

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: P196020

Luminaire Tested: **NAV-AF-06-D-UNV-AFL-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196020
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-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(6) 70 CRI, 4000K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND AUTOMOTIVE FRONTLINE OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 30504.4 lumens
Efficiency: N/A
Efficacy: 122.5 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

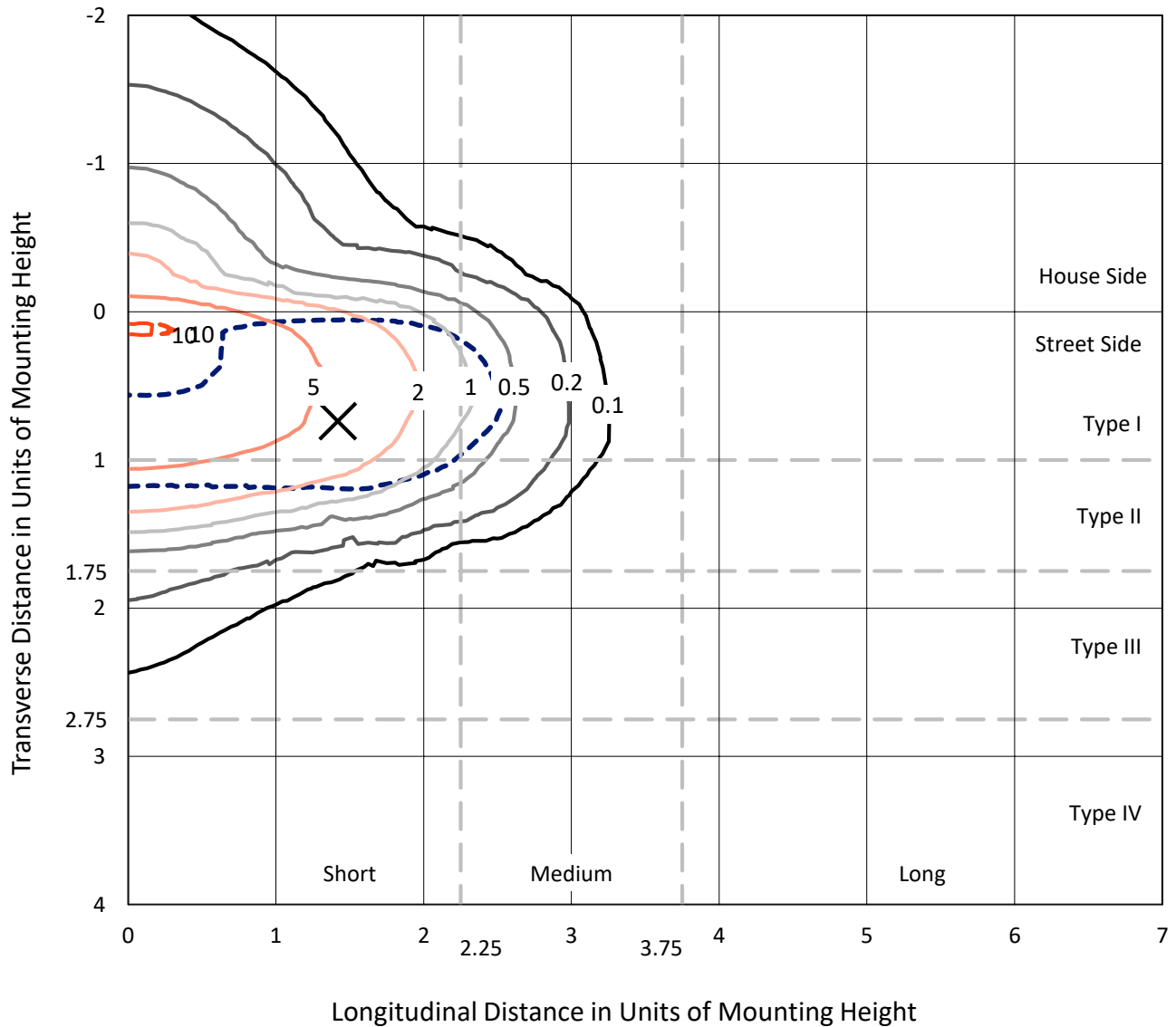
Input Watts (W): 249
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

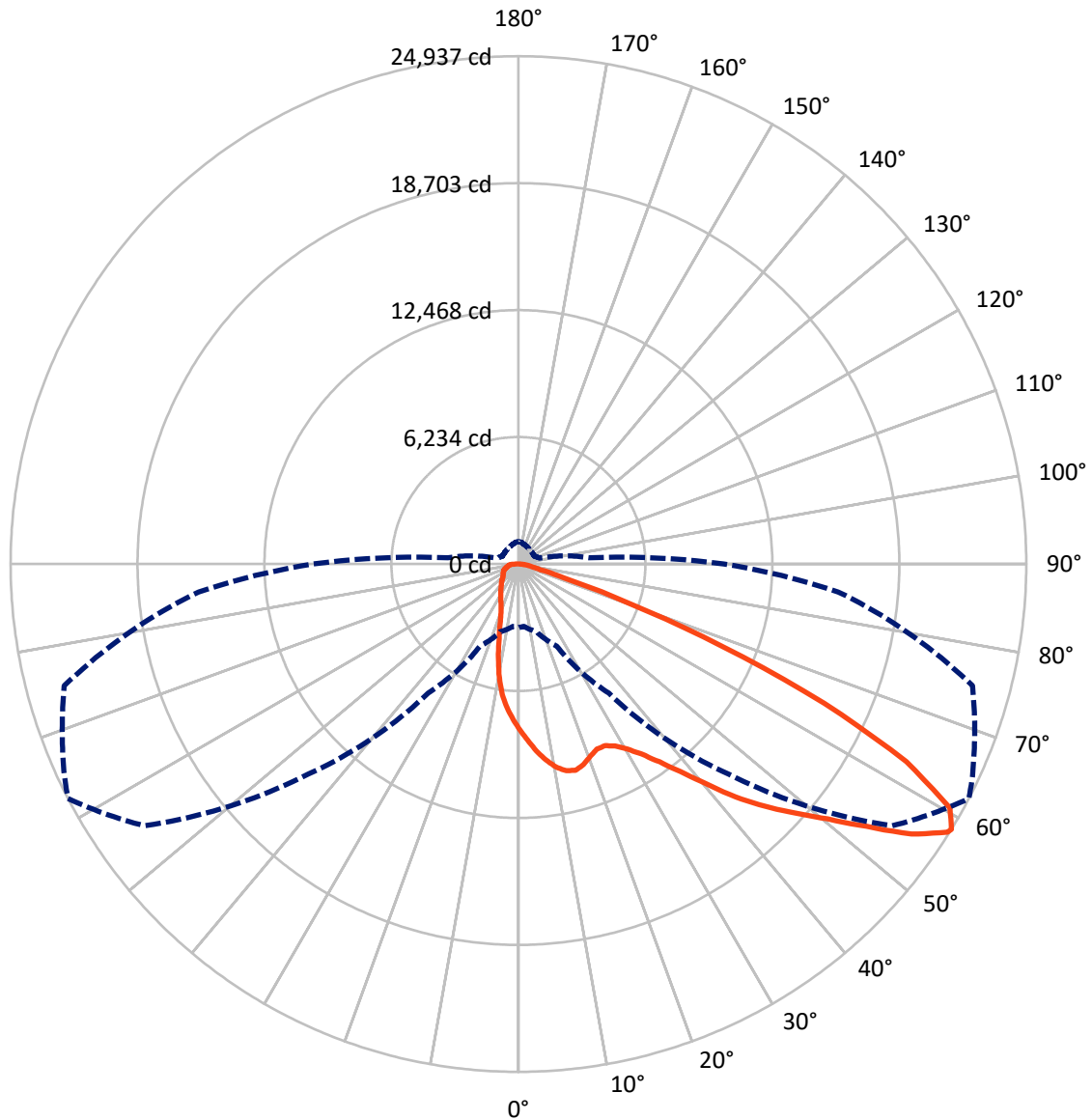
✕ Max cd
 - - - 1/2 Max cd



Based on 30 foot mounting height. Maximum calculated value = 10.6 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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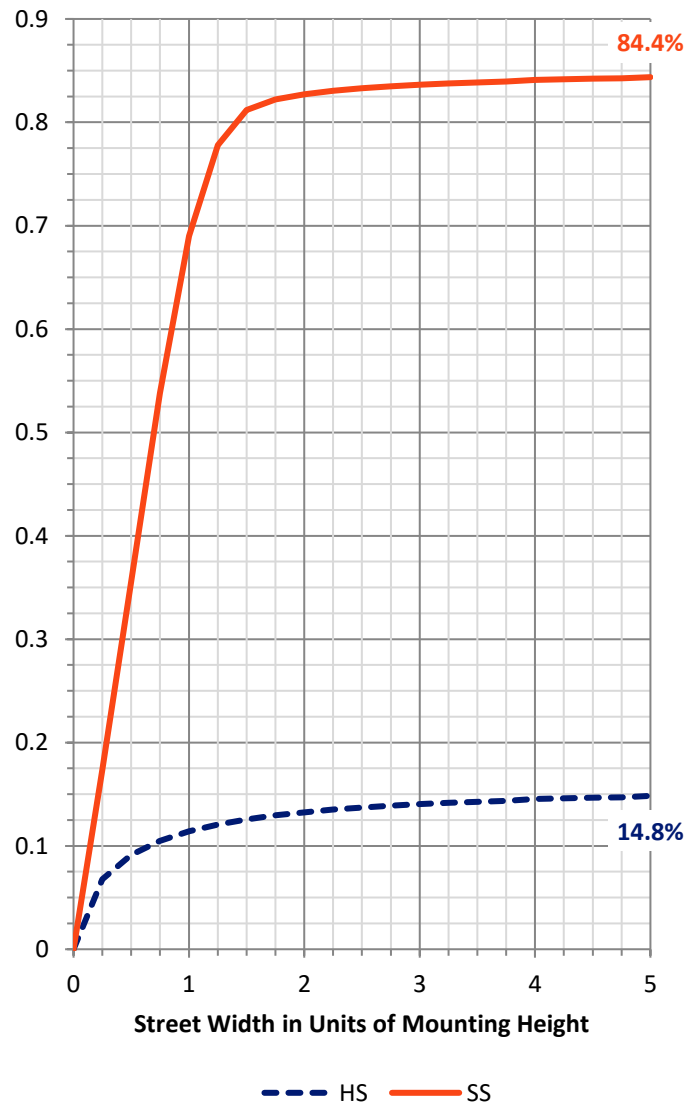
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	4683.6	0.0	4683.6
	% Fixture	15.4	0.0	15.4
Street Side	Lumens	25820.8	0.0	25820.8
	% Fixture	84.6	0.0	84.6
Total	Lumens	30504.4	0.0	30504.4
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	728.0	2.4
10°-20°	1837.2	6.0
20°-30°	2977.5	9.8
30°-40°	4753.8	15.6
40°-50°	6914.5	22.7
50°-60°	7235.4	23.7
60°-70°	4411.0	14.5
70°-80°	1233.5	4.0
80°-90°	413.5	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°	30504.4	100.0
0°-180°	30504.4	100.0



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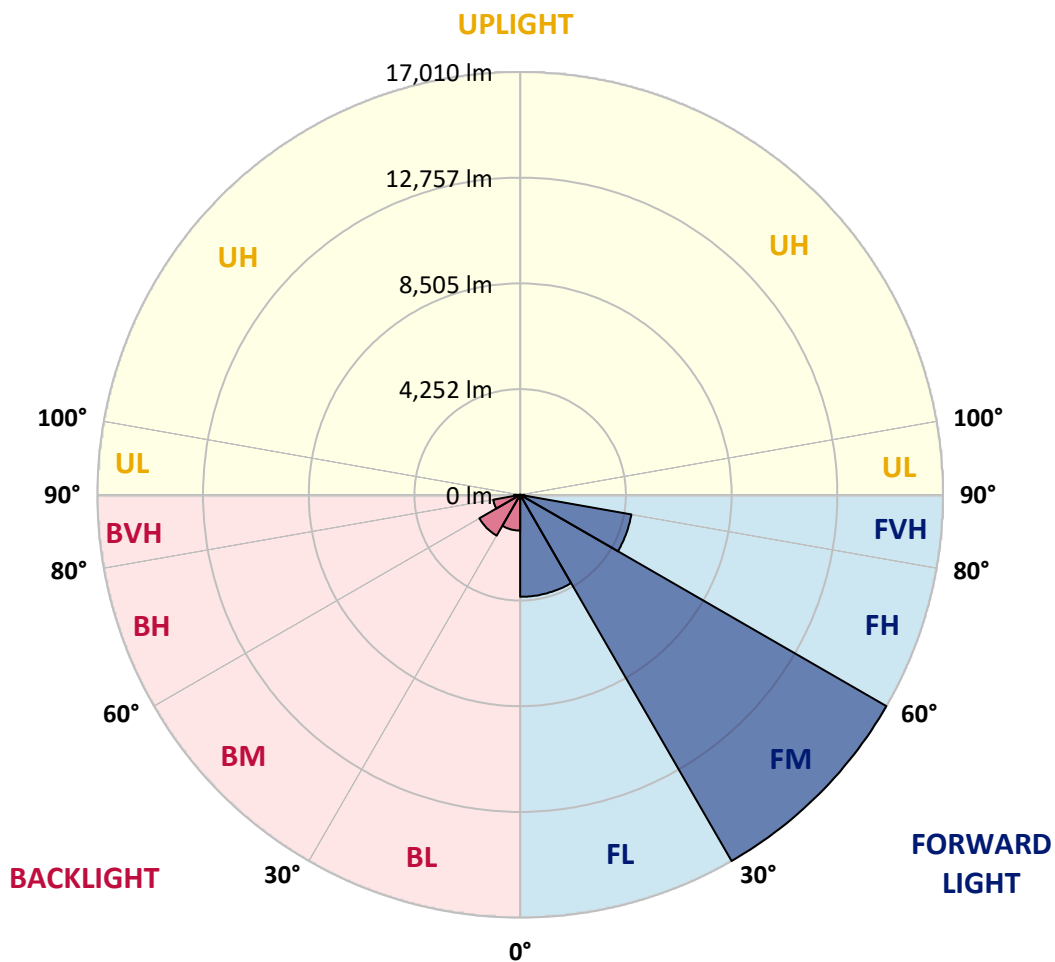
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	4102.9	13.5			
FM	(30°-60°)	17009.6	55.8			
FH	(60°-80°)	4541.9	14.9			G2/5000
FVH	(80°-90°)	166.3	0.5			G2/225
BL	(0°-30°)	1439.7	4.7	B3/2500		
BM	(30°-60°)	1894.1	6.2	B2/2500		
BH	(60°-80°)	1102.6	3.6	B3/2500		G3/2500
BVH	(80°-90°)	247.2	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°	8144.4	8144.4	8144.4	8144.4	8144.4	8144.4	8144.4	8144.4	8144.4	8144.4	8144.4
2.5°	9244.5	9238.8	9160.6	9109.2	9048.1	8907.0	8766.0	8661.1	8607.7	8403.7	8205.5
5°	10009.0	9986.1	9942.3	9887.0	9806.9	9629.6	9406.5	9214.0	9137.7	8775.5	8411.4
7.5°	9604.8	9641.1	9776.4	9929.0	10089.1	10100.5	9942.3	9713.5	9629.6	9145.4	8611.6
10°	8485.7	8470.4	8640.1	8937.5	9465.7	9988.0	10249.3	10136.7	10049.1	9496.2	8811.7
12.5°	8146.4	8142.6	8171.1	8247.4	8579.2	9296.0	10171.1	10415.1	10384.6	9867.9	9025.3
15°	8249.3	8253.2	8251.2	8260.7	8352.3	8693.5	9734.5	10508.5	10603.8	10235.9	9242.6
17.5°	8579.2	8565.8	8523.8	8478.1	8491.4	8613.5	9263.5	10348.4	10634.3	10563.8	9425.7
20°	9088.2	9088.2	8975.7	8848.0	8764.0	8790.7	9067.2	10073.8	10493.2	10842.2	9562.9
22.5°	9726.8	9736.3	9570.5	9337.9	9147.3	9074.8	9179.7	9869.8	10321.7	11099.5	9684.9
25°	10519.9	10518.1	10276.0	9942.3	9641.1	9467.6	9465.7	9879.4	10268.3	11400.8	9812.7
27.5°	11501.8	11412.1	11130.0	10655.3	10230.1	9965.2	9845.1	10119.5	10380.8	11770.6	9984.2
30°	12609.4	12518.0	12148.1	11538.0	10962.2	10575.3	10376.9	10535.2	10723.9	12241.4	10243.5
32.5°	13705.7	13726.7	13291.9	12603.7	11864.0	11318.7	11025.2	11122.4	11253.9	12817.3	10594.3
35°	15310.9	15309.0	14740.9	13881.0	13002.2	12247.2	11875.4	11926.9	12047.0	13629.4	11086.1
37.5°	16508.2	16489.1	16123.0	15362.4	14373.0	13467.4	12929.7	12937.4	13040.3	14649.4	11734.4
40°	16630.2	16626.4	16624.5	16515.8	15839.1	14984.9	14311.9	14172.8	14214.7	15732.3	12422.6
42.5°	15697.9	15837.1	16237.5	16851.4	17040.1	16592.1	15955.3	15644.6	15553.0	16975.3	13150.9
45°	14369.1	14439.7	15141.2	16521.6	17644.5	18102.0	17623.5	16967.7	16811.3	18184.0	13743.8
47.5°	13751.4	13720.9	14127.0	15631.2	17585.3	19303.1	19337.5	18262.1	17997.2	19226.9	14249.0
50°	12426.4	12386.4	12899.2	14321.4	16941.0	19899.8	21097.1	19673.0	19183.0	20218.2	14706.6
52.5°	9786.0	9747.8	10436.0	12268.1	15499.6	19676.8	22580.3	21404.0	20569.0	21173.3	15133.6
55°	6367.7	6371.4	7027.3	8916.6	12542.7	18376.5	23276.2	23403.9	22467.9	22128.5	15478.7
57.5°	3506.1	3473.6	3940.7	5101.8	8628.7	15423.4	22696.6	24845.2	24357.2	22948.3	15728.5
58°	3117.1	3079.0	3439.3	4440.2	7736.5	14590.2	22405.0	24936.8	24599.3	23083.6	15764.7
60°	2221.0	2156.2	2100.9	2503.2	4457.3	10519.9	20460.3	24343.8	24669.8	23354.4	15730.3
62.5°	1872.2	1797.8	1599.5	1584.2	2099.0	5145.5	16180.3	21379.3	22292.5	22730.9	15177.4
65°	1738.7	1664.3	1403.2	1309.8	1424.2	2221.0	10005.2	16508.2	17728.4	20563.3	13785.7
67.5°	1643.4	1555.7	1275.4	1153.4	1176.3	1328.8	4245.8	10796.4	12211.0	16035.4	11059.4
70°	1557.5	1460.4	1174.3	1033.3	1014.3	1010.5	1658.6	5637.5	7000.6	10493.2	7408.6
72.5°	1460.4	1365.0	1084.7	934.2	892.2	819.8	997.1	2329.7	3193.3	5143.7	3395.5
75°	1319.3	1241.1	985.6	852.2	779.8	665.3	735.9	1117.2	1376.5	1969.4	1576.7
77.5°	1161.0	1098.1	884.6	783.6	686.3	543.4	562.4	756.9	850.3	1109.6	913.2
80°	821.7	844.5	772.1	690.2	604.4	438.5	432.8	554.7	610.1	745.4	613.9
82.5°	566.2	583.4	629.1	545.2	488.0	341.3	318.3	385.1	413.7	449.9	297.4
85°	404.2	392.7	436.6	390.9	358.4	217.4	204.0	244.1	261.2	274.6	143.0
87.5°	245.9	244.1	251.6	202.1	186.8	110.6	101.1	116.3	123.9	120.1	68.6
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°	8144.4	8144.4	8144.4	8144.4	8144.4	8144.4	8144.4	8144.4	8144.4	8144.4	8144.4
2.5°	8131.1	8037.7	7833.8	7669.8	7492.5	7357.1	7221.7	7145.5	7061.6	7014.0	7008.2
5°	8220.7	8030.1	7595.4	7191.2	6775.6	6401.9	6035.9	5765.1	5544.1	5418.2	5410.6
7.5°	8319.9	8020.5	7349.5	6649.8	5910.1	5174.2	4524.1	4064.6	3769.1	3631.9	3622.3
10°	8396.2	7980.6	7050.2	5961.6	4789.0	3816.7	3225.8	2955.0	2865.4	2842.6	2838.8
12.5°	8487.6	7951.9	6672.7	5078.8	3660.4	2905.5	2726.3	2709.1	2728.2	2739.6	2741.5
15°	8573.5	7896.7	6163.7	4100.8	2865.4	2596.7	2600.4	2636.7	2674.8	2692.0	2693.8
17.5°	8613.5	7761.2	5494.5	3231.5	2507.0	2457.4	2501.3	2549.0	2583.3	2596.7	2596.7
20°	8613.5	7544.0	4718.6	2617.6	2320.2	2329.7	2383.1	2419.3	2427.0	2415.5	2409.8
22.5°	8577.2	7275.1	3963.5	2283.9	2167.6	2203.8	2245.8	2221.0	2131.4	2062.8	2049.5
25°	8544.8	6956.8	3237.2	2080.0	2034.2	2081.9	2064.7	1895.0	1757.7	1687.3	1675.8
27.5°	8491.4	6571.6	2630.9	1912.2	1904.5	1942.7	1773.0	1609.1	1540.5	1502.3	1494.6
30°	8478.1	6154.1	2202.0	1763.5	1776.9	1723.5	1529.0	1475.6	1460.4	1439.4	1429.9
32.5°	8522.0	5736.6	1933.2	1641.4	1654.8	1479.4	1405.0	1412.7	1410.8	1384.1	1374.5
35°	8642.1	5330.5	1761.6	1530.9	1492.8	1325.0	1334.5	1357.5	1357.5	1325.0	1313.6
37.5°	8851.8	4953.0	1652.9	1437.5	1305.9	1244.9	1269.7	1300.2	1300.2	1277.4	1267.8
40°	9074.8	4585.1	1570.9	1363.1	1187.7	1189.7	1214.4	1237.3	1246.9	1250.7	1243.0
42.5°	9276.9	4203.8	1483.3	1283.1	1134.4	1147.6	1159.1	1176.3	1216.3	1243.0	1239.2
45°	9395.1	3820.6	1387.9	1184.0	1098.1	1103.9	1100.1	1130.6	1178.2	1218.2	1218.2
47.5°	9503.8	3506.1	1309.8	1084.7	1061.9	1061.9	1050.5	1081.0	1124.8	1172.5	1176.3
50°	9606.7	3302.0	1254.4	1008.5	1016.2	1010.5	1006.6	1035.2	1094.4	1151.5	1161.0
52.5°	9711.6	3233.3	1204.9	953.3	968.5	960.9	964.6	1004.7	1071.4	1130.6	1140.1
55°	9858.4	3277.2	1153.4	915.1	922.7	920.9	936.1	981.8	1041.0	1100.1	1103.9
57.5°	10039.5	3437.4	1109.6	886.5	878.9	890.3	915.1	958.9	1016.2	1086.7	1092.4
58°	10075.8	3475.5	1101.9	878.9	869.3	886.5	911.3	953.3	1012.3	1086.7	1092.4
60°	10131.0	3610.9	1082.9	863.7	837.0	867.5	897.9	939.9	1004.7	1096.2	1107.7
62.5°	9864.1	3637.5	1077.2	846.5	802.6	840.8	877.0	924.6	997.1	1128.6	1153.4
65°	8939.5	3363.1	1037.2	817.8	774.1	819.8	857.9	913.2	1020.0	1225.9	1237.3
67.5°	7176.0	2793.0	939.9	774.1	741.6	795.0	842.7	913.2	1029.5	1241.1	1248.7
70°	4934.0	2099.0	817.8	726.4	703.5	764.5	837.0	934.2	997.1	1174.3	1151.5
72.5°	2577.5	1460.4	716.9	671.1	657.8	737.9	892.2	913.2	958.9	1096.2	1073.4
75°	1298.3	993.3	631.1	608.1	606.3	728.2	999.0	878.9	918.9	1031.4	1081.0
77.5°	766.4	777.9	562.4	549.0	558.6	711.2	1000.9	844.5	873.2	949.4	1002.8
80°	524.3	642.5	509.0	505.2	512.8	654.0	922.7	802.6	819.8	897.9	955.1
82.5°	295.5	354.6	446.1	470.9	467.1	535.7	796.9	730.2	751.2	1061.9	1122.9
85°	143.0	213.5	373.7	440.4	398.4	356.5	648.2	648.2	654.0	760.7	770.2
87.5°	53.4	95.3	251.6	348.9	278.3	213.5	440.4	459.5	511.0	526.2	537.7
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)