

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: P196444

Luminaire Tested: **NAV-AF-04-D-UNV-5WQ-7030-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196444
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24131)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-AF-04-D-UNV-5WQ-7030-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 3000K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE V WIDE OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 16173.7 lumens
Efficiency: N/A
Efficacy: 125.4 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type V - Short - Semi-Cutoff
BUG Rating: B4 - U0 - G2

Input Watts (W): 129
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

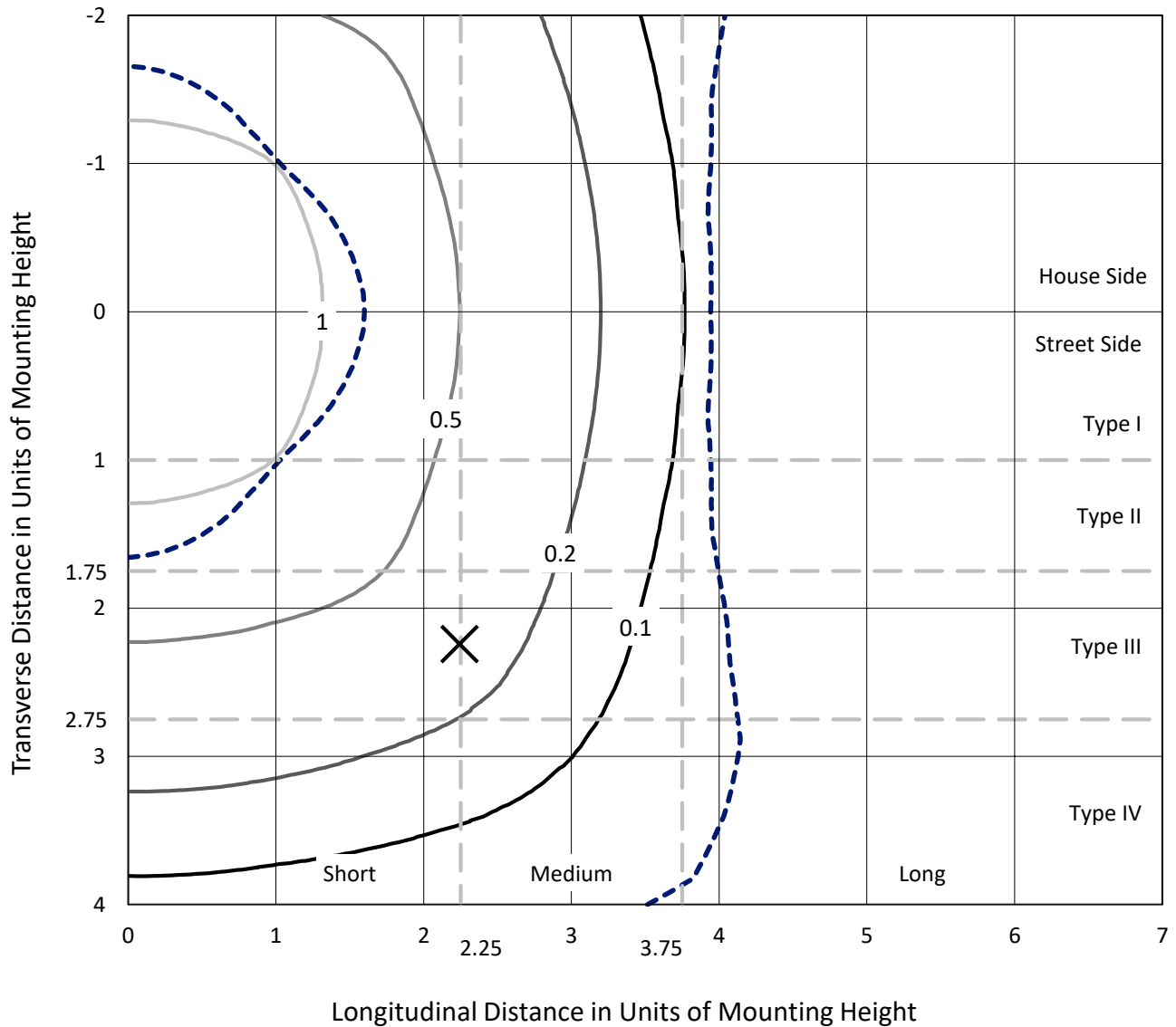


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Iso-Footcandle Lines of Horizontal Illumination

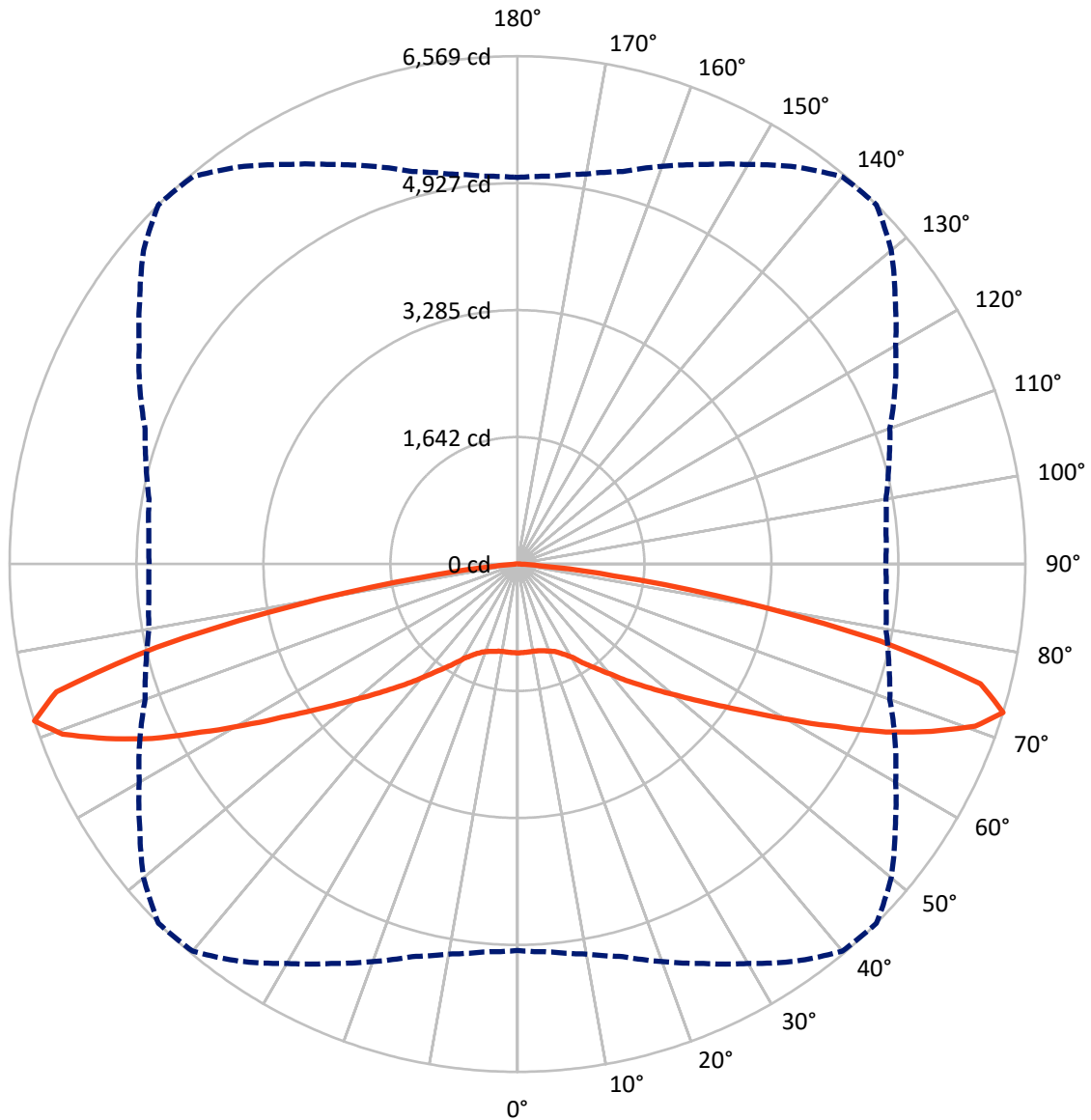
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1.8 fc
 Type V - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 45-Deg Lateral - - - Horizontal Cone Through 72.5-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	8086.8	0.0	8086.8
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	8086.8	0.0	8086.8
	% Fixture	50.0	0.0	50.0
Total	Lumens	16173.7	0.0	16173.7
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	109.8	0.7
10°-20°	332.1	2.1
20°-30°	599.6	3.7
30°-40°	1022.8	6.3
40°-50°	1741.3	10.8
50°-60°	2802.4	17.3
60°-70°	4660.4	28.8
70°-80°	4508.4	27.9
80°-90°	396.8	2.5
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°	16173.7	100.0
0°-180°	16173.7	100.0



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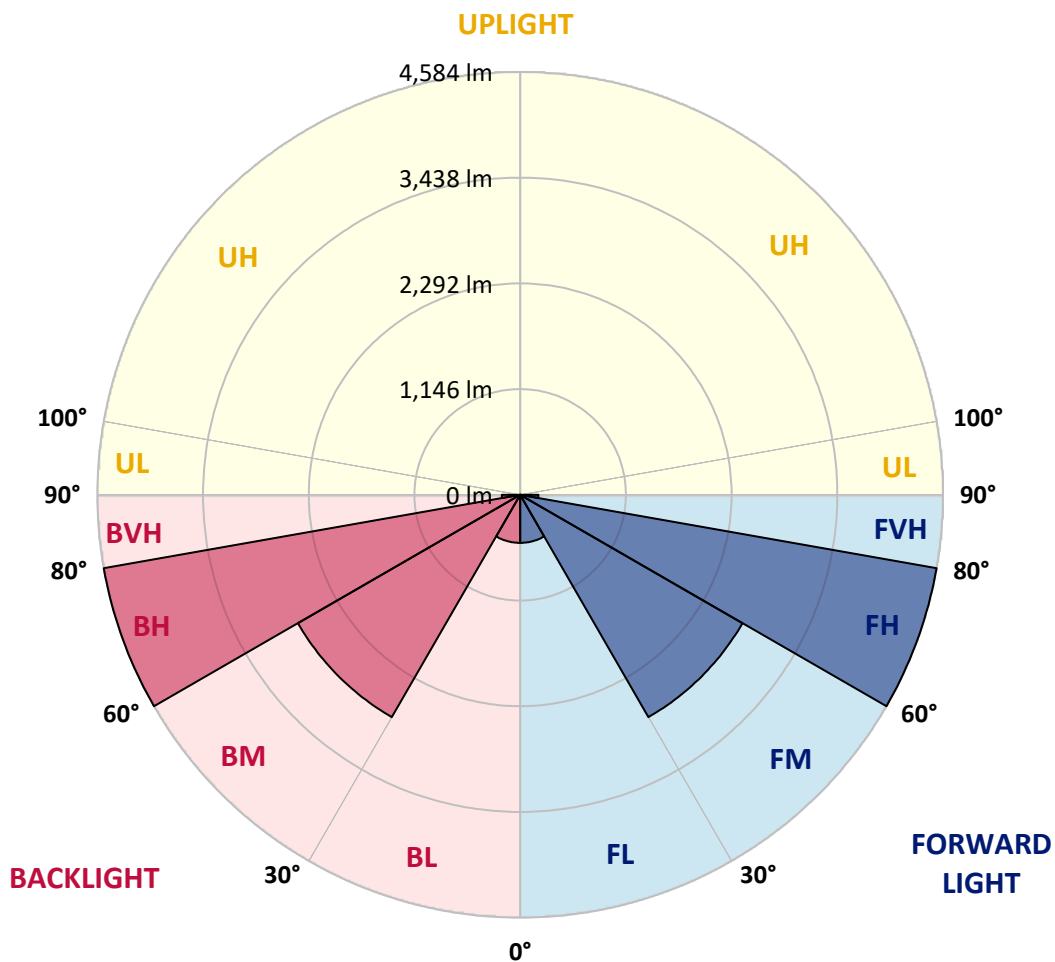
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	520.8	3.2			
FM (30°-60°)	2783.2	17.2			
FH (60°-80°)	4584.4	28.3			G2/5000
FVH (80°-90°)	198.4	1.2			G2/225
BL (0°-30°)	520.8	3.2	B2/1000		
BM (30°-60°)	2783.2	17.2	B3/5000		
BH (60°-80°)	4584.4	28.3	B4/5000		G2/5000
BVH (80°-90°)	198.4	1.2			G2/225
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B4-U0-G2

Type V Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1149.9	1149.9	1149.9	1149.9	1149.9	1149.9	1149.9	1149.9	1149.9	1149.9	1149.9
2.5°	1158.8	1158.8	1159.8	1158.8	1156.8	1155.8	1152.8	1150.8	1148.9	1147.9	1145.8
5°	1159.8	1159.8	1160.8	1159.8	1157.8	1155.8	1153.8	1150.8	1148.9	1146.7	1145.8
7.5°	1163.7	1164.7	1165.8	1164.7	1160.8	1158.8	1155.8	1152.8	1148.9	1146.7	1144.8
10°	1171.7	1171.7	1171.7	1170.7	1167.8	1163.7	1159.8	1156.8	1151.8	1146.7	1143.8
12.5°	1177.7	1178.7	1178.7	1176.7	1172.7	1167.8	1163.7	1160.8	1156.8	1152.8	1149.9
15°	1186.7	1186.7	1185.7	1181.6	1175.7	1171.7	1169.7	1168.7	1167.8	1165.8	1162.7
17.5°	1204.6	1203.6	1200.6	1194.6	1187.6	1184.7	1182.7	1182.7	1182.7	1181.6	1179.7
20°	1230.5	1230.5	1226.4	1216.5	1210.6	1207.6	1204.6	1204.6	1204.6	1201.7	1198.6
22.5°	1272.4	1273.3	1267.3	1255.4	1247.4	1241.4	1237.5	1234.4	1231.5	1229.5	1224.5
25°	1329.0	1328.0	1321.1	1306.0	1300.1	1294.1	1286.2	1281.3	1277.2	1274.3	1268.3
27.5°	1388.8	1387.7	1379.8	1366.9	1362.9	1353.9	1347.9	1340.9	1336.0	1331.0	1325.0
30°	1465.3	1460.5	1454.5	1444.5	1442.5	1435.5	1427.6	1417.6	1409.7	1401.7	1394.7
32.5°	1534.1	1534.1	1525.1	1520.2	1524.1	1521.1	1522.2	1516.2	1511.2	1508.3	1501.2
35°	1629.7	1629.7	1625.7	1619.7	1620.8	1613.8	1612.7	1613.8	1617.7	1617.7	1609.7
37.5°	1757.1	1759.1	1746.2	1744.1	1739.2	1729.2	1724.2	1726.2	1735.1	1740.2	1729.2
40°	1915.5	1919.3	1915.5	1902.4	1896.4	1879.6	1869.5	1869.5	1876.5	1881.6	1877.5
42.5°	2071.7	2078.6	2071.7	2061.7	2056.7	2043.8	2038.8	2042.8	2051.8	2057.8	2051.8
45°	2246.0	2250.8	2241.9	2230.0	2224.0	2217.0	2214.0	2217.0	2227.0	2232.9	2231.0
47.5°	2417.2	2424.1	2413.1	2408.2	2408.2	2401.2	2409.1	2417.2	2426.1	2440.0	2434.1
50°	2584.4	2593.4	2586.3	2587.4	2595.4	2608.2	2623.2	2639.1	2655.0	2670.0	2671.9
52.5°	2733.6	2747.7	2748.6	2766.6	2791.5	2811.3	2853.2	2888.0	2925.9	2938.7	2932.8
55°	2891.0	2909.9	2934.8	2962.7	3002.5	3043.3	3114.0	3176.7	3226.4	3257.3	3252.3
57.5°	3116.0	3134.8	3160.8	3206.5	3266.3	3322.0	3418.6	3516.2	3591.8	3638.7	3615.7
60°	3407.7	3427.6	3461.5	3510.2	3587.8	3663.5	3795.8	3936.3	4053.7	4107.5	4065.7
62.5°	3793.9	3812.8	3834.8	3899.5	3986.1	4083.7	4249.8	4430.0	4579.4	4631.2	4572.4
65°	4344.4	4367.3	4374.3	4427.0	4511.7	4602.3	4781.5	4984.5	5154.9	5239.4	5122.0
67.5°	4964.6	4973.6	5001.5	5063.2	5149.8	5231.5	5372.9	5564.9	5728.3	5775.0	5649.6
70°	5328.0	5345.9	5394.6	5480.3	5583.9	5712.3	5866.5	6073.6	6258.8	6280.8	6121.5
72.5°	4999.4	5036.3	5122.9	5256.4	5473.4	5701.3	5967.2	6272.8	6538.6	6569.4	6313.5
75°	4010.0	4051.8	4155.3	4301.6	4558.6	4897.0	5281.3	5740.2	6138.4	6189.1	5850.7
77.5°	2137.3	2189.1	2339.5	2536.6	2902.9	3350.9	3813.8	4337.5	4676.0	4790.5	4546.5
80°	538.5	566.4	639.1	754.7	1002.5	1363.9	1763.1	2326.5	2746.7	2924.9	2746.7
82.5°	209.0	230.0	249.8	263.9	287.7	337.5	465.9	759.6	1023.4	1260.3	1091.1
85°	80.7	85.7	123.5	140.4	140.4	154.3	177.2	209.0	258.8	282.8	237.0
87.5°	31.9	34.9	42.8	65.7	67.7	59.8	63.7	71.7	54.7	45.8	51.8
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):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1149.9	1149.9	1149.9	1149.9	1149.9	1149.9	1149.9	1149.9
2.5°	1144.8	1143.8	1141.9	1142.9	1141.9	1141.9	1141.9	1141.9
5°	1143.8	1143.8	1141.9	1141.9	1141.9	1142.9	1141.9	1141.9
7.5°	1142.9	1141.9	1139.9	1138.9	1138.9	1137.8	1137.8	1137.8
10°	1140.8	1138.9	1136.9	1135.9	1135.9	1133.9	1133.9	1133.9
12.5°	1145.8	1142.9	1140.8	1139.9	1139.9	1139.9	1140.8	1140.8
15°	1159.8	1153.8	1150.8	1149.9	1150.8	1152.8	1153.8	1154.8
17.5°	1174.7	1168.7	1163.7	1161.8	1162.7	1165.8	1168.7	1170.7
20°	1193.6	1188.6	1182.7	1180.6	1180.6	1184.7	1186.7	1189.7
22.5°	1220.5	1216.5	1211.5	1208.5	1206.5	1211.5	1214.5	1216.5
25°	1263.4	1259.3	1255.4	1252.3	1251.3	1256.4	1258.3	1259.3
27.5°	1320.1	1316.0	1314.1	1313.1	1310.1	1312.1	1315.1	1314.1
30°	1393.7	1396.7	1393.7	1393.7	1388.8	1390.8	1388.8	1386.7
32.5°	1492.3	1489.3	1480.4	1474.4	1467.4	1467.4	1464.4	1461.5
35°	1590.9	1580.9	1575.9	1578.9	1575.9	1577.9	1572.9	1568.0
37.5°	1707.2	1701.3	1700.4	1709.4	1707.2	1709.4	1709.4	1702.4
40°	1861.7	1857.6	1864.6	1879.6	1885.5	1884.5	1886.5	1877.5
42.5°	2038.8	2031.9	2034.9	2047.7	2054.7	2056.7	2055.7	2047.7
45°	2216.0	2218.0	2218.0	2231.9	2238.9	2242.9	2236.0	2232.9
47.5°	2416.2	2419.1	2412.1	2421.0	2423.1	2430.0	2424.1	2419.1
50°	2647.2	2636.1	2620.2	2623.2	2623.2	2621.2	2614.2	2608.2
52.5°	2904.8	2880.1	2850.1	2840.2	2829.3	2818.4	2804.3	2793.4
55°	3198.6	3155.9	3102.1	3077.2	3056.2	3031.4	2999.5	2988.6
57.5°	3539.1	3465.3	3393.7	3348.9	3295.2	3262.3	3221.5	3219.6
60°	3943.2	3843.7	3717.2	3650.6	3596.9	3558.0	3527.1	3515.2
62.5°	4410.1	4238.9	4102.5	4030.9	3968.2	3944.3	3905.5	3910.4
65°	4889.1	4714.7	4582.4	4524.7	4465.9	4450.0	4414.2	4427.0
67.5°	5407.7	5264.3	5119.1	5065.2	5011.4	4995.6	4958.7	4969.6
70°	5872.5	5690.4	5525.1	5419.6	5328.0	5254.4	5207.6	5188.6
72.5°	5965.1	5649.6	5389.8	5125.9	4973.6	4840.1	4785.4	4764.6
75°	5359.8	4870.1	4499.8	4190.1	4018.9	3824.8	3803.9	3775.0
77.5°	4169.3	3611.8	3163.7	2765.6	2535.6	2298.7	2217.0	2155.2
80°	2486.8	1911.4	1481.3	1038.3	847.2	681.9	641.2	598.3
82.5°	890.0	570.5	384.3	299.7	267.8	246.9	231.0	210.1
85°	215.0	181.2	171.2	155.2	153.3	130.4	92.6	82.6
87.5°	68.8	62.8	63.7	60.7	63.7	47.7	38.8	34.9
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)