

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: P196871

Luminaire Tested: **NAV-AF-05-D-UNV-T4W-7030-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196871
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24127)
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-T4W-7030-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 3000K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV WIDE OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 31526.7 lumens
Efficiency: N/A
Efficacy: 98.5 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type IV - Short - Semi-Cutoff
BUG Rating: B3 - U0 - G5

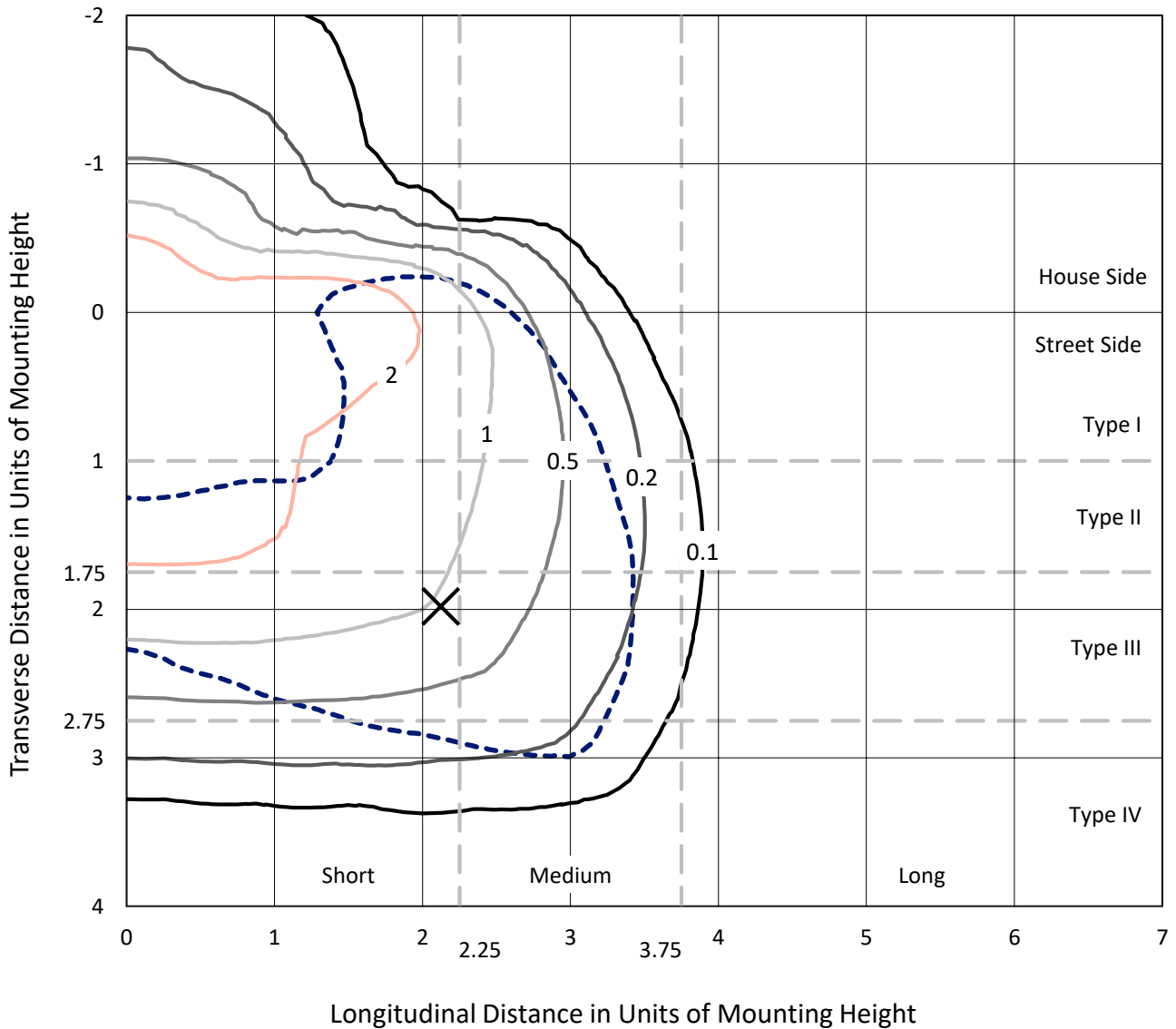
Input Watts (W): 320
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

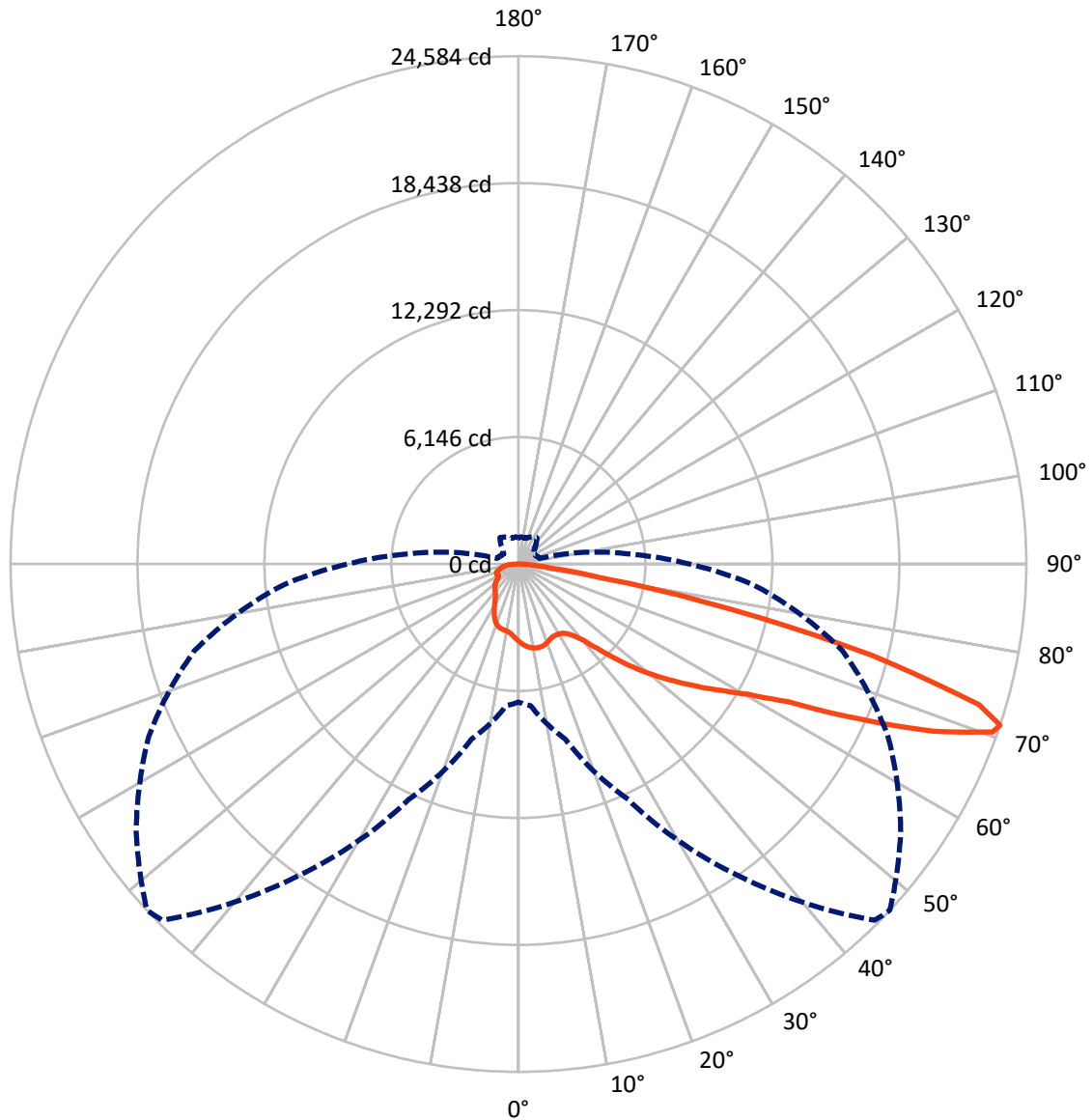
× Max cd
 - - - 1/2 Max cd



Based on 30 foot mounting height. Maximum calculated value = 4.8 fc
 Type IV - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 47-Deg Lateral - - - Horizontal Cone Through 71-Deg Vertical

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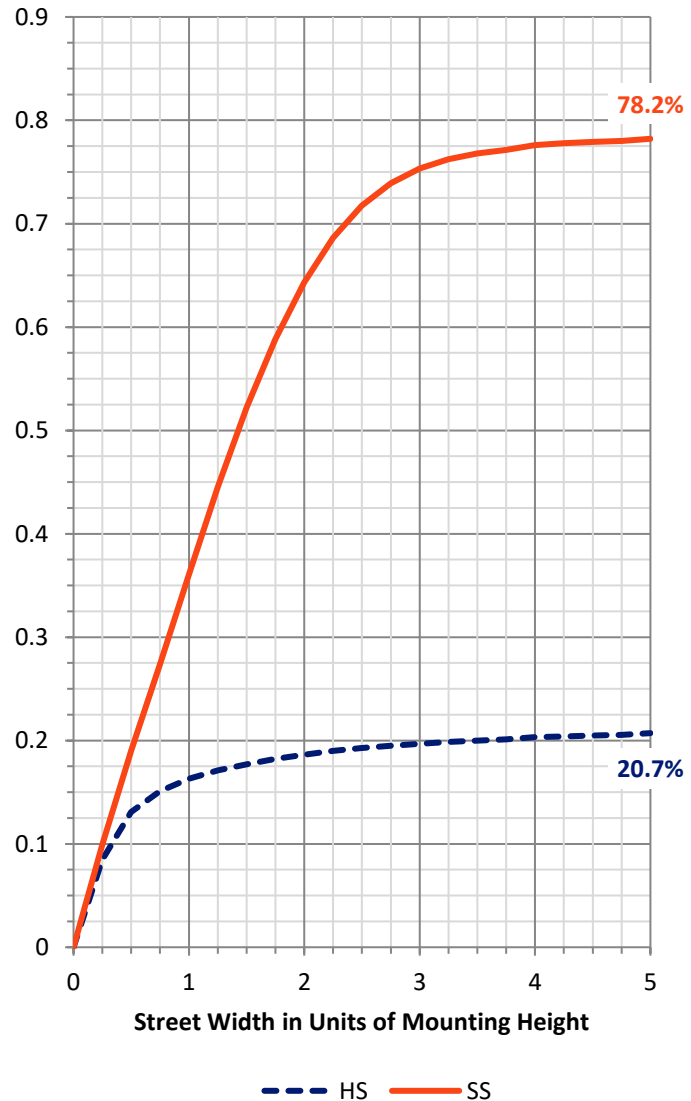
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	6756.6	0.0	6756.6
	% Fixture	21.4	0.0	21.4
Street Side	Lumens	24770.1	0.0	24770.1
	% Fixture	78.6	0.0	78.6
Total	Lumens	31526.7	0.0	31526.7
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	358.0	1.1
10°-20°	1047.2	3.3
20°-30°	1556.1	4.9
30°-40°	2234.4	7.1
40°-50°	3961.7	12.6
50°-60°	6779.0	21.5
60°-70°	9623.8	30.5
70°-80°	5270.8	16.7
80°-90°	695.8	2.2
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°	31526.7	100.0
0°-180°	31526.7	100.0



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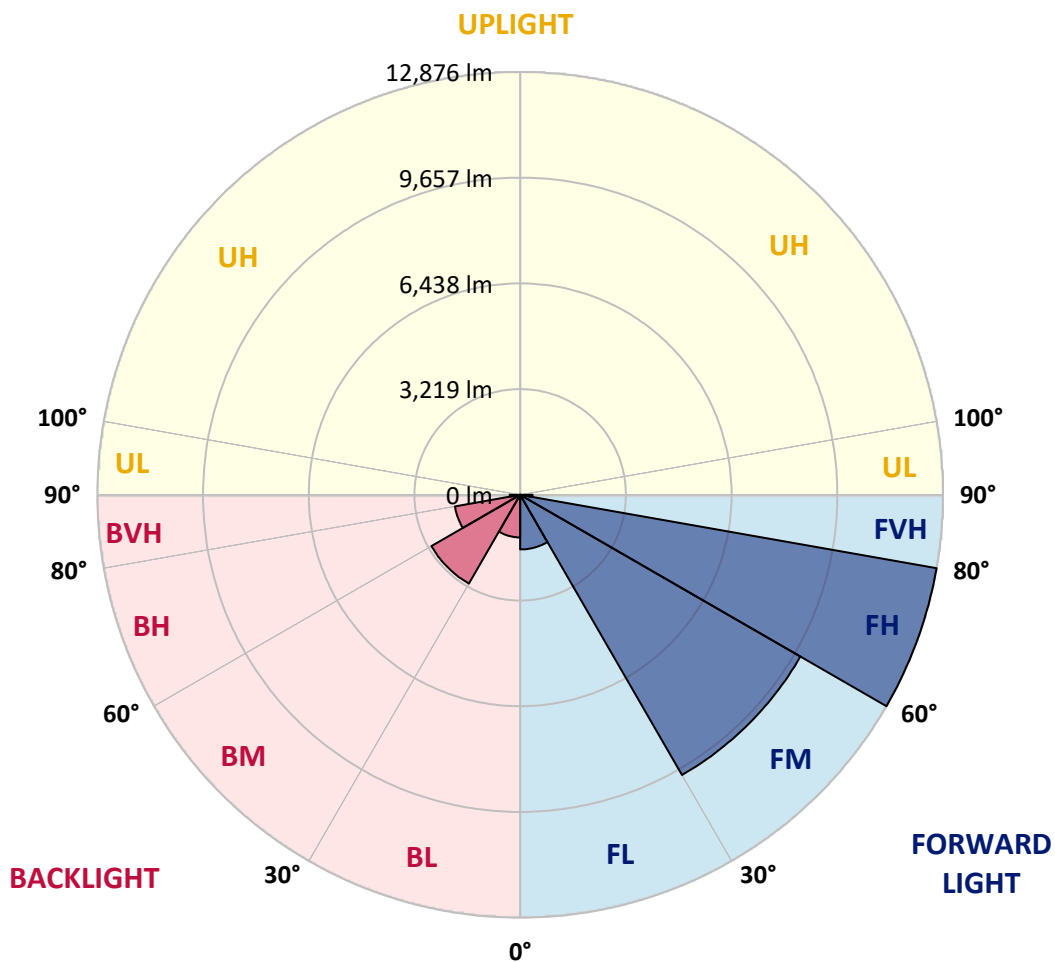
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1663.8	5.3			
FM (30°-60°)	9853.1	31.3			
FH (60°-80°)	12875.8	40.8			G5
FVH (80°-90°)	377.4	1.2			G3/500
BL (0°-30°)	1297.5	4.1	B3/2500		
BM (30°-60°)	3121.9	9.9	B3/5000		
BH (60°-80°)	2018.8	6.4	B3/2500		G3/2500
BVH (80°-90°)	318.4	1.0			G3/500
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G5

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	47°	55°	65°	75°	85°
0°	3749.0	3749.0	3749.0	3749.0	3749.0	3749.0	3749.0	3749.0	3749.0	3749.0	3749.0
2.5°	3977.9	3969.7	3973.8	3959.4	3924.8	3888.0	3888.0	3849.2	3808.3	3767.5	3722.5
5°	4225.0	4212.8	4202.6	4157.7	4090.2	4014.6	4002.3	3924.8	3841.0	3757.2	3675.5
7.5°	4431.4	4419.2	4388.5	4306.8	4208.7	4096.3	4082.0	3979.9	3869.6	3753.2	3638.8
10°	4578.5	4570.5	4511.1	4407.0	4292.5	4159.7	4135.3	4031.0	3900.2	3755.2	3610.2
12.5°	4660.2	4648.0	4576.6	4454.0	4319.1	4184.2	4159.7	4059.6	3910.5	3751.1	3581.5
15°	4627.5	4621.4	4554.0	4429.4	4294.6	4178.1	4157.7	4055.4	3904.4	3736.7	3555.0
17.5°	4488.7	4503.0	4449.8	4327.2	4217.0	4135.3	4112.7	4016.7	3873.7	3702.0	3514.1
20°	4296.6	4312.9	4286.3	4161.8	4098.5	4045.4	4033.1	3955.4	3822.7	3651.0	3465.0
22.5°	4092.3	4106.6	4108.7	3992.3	3971.8	3951.4	3941.1	3886.0	3777.6	3620.3	3432.4
25°	3951.4	3967.6	3971.8	3869.6	3881.9	3888.0	3886.0	3847.1	3769.5	3620.3	3436.4
27.5°	3914.5	3922.7	3918.6	3824.6	3847.1	3881.9	3883.9	3875.8	3802.2	3661.2	3493.7
30°	4041.2	4045.4	3994.2	3853.2	3875.8	3920.7	3922.7	3918.6	3871.6	3767.5	3622.4
32.5°	4588.8	4584.6	4408.9	4045.4	3967.6	3984.0	3990.1	4027.0	4031.0	3943.1	3808.3
35°	5422.3	5420.4	5216.0	4594.9	4229.2	4143.3	4151.6	4208.7	4259.8	4200.6	4122.9
37.5°	6339.7	6345.8	6221.2	5379.5	4793.1	4435.5	4427.4	4470.3	4562.2	4582.7	4592.8
40°	7357.2	7387.8	7381.7	6280.4	5583.8	4934.0	4852.3	4803.2	4981.0	5093.4	5238.4
42.5°	8519.7	8511.6	8515.5	7269.3	6486.8	5718.6	5567.5	5338.6	5544.9	5739.1	6057.8
45°	9518.7	9551.5	9575.9	8321.5	7498.1	6615.5	6462.2	6045.6	6231.4	6521.5	7007.8
47.5°	10524.0	10466.7	10511.7	9492.1	8623.9	7639.1	7440.9	6879.1	7052.6	7461.4	8200.9
50°	11694.6	11668.1	11463.7	11020.4	9984.5	8677.0	8417.6	7749.4	8002.8	8548.2	9674.1
52.5°	12744.8	12601.8	12442.3	12221.7	11322.7	9727.2	9398.2	8654.5	9120.3	9796.6	11502.6
55°	13128.8	13032.9	13224.8	13510.9	12738.6	10797.6	10430.0	9710.8	10380.9	11224.8	13653.9
57.5°	13537.4	13570.2	14003.3	14581.5	14078.9	11939.8	11541.4	10961.1	11764.1	12822.4	16058.6
60°	13741.7	13872.5	14736.8	15821.7	15353.7	13192.2	12810.1	12397.4	13298.4	14587.6	18457.2
62.5°	13776.5	13952.2	15176.0	16256.8	17108.8	15110.7	14669.3	14222.0	15214.9	16538.8	20193.9
65°	13139.1	13408.8	15137.3	16792.2	18708.6	18316.2	18036.3	17255.9	17781.0	18257.0	20490.1
67.5°	11265.6	11559.7	13639.6	16571.5	19991.6	21642.4	21589.3	20437.0	19762.7	18921.0	18293.9
70°	8268.4	8505.4	10503.5	14166.8	19431.8	24253.5	24347.5	22498.4	20316.4	17511.3	13602.9
71°	6687.0	6891.3	8775.0	12577.3	18340.8	24388.3	24584.4	22590.3	19740.3	16238.4	11388.2
72.5°	4161.8	4276.2	5826.9	9492.1	15793.0	22999.0	23330.0	21413.6	17926.0	13725.4	8049.7
75°	1571.1	1616.1	2161.5	4186.3	9426.8	17278.4	17678.8	16183.3	12593.6	7835.2	3369.0
77.5°	843.8	866.3	1072.6	1740.7	3777.6	9904.9	10419.7	9230.7	6041.4	2741.9	1377.0
80°	566.0	580.2	741.7	1031.7	1736.6	3771.5	4200.6	3706.2	2261.6	1565.0	980.7
82.5°	365.7	373.8	504.7	678.3	1121.6	1326.0	1513.9	1581.3	1411.7	1121.6	592.5
85°	241.1	247.3	333.0	433.1	694.7	653.8	670.1	876.5	962.2	739.5	302.4
87.5°	139.0	143.0	200.3	222.7	312.6	245.2	265.6	416.9	572.1	482.2	173.6
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°	3749.0	3749.0	3749.0	3749.0	3749.0	3749.0	3749.0	3749.0	3749.0	3749.0	3749.0
2.5°	3702.0	3685.8	3648.9	3626.5	3616.3	3612.2	3608.1	3616.3	3616.3	3612.2	3604.0
5°	3634.6	3604.0	3542.7	3499.8	3477.2	3471.1	3479.4	3489.6	3495.7	3495.7	3489.6
7.5°	3585.6	3540.6	3458.9	3399.7	3364.9	3354.7	3377.2	3414.1	3438.5	3450.7	3452.8
10°	3544.7	3483.5	3393.6	3332.3	3303.7	3299.6	3328.1	3375.1	3426.3	3448.8	3452.8
12.5°	3508.0	3438.5	3340.5	3283.2	3262.8	3273.0	3311.8	3354.7	3414.1	3446.7	3448.8
15°	3473.3	3401.8	3297.6	3238.3	3234.2	3250.6	3287.3	3322.0	3367.1	3407.9	3407.9
17.5°	3432.4	3354.7	3246.4	3191.3	3191.3	3205.5	3230.1	3248.5	3277.1	3315.9	3313.9
20°	3383.3	3303.7	3193.3	3136.2	3123.8	3115.7	3115.7	3119.8	3144.3	3179.0	3185.1
22.5°	3346.6	3264.8	3148.5	3078.9	3023.7	2970.6	2948.2	2939.9	2962.4	2995.2	3003.3
25°	3346.6	3264.8	3134.1	3017.6	2882.8	2780.6	2737.7	2725.5	2748.0	2778.6	2790.8
27.5°	3401.8	3320.1	3166.8	2962.4	2715.3	2551.9	2500.7	2490.6	2511.0	2535.5	2547.7
30°	3530.5	3450.7	3260.8	2899.0	2529.4	2314.7	2257.7	2247.4	2257.7	2267.7	2282.1
32.5°	3745.0	3677.5	3414.1	2842.0	2341.4	2100.3	2030.8	2014.5	2018.6	2020.6	2032.9
35°	4094.4	4063.7	3618.3	2774.5	2163.7	1924.6	1853.0	1820.4	1818.3	1828.6	1842.8
37.5°	4629.7	4648.0	3881.9	2676.5	2016.5	1799.9	1728.5	1695.8	1679.5	1699.8	1716.3
40°	5385.6	5428.4	4186.3	2543.7	1895.9	1726.4	1650.8	1620.2	1597.7	1591.6	1599.8
42.5°	6368.2	6356.0	4496.8	2374.1	1765.2	1677.3	1597.7	1565.0	1528.2	1481.2	1471.0
45°	7532.9	7357.2	4756.3	2165.6	1616.1	1630.3	1548.6	1503.7	1446.5	1377.0	1368.9
47.5°	8907.8	8423.7	4915.7	1942.9	1477.1	1569.1	1493.5	1423.9	1340.3	1295.3	1289.1
50°	10564.9	9671.9	5028.0	1716.3	1352.5	1491.5	1415.9	1323.9	1242.2	1229.9	1227.8
52.5°	12526.1	11145.0	5167.0	1511.9	1254.4	1391.3	1338.2	1244.3	1178.9	1185.0	1185.0
55°	14612.2	12669.1	5171.0	1350.5	1168.6	1274.8	1281.1	1205.4	1154.4	1174.7	1180.9
57.5°	16514.2	14001.2	4764.5	1236.0	1086.9	1183.0	1262.6	1219.8	1180.9	1252.4	1258.5
60°	18173.2	15026.9	3890.0	1142.1	1019.5	1148.2	1303.5	1307.7	1299.4	1493.5	1507.8
62.5°	18780.0	15037.2	2762.3	1062.4	982.7	1168.6	1389.3	1395.5	1395.5	1575.2	1601.7
65°	17930.1	13784.7	1838.8	1015.4	958.2	1213.6	1458.7	1432.2	1368.9	1493.5	1464.8
67.5°	14934.9	10730.3	1344.3	984.8	923.5	1215.6	1520.1	1452.6	1344.3	1450.6	1401.6
70°	10264.5	6827.9	1125.7	956.1	882.6	1162.5	1552.8	1446.5	1307.7	1352.5	1287.2
71°	8262.1	5448.9	1068.5	945.9	866.3	1131.8	1556.8	1438.3	1289.1	1317.7	1258.5
72.5°	5442.8	3356.8	999.0	923.5	841.8	1078.7	1546.6	1420.0	1264.6	1266.8	1227.8
75°	2147.3	1391.3	898.9	872.4	772.3	992.9	1501.7	1381.1	1217.7	1176.8	1160.5
77.5°	1084.8	909.1	790.7	800.9	690.5	905.1	1438.3	1317.7	1152.2	1097.2	1084.8
80°	792.6	690.5	676.4	694.7	598.6	819.2	1358.6	1232.0	1068.5	1125.7	1101.3
82.5°	482.2	420.8	529.2	574.1	500.5	731.4	1264.6	1131.8	962.2	886.7	858.1
85°	228.8	247.3	382.1	423.0	369.9	584.3	1156.4	1021.6	839.6	725.3	737.5
87.5°	112.3	136.9	218.6	253.4	243.1	429.1	872.4	792.6	662.0	545.5	533.3
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)