

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: P195386

Luminaire Tested: **NAV-AF-02-D-UNV-T4FT-7060-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195386
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-7060-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 70 CRI, 5700K, 615mA 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: 8089 lumens
Efficiency: N/A
Efficacy: 122.6 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

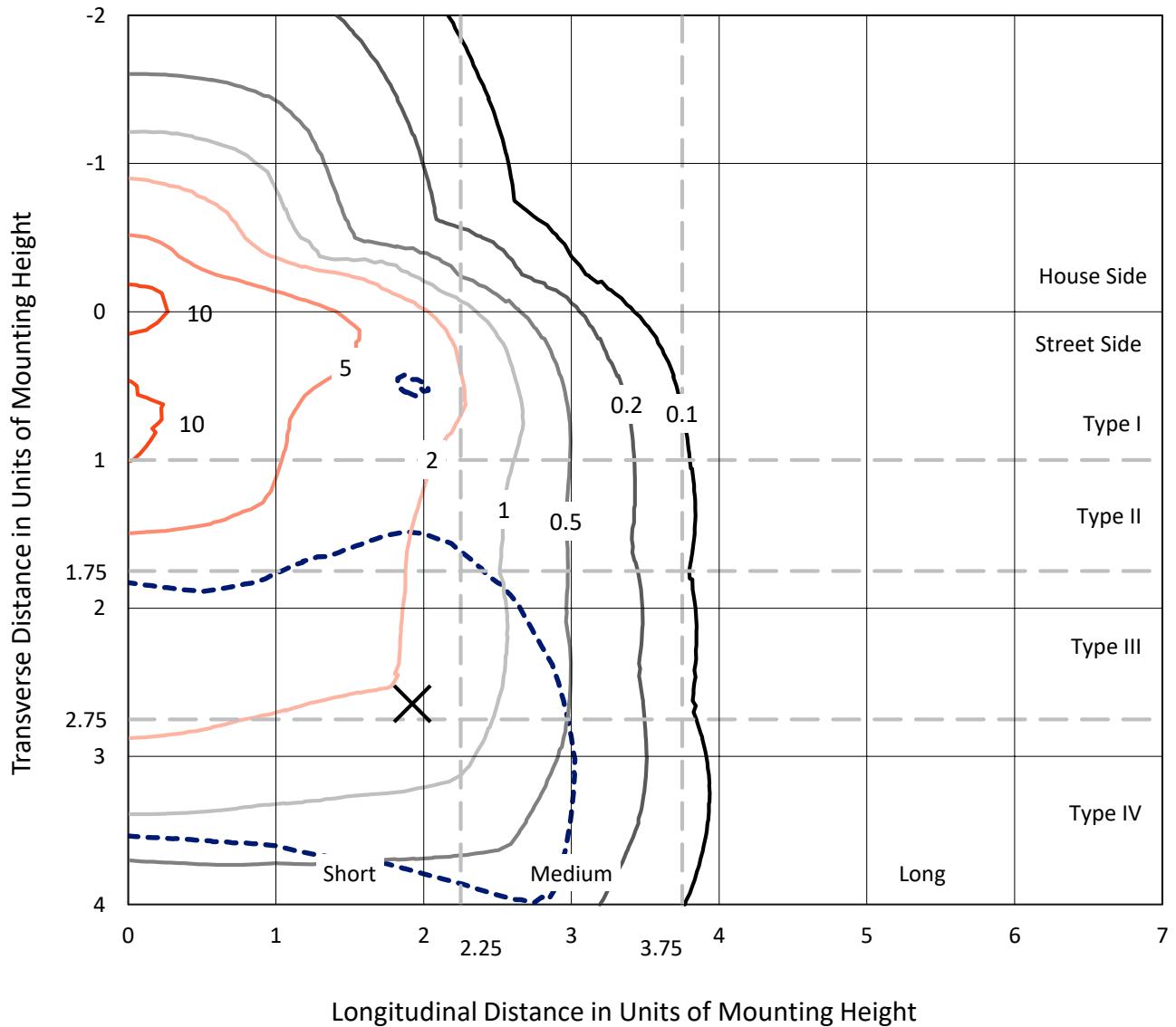
Input Watts (W): 66
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

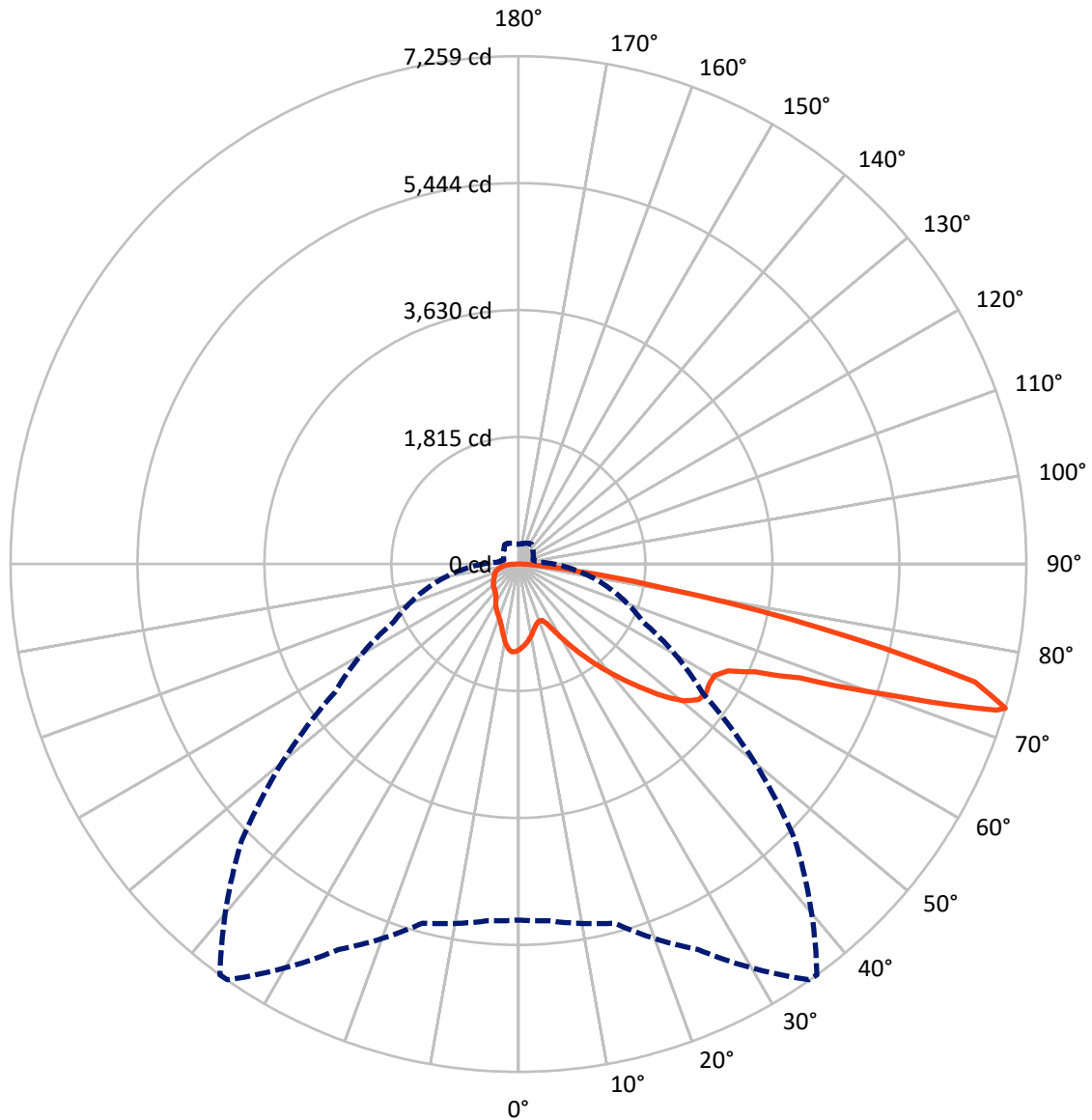
× Max cd
 - - - 1/2 Max cd



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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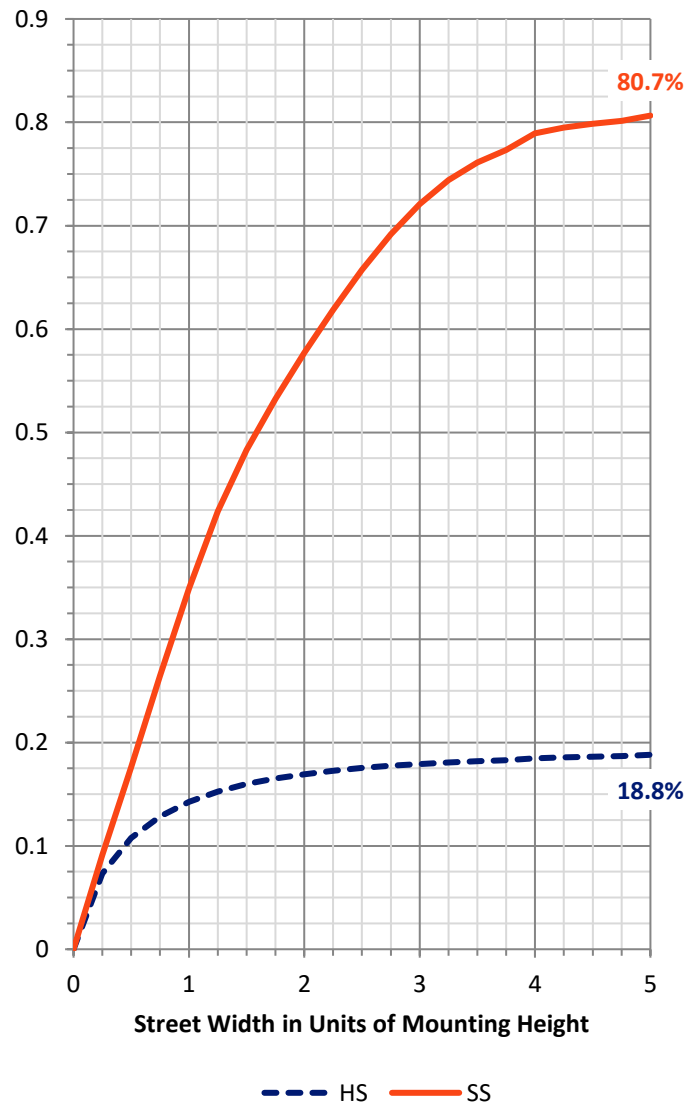
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1559.8	0.0	1559.8
	% Fixture	19.3	0.0	19.3
Street Side	Lumens	6529.2	0.0	6529.2
	% Fixture	80.7	0.0	80.7
Total	Lumens	8089.0	0.0	8089.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	111.3	1.4
10°-20°	279.5	3.5
20°-30°	448.1	5.5
30°-40°	741.2	9.2
40°-50°	1147.0	14.2
50°-60°	1535.4	19.0
60°-70°	2005.8	24.8
70°-80°	1638.4	20.3
80°-90°	182.4	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°	8089.0	100.0
0°-180°	8089.0	100.0

Coefficient of Utilization



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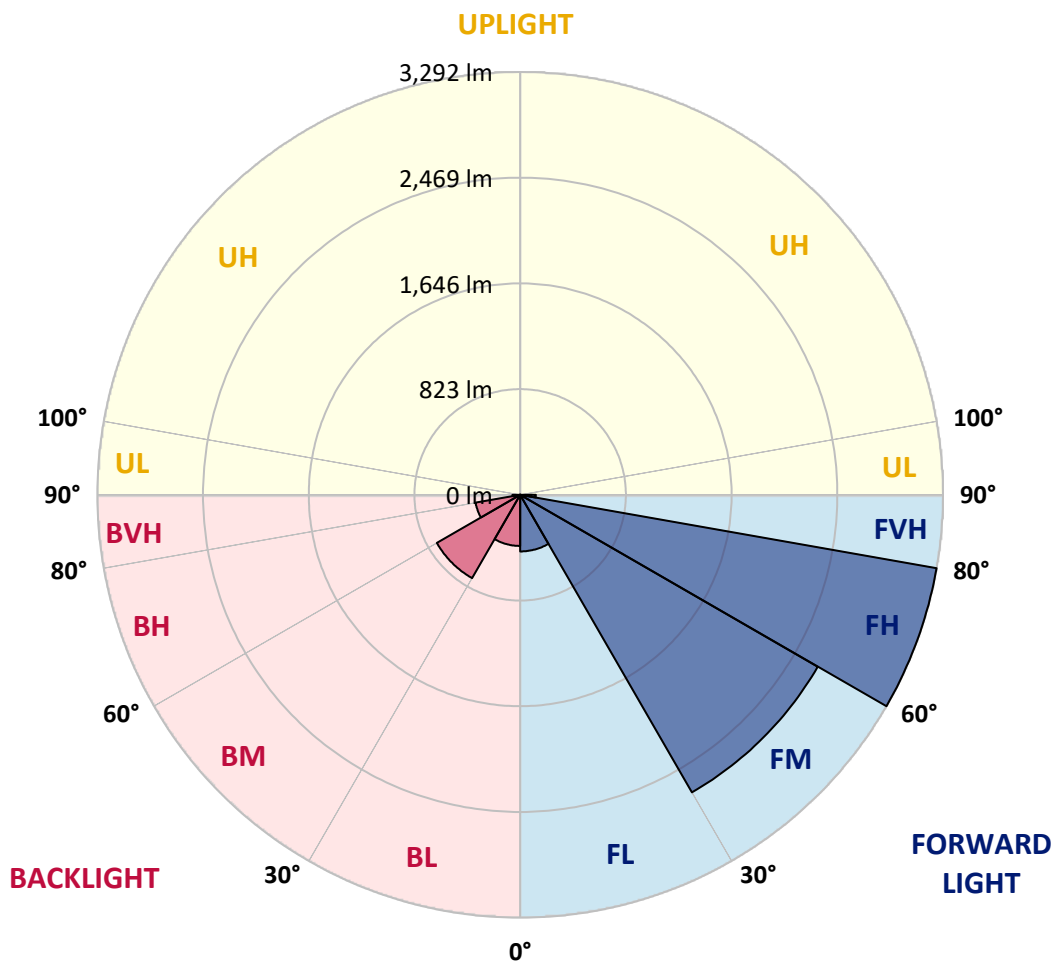
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	440.8	5.4			
FM (30°-60°)	2674.5	33.1			
FH (60°-80°)	3291.6	40.7			G2/5000
FVH (80°-90°)	122.3	1.5			G2/225
BL (0°-30°)	398.2	4.9	B1/500		
BM (30°-60°)	749.1	9.3	B1/1000		
BH (60°-80°)	352.5	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°	1225.2	1225.2	1225.2	1225.2	1225.2	1225.2	1225.2	1225.2	1225.2	1225.2	1225.2
2.5°	1178.5	1181.6	1182.1	1185.7	1185.7	1185.2	1186.7	1192.9	1196.0	1203.1	1209.3
5°	1120.4	1124.0	1125.5	1131.7	1139.4	1139.9	1145.6	1157.4	1168.7	1184.6	1198.0
7.5°	1055.1	1059.2	1063.4	1076.2	1087.5	1088.5	1099.3	1118.3	1133.3	1152.8	1176.9
10°	991.9	992.9	997.1	1013.5	1028.4	1029.9	1045.4	1067.0	1087.0	1114.2	1141.5
12.5°	940.0	943.1	942.1	954.4	967.2	968.3	988.8	1016.1	1045.4	1076.2	1108.6
15°	922.0	921.5	910.7	910.2	915.9	916.9	936.9	968.8	1001.7	1039.7	1081.3
17.5°	934.4	930.2	902.0	884.5	880.9	881.9	896.8	931.8	966.7	1010.4	1060.3
20°	1002.2	986.3	920.0	877.8	866.0	866.0	874.7	903.0	941.5	992.4	1055.1
22.5°	1163.1	1138.4	997.1	922.0	880.4	876.3	869.6	891.2	933.8	995.0	1076.2
25°	1365.6	1353.7	1138.4	1039.7	953.9	940.5	896.3	904.0	949.8	1022.8	1133.8
27.5°	1553.1	1532.6	1323.9	1210.9	1089.6	1069.0	975.5	944.1	987.8	1074.1	1217.0
30°	1662.6	1648.7	1514.6	1406.7	1262.3	1236.0	1101.9	1023.3	1055.6	1158.9	1335.2
32.5°	1781.9	1773.6	1705.8	1607.6	1449.3	1419.0	1265.3	1152.3	1159.5	1271.5	1477.6
35°	1897.5	1908.3	1869.7	1797.8	1650.8	1622.5	1484.8	1320.8	1287.4	1397.9	1629.7
37.5°	2036.3	2038.8	2014.7	1967.9	1862.5	1839.4	1725.8	1500.7	1426.7	1532.6	1776.7
40°	2313.3	2272.7	2178.1	2141.1	2078.4	2064.0	1934.5	1665.7	1556.2	1670.8	1915.5
42.5°	2612.9	2549.7	2401.7	2341.0	2315.8	2302.5	2108.2	1775.7	1677.5	1809.1	2051.7
45°	2854.5	2803.1	2658.1	2583.1	2586.2	2564.6	2259.8	1873.8	1809.1	1947.9	2203.8
47.5°	3092.4	3006.6	2844.2	2833.4	2869.4	2837.5	2404.8	1972.0	1946.3	2099.0	2355.9
50°	3107.8	3029.7	2963.9	3050.3	3111.9	3072.4	2536.3	2100.5	2088.7	2281.9	2552.3
52.5°	2920.2	2908.9	3009.2	3154.6	3256.9	3221.4	2643.7	2232.6	2234.1	2510.6	2791.2
55°	2851.9	2837.5	2957.8	3136.6	3274.9	3253.8	2723.9	2381.6	2395.5	2788.2	3047.7
57.5°	2967.0	2931.0	2954.7	3102.7	3232.7	3220.4	2807.2	2547.1	2572.3	3107.8	3284.6
60°	3324.2	3250.7	3125.3	3153.1	3234.3	3227.1	2926.4	2731.6	2773.8	3440.9	3434.7
62.5°	3859.2	3776.0	3520.5	3397.2	3379.2	3365.3	3123.3	2958.3	2979.3	3681.4	3347.3
65°	4446.2	4356.7	4053.0	3851.0	3745.1	3715.3	3440.9	3231.7	3099.6	3680.9	3007.1
67.5°	5105.0	5010.5	4707.7	4515.0	4400.4	4349.5	3956.4	3452.7	3060.6	3369.4	2406.3
70°	5779.8	5689.9	5551.1	5618.5	5668.8	5591.2	4768.4	3526.2	2779.9	2641.7	1615.8
72.5°	5421.6	5414.4	5519.8	6158.1	7129.0	7144.4	5579.4	3318.6	2147.8	1570.1	861.4
73°	5089.1	5119.4	5314.7	6078.4	7253.8	7259.0	5595.3	3211.1	1972.0	1352.7	756.5
75°	2636.5	2842.1	3566.8	4928.7	6716.8	6740.9	4932.3	2431.0	1175.4	751.4	509.8
77.5°	706.2	696.9	1149.2	2401.2	4478.0	4446.2	3116.6	1176.9	563.3	471.3	357.7
80°	242.1	245.2	391.1	878.3	2090.2	2164.7	1352.7	513.4	370.6	328.4	253.4
82.5°	123.3	127.5	204.6	373.6	874.2	855.7	435.3	302.2	248.2	199.4	141.8
85°	65.8	67.8	112.6	193.8	320.7	324.3	153.2	161.4	157.8	113.1	69.9
87.5°	32.4	33.4	54.0	85.3	118.7	114.6	53.5	69.9	77.6	63.7	38.5
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°	1225.2	1225.2	1225.2	1225.2	1225.2	1225.2	1225.2	1225.2	1225.2	1225.2	1225.2
2.5°	1217.0	1217.0	1223.7	1235.0	1243.2	1250.9	1256.1	1264.3	1268.9	1268.4	1267.9
5°	1208.8	1213.9	1227.3	1241.2	1250.4	1256.6	1256.6	1260.2	1260.2	1258.7	1256.6
7.5°	1189.8	1198.5	1218.1	1230.4	1233.0	1226.3	1212.9	1202.6	1189.8	1183.1	1180.5
10°	1159.5	1170.8	1195.4	1201.1	1187.7	1164.1	1131.7	1104.0	1079.3	1068.0	1064.4
12.5°	1129.7	1144.6	1167.7	1158.9	1127.1	1080.8	1031.0	992.9	965.2	954.4	950.8
15°	1105.0	1123.0	1141.0	1113.7	1058.2	994.0	939.0	903.5	882.4	874.2	872.2
17.5°	1088.5	1109.6	1115.8	1064.9	987.8	915.9	867.0	843.9	834.6	831.1	830.0
20°	1089.6	1113.2	1098.3	1017.6	920.0	847.5	815.1	808.4	808.4	808.4	807.9
22.5°	1117.8	1138.4	1091.1	973.4	854.7	789.9	776.1	781.7	785.8	785.8	785.3
25°	1176.4	1187.7	1096.2	930.8	793.5	740.1	740.6	751.4	755.0	755.0	754.0
27.5°	1265.9	1256.6	1105.5	883.5	733.4	694.9	702.1	711.8	714.4	712.8	712.3
30°	1377.9	1340.9	1113.2	828.0	676.9	652.7	658.9	664.5	662.5	658.9	658.4
32.5°	1503.3	1426.7	1108.6	765.8	627.0	609.0	612.6	615.7	612.6	603.9	603.9
35°	1627.7	1504.3	1083.4	697.9	587.4	566.9	566.4	576.1	575.6	565.3	565.9
37.5°	1736.6	1565.5	1034.6	635.8	553.5	536.0	538.1	544.3	547.4	533.5	531.9
40°	1831.7	1607.6	965.7	582.8	526.3	527.3	521.7	511.9	508.3	502.1	501.1
42.5°	1921.1	1636.9	892.7	538.6	512.4	524.2	505.2	482.1	472.3	478.0	481.6
45°	2009.0	1669.8	822.3	502.1	494.9	515.0	488.8	463.1	451.8	454.3	457.9
47.5°	2116.4	1715.6	737.5	463.1	468.2	498.0	478.5	450.7	433.8	423.5	420.4
50°	2257.8	1781.9	627.5	420.9	439.9	479.5	469.7	432.7	414.2	393.7	388.5
52.5°	2434.6	1844.6	516.5	387.0	416.8	463.6	455.4	417.3	394.7	370.0	365.9
55°	2610.8	1853.3	420.9	357.7	390.6	442.0	437.9	405.0	373.1	353.1	349.0
57.5°	2734.2	1770.5	356.7	333.0	365.4	415.3	422.0	390.1	355.1	339.7	337.1
60°	2736.3	1572.7	317.6	316.6	346.4	392.1	405.5	372.6	343.8	333.6	331.5
62.5°	2518.9	1267.4	292.4	304.3	332.5	373.1	393.2	362.8	341.3	337.1	335.1
65°	2111.3	936.4	272.4	292.9	319.7	357.2	382.9	359.8	340.2	338.7	337.1
67.5°	1558.8	641.9	255.4	278.6	305.3	340.7	373.1	355.1	334.1	340.2	338.2
70°	980.6	428.6	239.5	262.1	286.3	321.7	360.3	346.9	326.4	322.8	316.1
72.5°	553.5	309.9	220.5	241.0	261.6	296.5	342.8	333.0	308.9	294.5	287.8
73°	500.1	293.5	215.9	235.9	255.9	291.4	338.7	328.9	303.7	287.8	281.6
75°	365.9	240.0	194.8	214.8	232.3	267.8	319.2	308.4	281.1	262.1	258.0
77.5°	265.2	185.0	167.5	185.5	201.0	234.9	289.9	277.5	250.8	240.5	236.4
80°	191.2	140.3	138.8	156.2	169.6	204.0	258.5	245.7	220.0	250.3	243.6
82.5°	114.1	89.9	101.8	121.3	135.2	171.1	224.6	209.7	185.0	187.1	159.3
85°	54.5	50.9	63.2	79.7	89.4	117.2	187.1	175.3	148.0	121.3	118.7
87.5°	24.2	23.1	30.3	35.5	47.8	70.4	128.0	113.6	107.4	64.2	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)