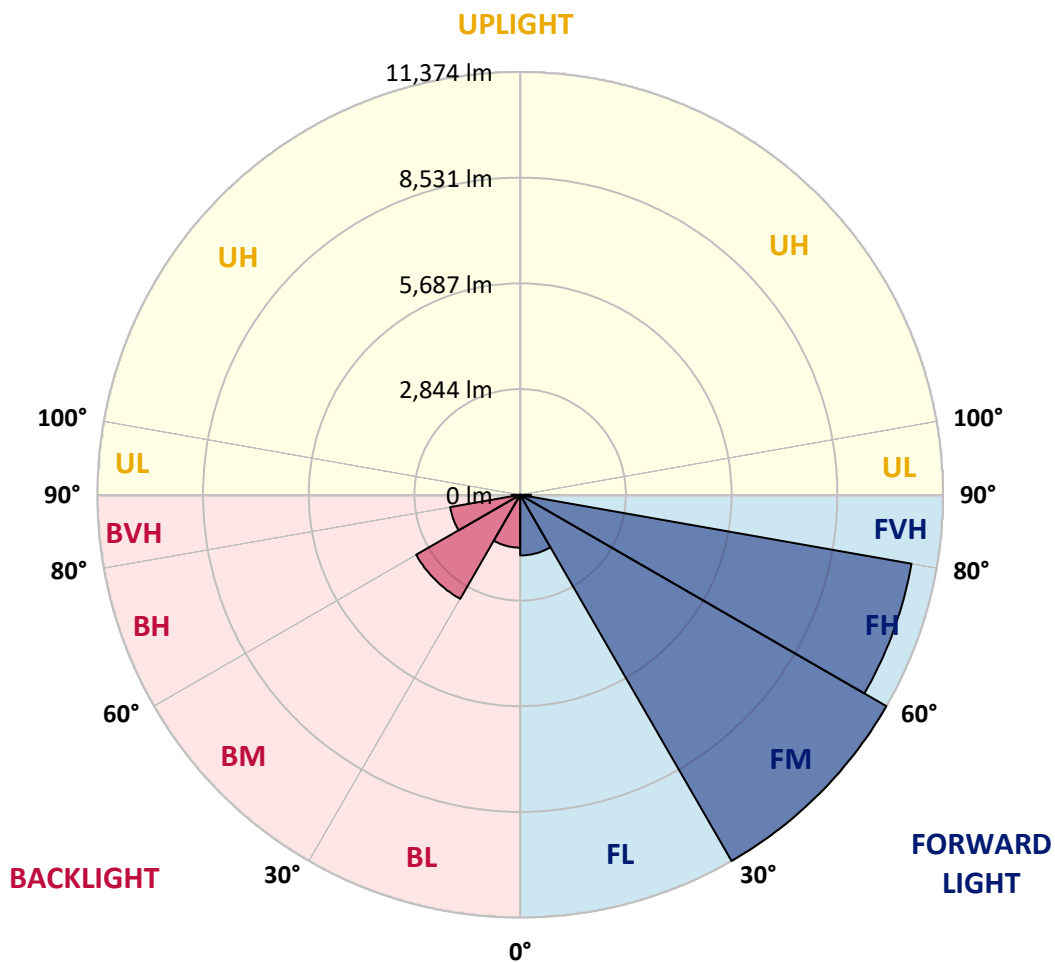
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1629.4	5.3			
FM	(30°-60°)	11374.1	37.0			
FH	(60°-80°)	10688.9	34.7			G4/12000
FVH	(80°-90°)	286.3	0.9			G3/500
BL	(0°-30°)	1421.9	4.6	B3/2500		
BM	(30°-60°)	3231.4	10.5	B3/5000		
BH	(60°-80°)	1913.2	6.2	B3/2500		G3/2500
BVH	(80°-90°)	223.1	0.7			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 III Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	57°	65°	75°	85°
0°	3801.7	3801.7	3801.7	3801.7	3801.7	3801.7	3801.7	3801.7	3801.7	3801.7	3801.7
2.5°	3780.0	3780.0	3789.9	3789.9	3789.9	3785.9	3774.2	3778.1	3770.2	3764.3	3754.4
5°	3703.2	3707.2	3719.0	3722.9	3728.9	3730.8	3730.8	3728.9	3730.8	3730.8	3724.9
7.5°	3596.9	3600.8	3614.6	3622.5	3640.2	3655.9	3663.8	3663.8	3673.7	3681.6	3683.5
10°	3531.8	3531.8	3539.7	3539.7	3553.5	3561.4	3587.0	3585.0	3612.7	3638.2	3650.1
12.5°	3524.0	3524.0	3520.1	3506.3	3498.4	3496.4	3522.0	3525.9	3567.3	3612.7	3634.3
15°	3549.6	3549.6	3537.8	3510.2	3480.7	3466.9	3492.5	3500.3	3545.6	3598.8	3632.3
17.5°	3632.3	3630.4	3604.8	3549.6	3498.4	3476.7	3484.6	3492.5	3533.8	3594.9	3636.3
20°	3815.5	3815.5	3760.4	3659.9	3571.2	3520.1	3508.2	3514.1	3543.7	3600.8	3654.0
22.5°	4136.6	4142.5	4044.0	3878.5	3726.9	3618.5	3571.2	3577.2	3591.0	3646.1	3705.2
25°	4609.3	4593.6	4453.7	4219.4	3983.0	3797.8	3701.2	3707.2	3707.2	3758.4	3819.5
27.5°	5109.6	5113.6	4912.7	4660.6	4349.4	4073.6	3919.9	3917.9	3916.0	3965.3	4030.2
30°	5675.0	5677.0	5444.6	5153.0	4796.5	4443.9	4213.4	4211.5	4193.7	4254.8	4339.5
32.5°	6293.5	6291.6	6021.7	5692.7	5296.8	4897.0	4597.6	4595.6	4581.8	4664.5	4767.0
35°	6979.0	6979.0	6711.2	6305.4	5877.9	5432.7	5086.0	5084.1	5091.9	5204.3	5300.7
37.5°	7804.4	7822.1	7499.0	7006.6	6539.7	6065.1	5661.2	5649.5	5590.3	5779.4	5938.9
40°	8665.2	8714.4	8379.6	7804.4	7300.1	6809.6	6364.5	6356.5	6305.4	6506.3	6764.3
42.5°	9596.9	9709.1	9336.9	8749.9	8200.3	7670.4	7223.3	7201.6	7004.7	7317.8	7721.6
45°	10818.2	10891.1	10351.3	9819.5	9301.4	8696.7	8164.9	8048.6	7851.7	8253.5	8777.4
47.5°	11649.5	11614.0	11277.1	10920.6	10587.7	10008.6	9191.1	9043.4	8803.1	9334.9	9912.1
50°	12165.5	12191.1	12002.1	11984.3	11966.6	11562.7	10349.4	10172.1	9894.3	10524.6	11198.3
52.5°	12506.3	12390.1	12423.5	12825.5	13312.0	13118.9	11659.3	11462.3	11176.7	11807.0	12567.4
55°	12364.5	12210.9	12520.1	13312.0	14456.4	14499.7	13097.2	12894.4	12650.1	13170.1	14214.1
57.5°	11777.4	11854.3	12342.8	13443.9	15238.4	15736.8	14749.9	14543.1	14062.4	14590.3	15778.1
60°	10952.1	11107.7	11854.3	13235.1	15786.1	16700.0	16564.1	16426.2	15598.9	15973.2	17421.0
62.5°	10065.7	10219.4	11137.3	12878.5	15539.7	17552.9	18344.8	18260.1	17294.9	17304.7	18463.0
65°	8755.7	8818.9	9756.5	11905.5	14856.3	18323.1	20127.5	20052.6	18916.0	18441.3	18754.5
67.5°	6612.7	6691.4	7461.6	9398.0	12776.1	17905.5	21551.6	21539.9	19891.1	18862.9	18061.1
69°	4883.2	4979.6	5608.0	7296.2	10564.1	16313.9	21618.6	21778.2	20155.1	18819.5	16889.1
70°	3573.3	3683.5	4264.6	5791.2	8799.1	14556.9	21045.4	21388.2	20054.6	18545.7	15975.1
72.5°	1518.7	1556.1	1841.7	2613.9	4463.5	8777.4	17237.7	17958.7	18112.4	16617.3	12480.7
75°	951.4	963.2	1075.5	1341.4	1985.5	3630.4	11162.8	12145.8	13522.7	12892.4	8355.9
77.5°	717.0	726.9	791.9	923.8	1233.1	1355.2	5178.6	6175.3	7745.3	7583.7	4158.3
80°	549.5	555.5	598.8	671.7	868.7	848.9	1680.2	2111.7	3232.4	2852.3	1471.4
82.5°	431.4	433.3	470.8	484.6	606.7	571.2	843.1	939.6	1306.0	1085.4	718.9
85°	382.2	388.0	425.4	354.6	388.0	344.7	462.9	502.3	693.4	654.0	271.8
87.5°	195.0	204.9	356.5	303.3	195.0	163.5	202.9	218.6	281.7	305.4	132.0
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°	3801.7	3801.7	3801.7	3801.7	3801.7	3801.7	3801.7	3801.7	3801.7	3801.7	3801.7
2.5°	3756.4	3758.4	3764.3	3774.2	3789.9	3809.6	3833.2	3856.8	3870.6	3880.6	3876.6
5°	3724.9	3726.9	3738.7	3756.4	3776.1	3805.7	3845.1	3874.6	3896.3	3910.0	3908.1
7.5°	3685.5	3691.4	3715.1	3734.8	3762.3	3785.9	3817.4	3845.1	3866.8	3880.6	3878.5
10°	3655.9	3661.9	3691.4	3717.0	3740.6	3744.6	3738.7	3730.8	3728.9	3738.7	3734.8
12.5°	3642.2	3654.0	3681.6	3699.3	3689.5	3652.0	3608.7	3591.0	3585.0	3604.8	3606.7
15°	3646.1	3655.9	3679.6	3667.8	3614.6	3551.6	3528.0	3541.7	3553.5	3565.4	3567.3
17.5°	3655.9	3661.9	3667.8	3624.4	3549.6	3508.2	3500.3	3486.5	3451.1	3431.4	3429.4
20°	3673.7	3681.6	3671.7	3602.7	3535.8	3480.7	3386.1	3301.4	3220.7	3177.3	3159.6
22.5°	3734.8	3740.6	3711.2	3644.2	3541.7	3362.4	3171.4	3025.6	2901.5	2834.6	2808.9
25°	3854.9	3864.7	3823.4	3738.7	3470.8	3157.6	2887.7	2690.8	2535.2	2454.4	2432.7
27.5°	4065.7	4075.5	4030.2	3809.6	3305.4	2883.8	2556.8	2361.8	2227.9	2158.9	2149.0
30°	4380.9	4394.6	4353.3	3807.6	3053.2	2535.2	2233.7	2119.6	2042.7	1995.4	1993.4
32.5°	4818.1	4869.3	4699.9	3740.6	2742.0	2182.6	1989.5	1950.2	1912.7	1881.2	1881.2
35°	5373.7	5493.8	5042.7	3600.8	2399.2	1942.3	1853.6	1816.1	1768.9	1735.4	1731.4
37.5°	6037.5	6224.6	5286.9	3352.6	2103.8	1826.0	1770.8	1709.8	1635.0	1569.9	1554.2
40°	6949.5	6992.8	5407.1	2948.8	1883.2	1763.0	1694.0	1617.2	1522.7	1449.8	1441.8
42.5°	7865.5	7723.6	5383.5	2515.4	1757.0	1705.9	1615.2	1530.5	1445.8	1384.8	1384.8
45°	8907.4	8361.8	5204.3	2080.1	1642.9	1640.8	1542.4	1461.6	1396.6	1351.3	1341.4
47.5°	9904.2	8935.1	4894.9	1759.1	1524.6	1575.9	1495.0	1430.1	1371.0	1327.7	1319.8
50°	11113.6	9598.9	4566.0	1534.5	1410.3	1518.7	1475.4	1441.8	1384.8	1309.9	1302.0
52.5°	12315.2	10375.0	4311.9	1365.0	1309.9	1473.5	1487.2	1491.2	1438.0	1292.2	1282.4
55°	13605.5	11204.3	4044.0	1233.1	1227.2	1451.8	1514.8	1510.8	1485.2	1296.2	1280.3
57.5°	14832.7	12037.5	3644.2	1140.5	1162.2	1430.1	1520.7	1457.7	1412.4	1315.8	1290.2
60°	15849.1	12726.9	3057.1	1075.5	1107.0	1386.7	1481.3	1386.7	1309.9	1311.9	1288.2
62.5°	16343.5	12920.0	2338.2	1000.7	1061.7	1315.8	1424.2	1333.5	1262.6	1319.8	1306.0
65°	15967.2	12370.3	1666.5	931.7	1006.6	1233.1	1390.7	1288.2	1239.0	1359.2	1343.4
67.5°	14615.9	10873.4	1209.4	870.6	953.4	1148.4	1327.7	1246.9	1215.4	1388.8	1353.3
69°	13180.0	9388.1	1047.9	835.2	916.0	1103.0	1286.3	1225.2	1197.7	1347.3	1296.2
70°	11986.2	8243.7	967.2	813.6	884.4	1077.5	1254.8	1211.5	1179.9	1298.1	1237.1
72.5°	8594.2	5328.3	813.6	748.5	801.7	1020.4	1185.8	1160.2	1113.0	1172.0	1132.6
75°	5192.4	2781.4	691.4	681.6	715.0	941.5	1105.1	1073.6	1026.2	1032.2	1012.5
77.5°	2385.4	1284.3	579.1	602.7	624.4	843.1	1006.6	971.1	927.8	912.1	914.0
80°	1046.0	750.5	484.6	514.1	525.9	758.4	900.2	860.8	813.6	898.3	833.2
82.5°	565.4	435.4	378.2	397.9	431.4	659.9	782.0	730.8	685.5	797.8	644.2
85°	228.5	222.6	256.0	275.8	299.4	474.8	654.0	600.8	545.6	488.6	476.7
87.5°	98.5	106.4	126.0	133.9	159.6	295.4	439.3	384.1	386.1	330.9	325.0
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)