

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: P197312

Luminaire Tested: **NAV-AF-02-D-UNV-T4FT-8030-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P197312
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24256)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-AF-02-D-UNV-T4FT-8030-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 80 CRI, 3000K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV FORWARD THROW OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8094 lumens
Efficiency: N/A
Efficacy: 95.2 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B1 - U0 - G2

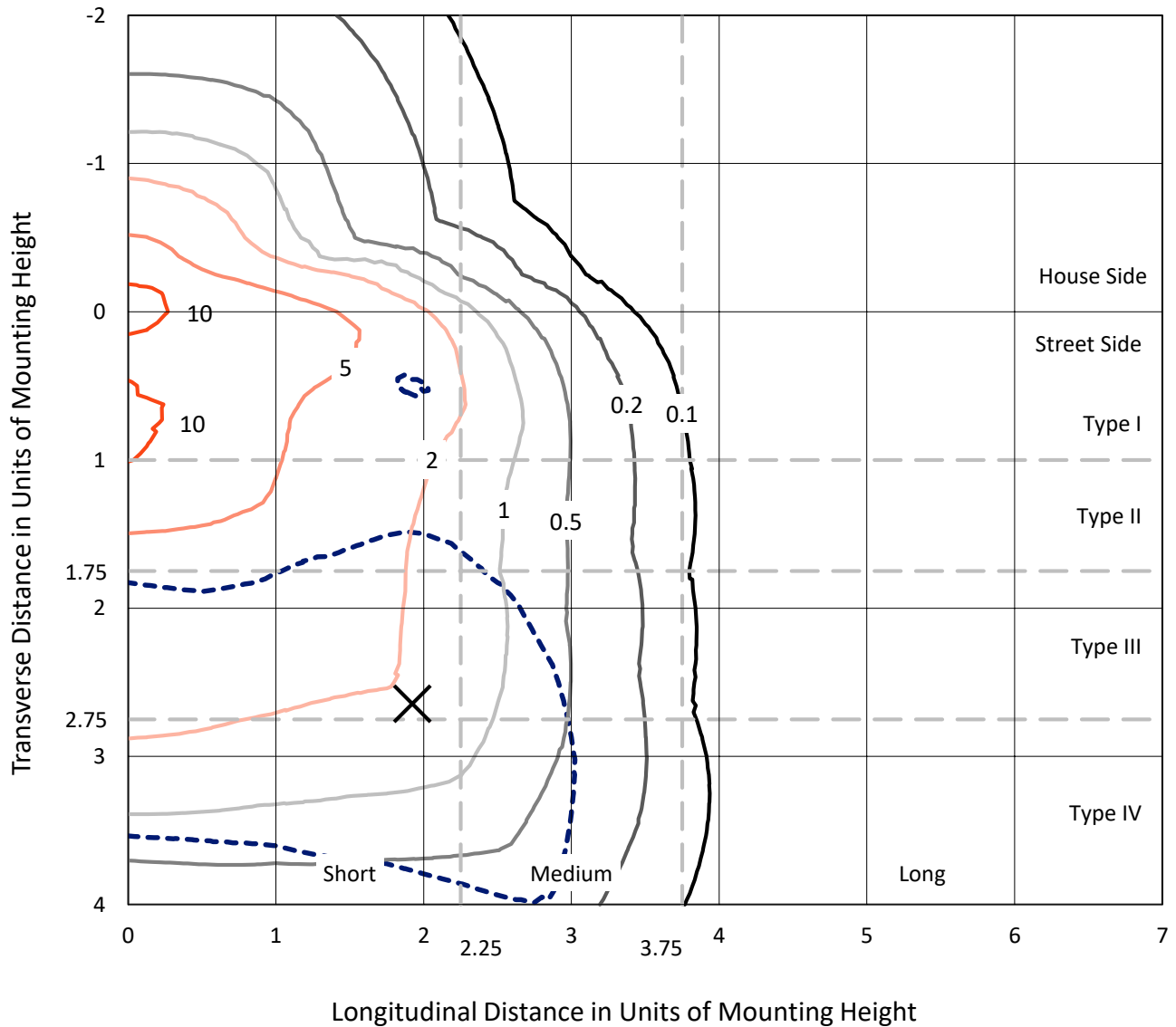
Input Watts (W): 85
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

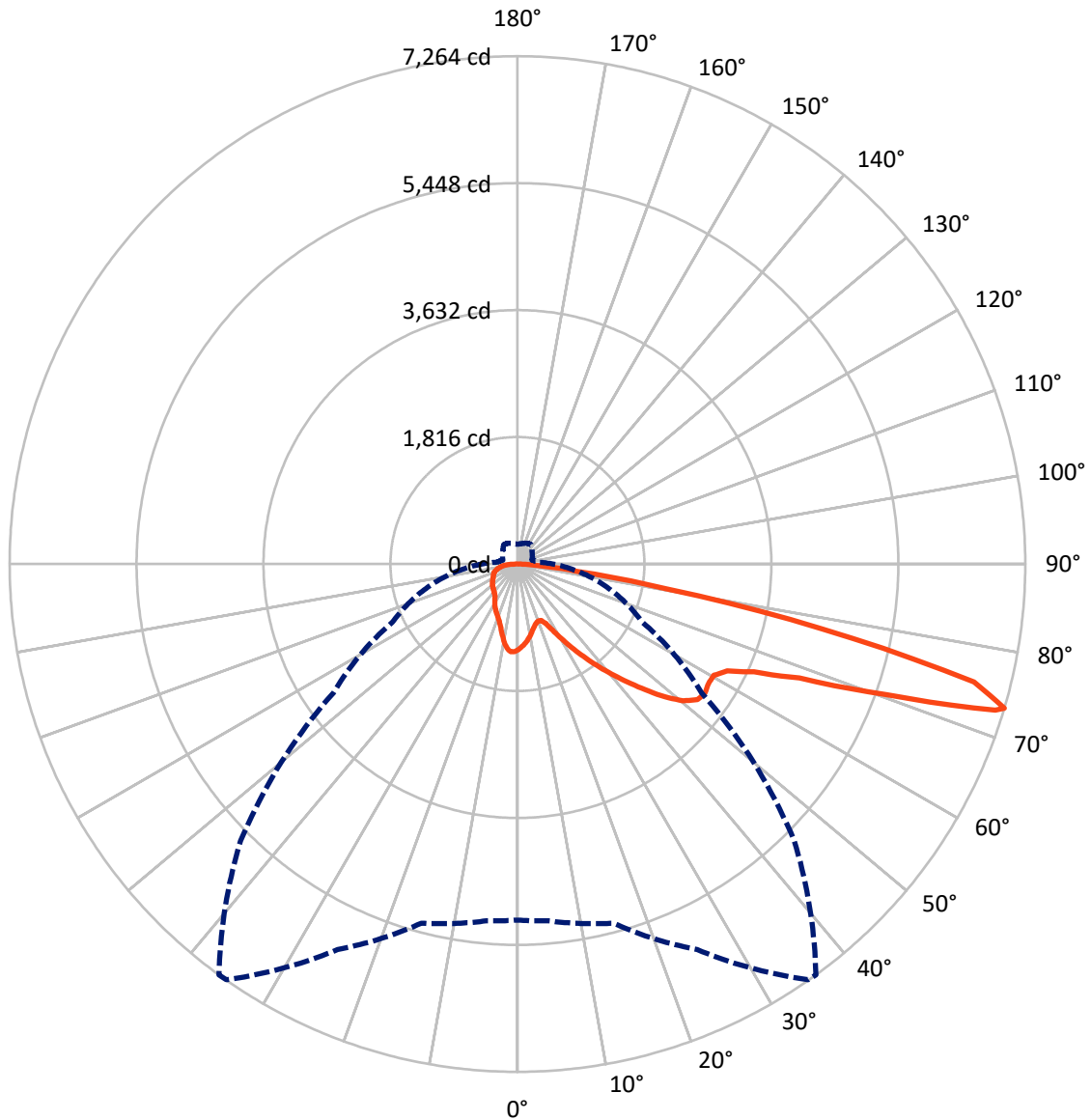
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 12.3 fc
 Type IV - Short - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 36-Deg Lateral - - - Horizontal Cone Through 73-Deg Vertical

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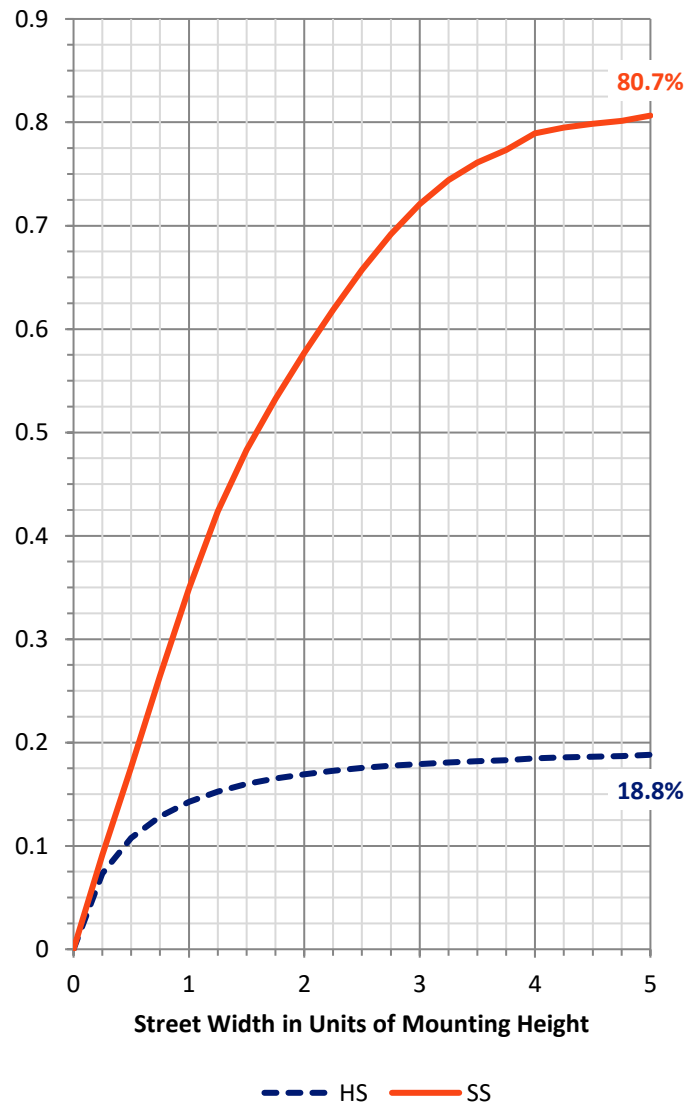
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1560.8	0.0	1560.8
	% Fixture	19.3	0.0	19.3
Street Side	Lumens	6533.2	0.0	6533.2
	% Fixture	80.7	0.0	80.7
Total	Lumens	8094.0	0.0	8094.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	111.4	1.4
10°-20°	279.7	3.5
20°-30°	448.4	5.5
30°-40°	741.7	9.2
40°-50°	1147.7	14.2
50°-60°	1536.4	19.0
60°-70°	2007.0	24.8
70°-80°	1639.4	20.3
80°-90°	182.5	2.3
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°	8094.0	100.0
0°-180°	8094.0	100.0



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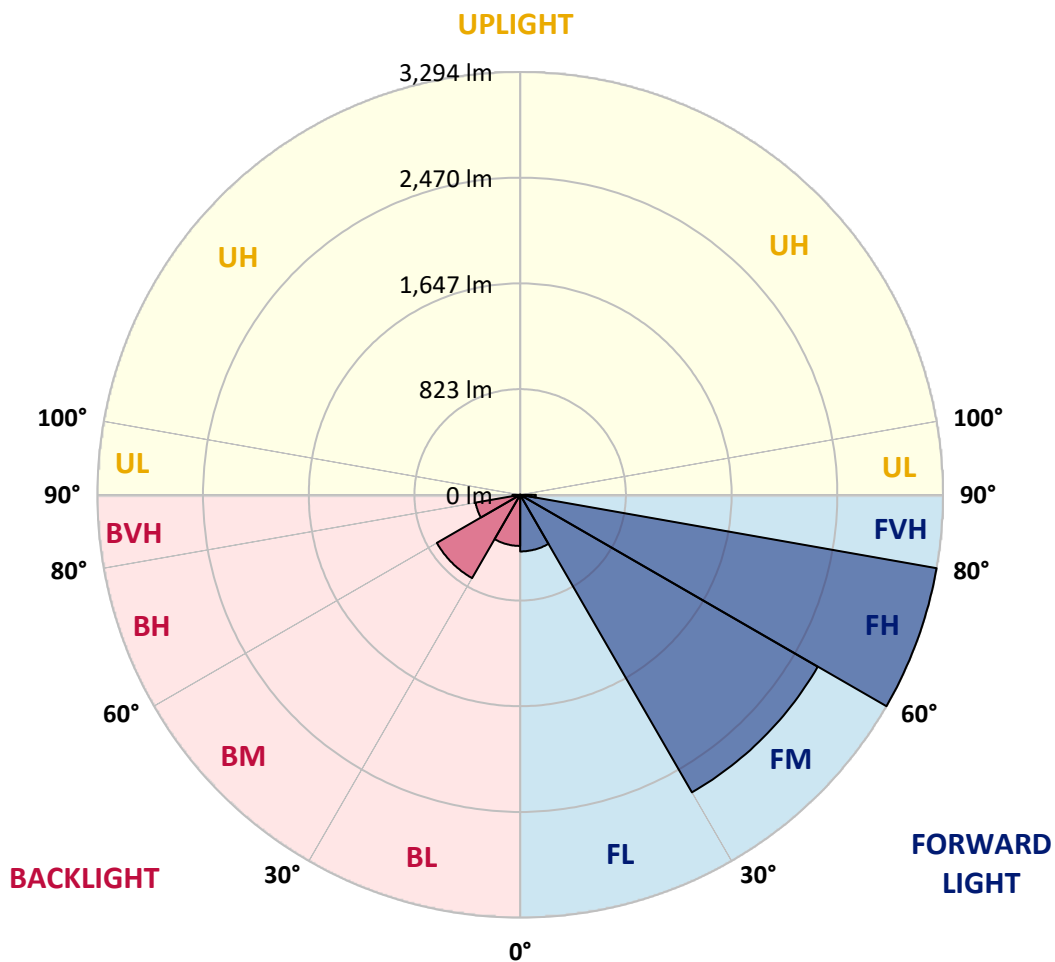
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	441.0	5.4			
FM (30°-60°)	2676.2	33.1			
FH (60°-80°)	3293.7	40.7			G2/5000
FVH (80°-90°)	122.4	1.5			G2/225
BL (0°-30°)	398.4	4.9	B1/500		
BM (30°-60°)	749.6	9.3	B1/1000		
BH (60°-80°)	352.7	4.4	B1/500		G1/500
BVH (80°-90°)	60.1	0.7			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G2

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	36°	45°	55°	65°	75°	85°
0°	1226.0	1226.0	1226.0	1226.0	1226.0	1226.0	1226.0	1226.0	1226.0	1226.0	1226.0
2.5°	1179.2	1182.3	1182.8	1186.4	1186.4	1185.9	1187.4	1193.6	1196.7	1203.9	1210.1
5°	1121.1	1124.7	1126.2	1132.4	1140.1	1140.6	1146.3	1158.1	1169.4	1185.4	1198.7
7.5°	1055.8	1059.9	1064.0	1076.9	1088.2	1089.2	1100.0	1119.0	1134.0	1153.5	1177.7
10°	992.5	993.6	997.7	1014.1	1029.0	1030.6	1046.0	1067.6	1087.7	1114.9	1142.2
12.5°	940.6	943.7	942.6	955.0	967.8	968.9	989.4	1016.7	1046.0	1076.9	1109.3
15°	922.6	922.1	911.3	910.8	916.4	917.4	937.5	969.4	1002.3	1040.4	1082.0
17.5°	934.9	930.8	902.5	885.0	881.4	882.5	897.4	932.4	967.3	1011.0	1060.9
20°	1002.8	986.9	920.5	878.4	866.5	866.5	875.3	903.6	942.1	993.0	1055.8
22.5°	1163.8	1139.1	997.7	922.6	880.9	876.8	870.1	891.7	934.4	995.6	1076.9
25°	1366.4	1354.6	1139.1	1040.4	954.5	941.1	896.9	904.6	950.4	1023.4	1134.5
27.5°	1554.1	1533.5	1324.7	1211.6	1090.2	1069.7	976.1	944.7	988.4	1074.8	1217.8
30°	1663.6	1649.8	1515.5	1407.5	1263.0	1236.8	1102.6	1023.9	1056.3	1159.7	1336.1
32.5°	1783.0	1774.7	1706.8	1608.6	1450.2	1419.9	1266.1	1153.0	1160.2	1272.3	1478.5
35°	1898.7	1909.5	1870.9	1798.9	1651.8	1623.5	1485.7	1321.7	1288.2	1398.8	1630.7
37.5°	2037.5	2040.1	2015.9	1969.1	1863.7	1840.6	1726.9	1501.7	1427.6	1533.5	1777.8
40°	2314.7	2274.1	2179.5	2142.4	2079.7	2065.3	1935.7	1666.7	1557.2	1671.9	1916.7
42.5°	2614.5	2551.3	2403.2	2342.5	2317.3	2303.9	2109.5	1776.8	1678.6	1810.2	2052.9
45°	2856.2	2804.8	2659.8	2584.7	2587.8	2566.2	2261.2	1875.0	1810.2	1949.1	2205.2
47.5°	3094.3	3008.4	2845.9	2835.1	2871.1	2839.3	2406.2	1973.2	1947.5	2100.3	2357.4
50°	3109.8	3031.6	2965.8	3052.2	3113.9	3074.3	2537.9	2101.8	2090.0	2283.3	2553.8
52.5°	2922.0	2910.7	3011.0	3156.6	3258.9	3223.4	2645.4	2234.0	2235.5	2512.2	2793.0
55°	2853.7	2839.3	2959.6	3138.6	3276.9	3255.8	2725.6	2383.1	2397.0	2789.9	3049.6
57.5°	2968.8	2932.8	2956.5	3104.6	3234.7	3222.4	2808.9	2548.7	2573.9	3109.8	3286.7
60°	3326.3	3252.7	3127.2	3155.0	3236.3	3229.1	2928.2	2733.3	2775.5	3443.0	3436.8
62.5°	3861.6	3778.3	3522.7	3399.3	3381.3	3367.4	3125.2	2960.1	2981.2	3683.7	3349.4
65°	4448.9	4359.4	4055.5	3853.4	3747.4	3717.6	3443.0	3233.7	3101.5	3683.2	3009.0
67.5°	5108.2	5013.6	4710.7	4517.8	4403.1	4352.2	3958.8	3454.8	3062.4	3371.5	2407.8
70°	5783.4	5693.4	5554.6	5621.9	5672.3	5594.7	4771.3	3528.4	2781.7	2643.3	1616.8
72.5°	5425.0	5417.8	5523.2	6161.9	7133.4	7148.8	5582.9	3320.6	2149.1	1571.1	861.9
73°	5092.2	5122.6	5318.0	6082.2	7258.3	7263.5	5598.8	3213.1	1973.2	1353.5	757.0
75°	2638.2	2843.9	3569.0	4931.8	6720.9	6745.1	4935.4	2432.5	1176.1	751.9	510.1
77.5°	706.6	697.3	1149.9	2402.6	4480.8	4448.9	3118.5	1177.7	563.6	471.6	357.9
80°	242.2	245.3	391.4	878.9	2091.5	2166.1	1353.5	513.7	370.8	328.6	253.5
82.5°	123.4	127.5	204.7	373.9	874.8	856.2	435.6	302.4	248.4	199.5	141.9
85°	65.8	67.9	112.6	193.9	320.9	324.5	153.3	161.5	157.9	113.1	69.9
87.5°	32.4	33.4	54.0	85.4	118.8	114.7	53.5	69.9	77.7	63.8	38.6
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°	1226.0	1226.0	1226.0	1226.0	1226.0	1226.0	1226.0	1226.0	1226.0	1226.0	1226.0
2.5°	1217.8	1217.8	1224.5	1235.8	1244.0	1251.7	1256.9	1265.1	1269.7	1269.2	1268.7
5°	1209.5	1214.7	1228.1	1241.9	1251.2	1257.4	1257.4	1261.0	1261.0	1259.4	1257.4
7.5°	1190.5	1199.3	1218.8	1231.1	1233.7	1227.0	1213.7	1203.4	1190.5	1183.8	1181.3
10°	1160.2	1171.5	1196.2	1201.8	1188.5	1164.8	1132.4	1104.6	1080.0	1068.6	1065.0
12.5°	1130.4	1145.3	1168.4	1159.7	1127.8	1081.5	1031.6	993.6	965.8	955.0	951.4
15°	1105.7	1123.7	1141.7	1114.4	1058.9	994.6	939.6	904.1	883.0	874.8	872.7
17.5°	1089.2	1110.3	1116.5	1065.6	988.4	916.4	867.6	844.4	835.2	831.6	830.5
20°	1090.2	1113.9	1099.0	1018.2	920.5	848.0	815.6	808.9	808.9	808.9	808.4
22.5°	1118.5	1139.1	1091.8	974.0	855.2	790.4	776.5	782.2	786.3	786.3	785.8
25°	1177.2	1188.5	1096.9	931.3	794.0	740.5	741.1	751.9	755.5	755.5	754.4
27.5°	1266.6	1257.4	1106.2	884.0	733.9	695.3	702.5	712.3	714.8	713.3	712.8
30°	1378.7	1341.7	1113.9	828.5	677.3	653.1	659.3	664.9	662.9	659.3	658.8
32.5°	1504.2	1427.6	1109.3	766.3	627.4	609.4	613.0	616.1	613.0	604.3	604.3
35°	1628.7	1505.3	1084.1	698.4	587.8	567.2	566.7	576.5	576.0	565.7	566.2
37.5°	1737.7	1566.4	1035.2	636.1	553.9	536.4	538.4	544.6	547.7	533.8	532.3
40°	1832.8	1608.6	966.3	583.2	526.6	527.6	522.0	512.2	508.6	502.4	501.4
42.5°	1922.3	1637.9	893.3	538.9	512.7	524.5	505.5	482.4	472.6	478.3	481.9
45°	2010.3	1670.8	822.8	502.4	495.2	515.3	489.1	463.4	452.0	454.6	458.2
47.5°	2117.7	1716.6	738.0	463.4	468.5	498.3	478.8	451.0	434.0	423.8	420.7
50°	2259.2	1783.0	627.9	421.2	440.2	479.8	470.0	433.0	414.5	393.9	388.8
52.5°	2436.1	1845.7	516.8	387.2	417.1	463.9	455.6	417.6	395.0	370.3	366.2
55°	2612.5	1854.4	421.2	357.9	390.8	442.3	438.2	405.2	373.4	353.3	349.2
57.5°	2735.9	1771.6	356.9	333.2	365.6	415.5	422.2	390.3	355.4	339.9	337.4
60°	2737.9	1573.6	317.8	316.8	346.6	392.4	405.8	372.8	344.0	333.8	331.7
62.5°	2520.4	1268.2	292.6	304.4	332.7	373.4	393.4	363.1	341.5	337.4	335.3
65°	2112.6	937.0	272.6	293.1	319.9	357.4	383.1	360.0	340.4	338.9	337.4
67.5°	1559.8	642.3	255.6	278.7	305.5	341.0	373.4	355.4	334.3	340.4	338.4
70°	981.2	428.9	239.6	262.3	286.4	321.9	360.5	347.1	326.6	323.0	316.3
72.5°	553.9	310.1	220.6	241.2	261.8	296.7	343.0	333.2	309.1	294.7	288.0
73°	500.4	293.6	216.0	236.0	256.1	291.6	338.9	329.1	303.9	288.0	281.8
75°	366.2	240.2	194.9	215.0	232.4	267.9	319.4	308.6	281.3	262.3	258.2
77.5°	265.4	185.1	167.7	185.6	201.1	235.0	290.0	277.7	251.0	240.7	236.6
80°	191.3	140.4	138.9	156.3	169.7	204.2	258.7	245.8	220.1	250.4	243.8
82.5°	114.2	90.0	101.8	121.4	135.3	171.2	224.7	209.8	185.1	187.2	159.4
85°	54.5	50.9	63.3	79.7	89.5	117.3	187.2	175.4	148.1	121.4	118.8
87.5°	24.2	23.1	30.3	35.5	47.8	70.5	128.1	113.7	107.5	64.3	50.4
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)