

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: P195964

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195964
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-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 4000K, 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: 17106.8 lumens
Efficiency: N/A
Efficacy: 132.6 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

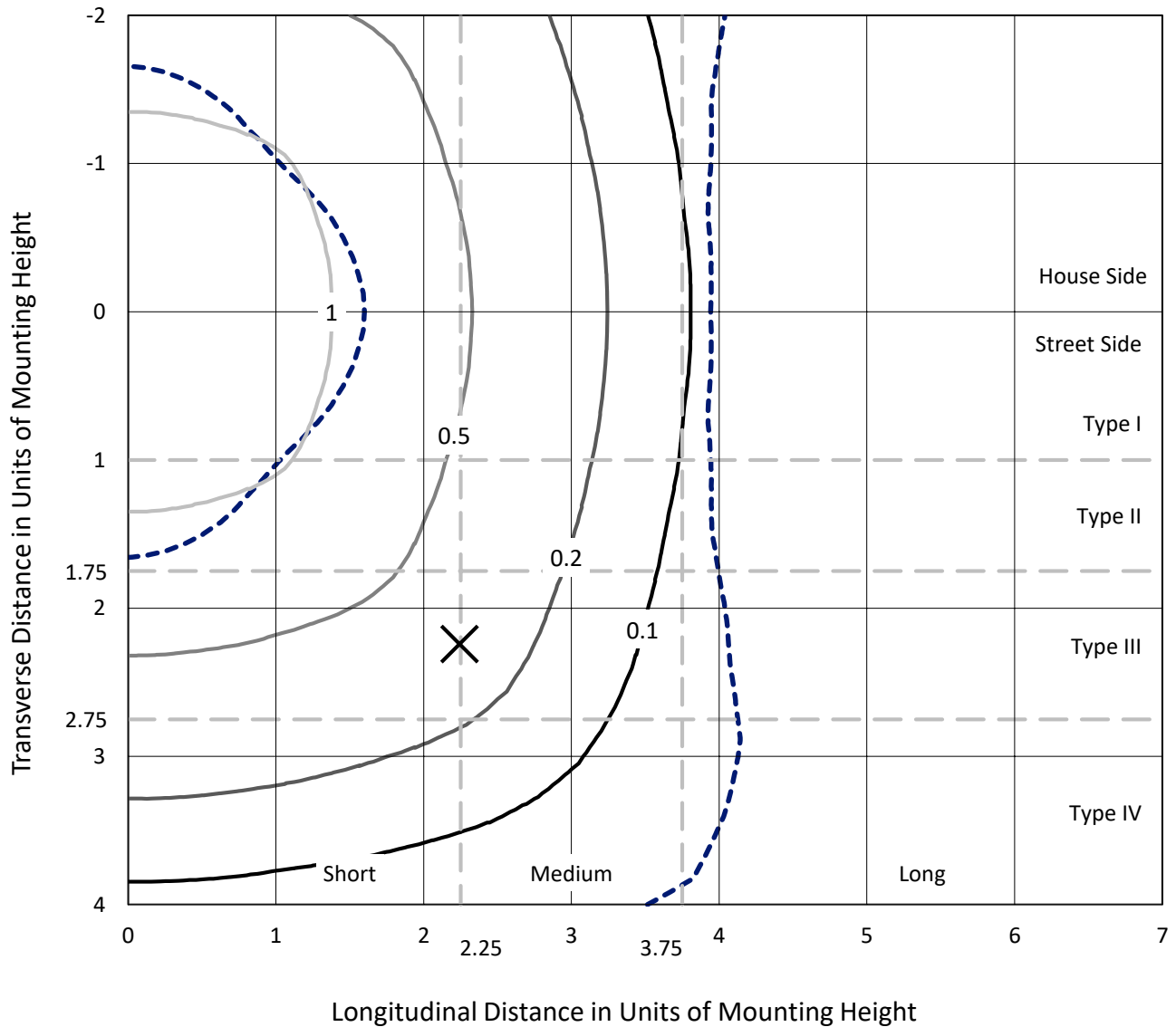
Input Watts (W): 129
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

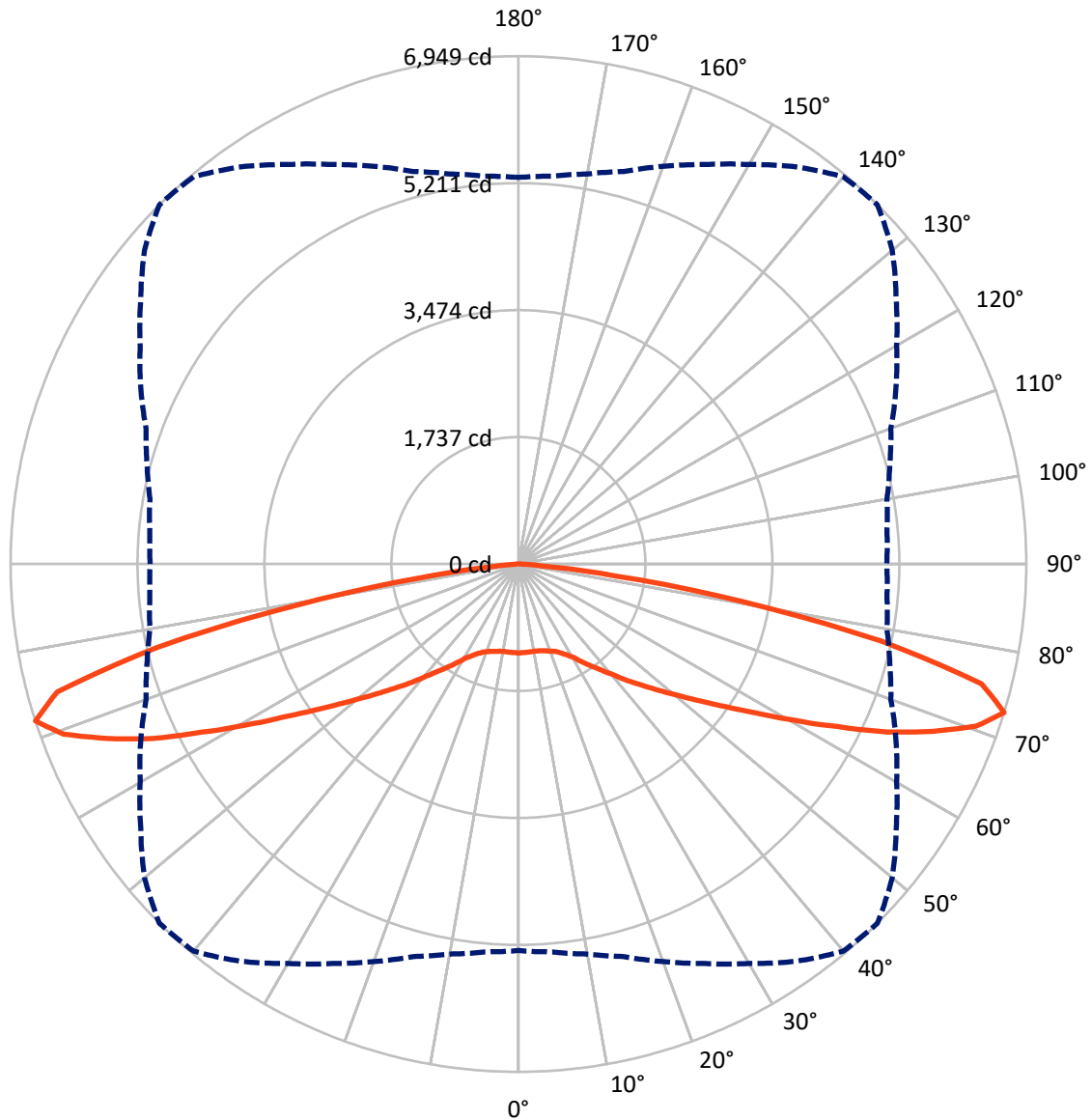
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1.9 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	8553.4	0.0	8553.4
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	8553.4	0.0	8553.4
	% Fixture	50.0	0.0	50.0
Total	Lumens	17106.8	0.0	17106.8
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	116.1	0.7
10°-20°	351.3	2.1
20°-30°	634.2	3.7
30°-40°	1081.8	6.3
40°-50°	1841.8	10.8
50°-60°	2964.1	17.3
60°-70°	4929.3	28.8
70°-80°	4768.5	27.9
80°-90°	419.7	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°	17106.8	100.0
0°-180°	17106.8	100.0



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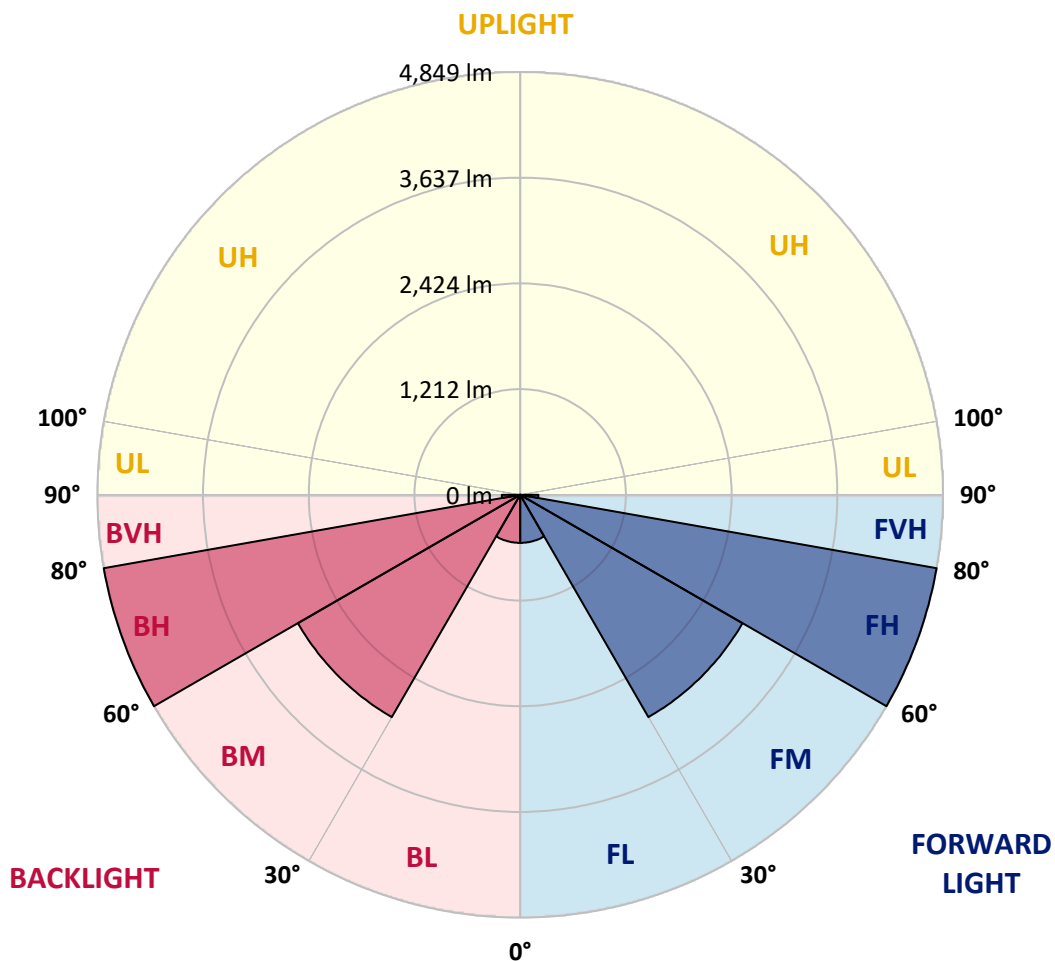
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	550.8	3.2			
FM	(30°-60°)	2943.8	17.2			
FH	(60°-80°)	4848.9	28.3			G2/5000
FVH	(80°-90°)	209.8	1.2			G2/225
BL	(0°-30°)	550.8	3.2	B2/1000		
BM	(30°-60°)	2943.8	17.2	B3/5000		
BH	(60°-80°)	4848.9	28.3	B4/5000		G2/5000
BVH	(80°-90°)	209.8	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°	1216.2	1216.2	1216.2	1216.2	1216.2	1216.2	1216.2	1216.2	1216.2	1216.2	1216.2
2.5°	1225.6	1225.6	1226.7	1225.6	1223.6	1222.5	1219.4	1217.2	1215.2	1214.0	1212.0
5°	1226.7	1226.7	1227.7	1226.7	1224.6	1222.5	1220.4	1217.2	1215.2	1213.0	1212.0
7.5°	1230.9	1231.9	1233.0	1231.9	1227.7	1225.6	1222.5	1219.4	1215.2	1213.0	1210.9
10°	1239.3	1239.3	1239.3	1238.3	1235.1	1230.9	1226.7	1223.6	1218.2	1213.0	1209.8
12.5°	1245.6	1246.7	1246.7	1244.6	1240.4	1235.1	1230.9	1227.7	1223.6	1219.4	1216.2
15°	1255.2	1255.2	1254.0	1249.8	1243.5	1239.3	1237.3	1236.1	1235.1	1233.0	1229.9
17.5°	1274.1	1273.1	1269.9	1263.5	1256.2	1253.0	1250.9	1250.9	1250.9	1249.8	1247.8
20°	1301.5	1301.5	1297.2	1286.7	1280.4	1277.3	1274.1	1274.1	1274.1	1270.9	1267.7
22.5°	1345.7	1346.7	1340.4	1327.8	1319.4	1313.1	1308.9	1305.7	1302.5	1300.4	1295.2
25°	1405.7	1404.6	1397.2	1381.5	1375.2	1368.8	1360.4	1355.2	1350.9	1347.7	1341.5
27.5°	1468.9	1467.8	1459.4	1445.7	1441.5	1432.0	1425.7	1418.3	1413.1	1407.8	1401.4
30°	1550.0	1544.7	1538.4	1527.9	1525.7	1518.4	1510.0	1499.4	1491.0	1482.6	1475.2
32.5°	1622.6	1622.6	1613.1	1607.9	1612.1	1608.9	1610.0	1603.7	1598.4	1595.2	1587.8
35°	1723.7	1723.7	1719.5	1713.1	1714.3	1706.8	1705.8	1706.8	1711.1	1711.1	1702.6
37.5°	1858.5	1860.5	1846.9	1844.8	1839.5	1829.0	1823.7	1825.9	1835.3	1840.6	1829.0
40°	2025.9	2030.1	2025.9	2012.2	2005.9	1988.0	1977.5	1977.5	1984.8	1990.0	1985.9
42.5°	2191.2	2198.5	2191.2	2180.6	2175.4	2161.7	2156.5	2160.7	2170.2	2176.4	2170.2
45°	2375.5	2380.7	2371.3	2358.6	2352.3	2344.9	2341.7	2344.9	2355.4	2361.8	2359.6
47.5°	2556.6	2563.9	2552.4	2547.1	2547.1	2539.8	2548.2	2556.6	2566.1	2580.8	2574.5
50°	2733.4	2742.9	2735.6	2736.6	2745.1	2758.8	2774.5	2791.4	2808.2	2824.1	2826.1
52.5°	2891.4	2906.2	2907.2	2926.2	2952.5	2973.5	3017.8	3054.6	3094.6	3108.3	3102.0
55°	3057.8	3077.8	3104.1	3133.6	3175.8	3218.9	3293.7	3360.0	3412.7	3445.3	3440.0
57.5°	3295.7	3315.8	3343.1	3391.6	3454.7	3513.7	3615.8	3719.0	3799.0	3848.5	3824.3
60°	3604.3	3625.3	3661.1	3712.7	3794.8	3874.8	4014.9	4163.4	4287.6	4344.5	4300.3
62.5°	4012.8	4032.8	4056.0	4124.4	4216.0	4319.2	4495.1	4685.6	4843.6	4898.4	4836.2
65°	4595.1	4619.3	4626.7	4682.5	4772.0	4867.8	5057.4	5272.2	5452.2	5541.7	5417.4
67.5°	5251.1	5260.5	5290.1	5355.4	5446.9	5533.2	5682.8	5886.1	6058.7	6108.2	5975.6
70°	5635.4	5654.4	5706.0	5796.6	5906.0	6041.9	6205.1	6424.1	6619.9	6643.1	6474.7
72.5°	5287.9	5326.9	5418.5	5559.6	5789.2	6030.3	6311.4	6634.7	6915.9	6948.5	6677.8
75°	4241.4	4285.6	4395.0	4549.8	4821.5	5179.5	5585.9	6071.3	6492.6	6546.3	6188.2
77.5°	2260.7	2315.4	2474.4	2682.9	3070.4	3544.2	4033.9	4587.7	4945.8	5066.9	4808.9
80°	569.7	599.1	676.0	798.1	1060.3	1442.6	1864.7	2460.8	2905.1	3093.6	2905.1
82.5°	221.2	243.3	264.3	279.1	304.3	356.9	492.8	803.4	1082.5	1333.0	1154.0
85°	85.3	90.5	130.5	148.4	148.4	163.2	187.4	221.2	273.7	299.0	250.6
87.5°	33.7	36.8	45.3	69.5	71.6	63.2	67.4	75.8	57.9	48.4	54.7
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°	1216.2	1216.2	1216.2	1216.2	1216.2	1216.2	1216.2	1216.2
2.5°	1210.9	1209.8	1207.7	1208.8	1207.7	1207.7	1207.7	1207.7
5°	1209.8	1209.8	1207.7	1207.7	1207.7	1208.8	1207.7	1207.7
7.5°	1208.8	1207.7	1205.6	1204.6	1204.6	1203.5	1203.5	1203.5
10°	1206.7	1204.6	1202.5	1201.5	1201.5	1199.3	1199.3	1199.3
12.5°	1212.0	1208.8	1206.7	1205.6	1205.6	1205.6	1206.7	1206.7
15°	1226.7	1220.4	1217.2	1216.2	1217.2	1219.4	1220.4	1221.4
17.5°	1242.5	1236.1	1230.9	1228.8	1229.9	1233.0	1236.1	1238.3
20°	1262.5	1257.2	1250.9	1248.8	1248.8	1253.0	1255.2	1258.3
22.5°	1291.0	1286.7	1281.5	1278.3	1276.2	1281.5	1284.6	1286.7
25°	1336.2	1332.0	1327.8	1324.6	1323.6	1328.8	1331.0	1332.0
27.5°	1396.2	1392.0	1389.9	1388.9	1385.7	1387.8	1390.9	1389.9
30°	1474.2	1477.3	1474.2	1474.2	1468.9	1471.0	1468.9	1466.8
32.5°	1578.4	1575.2	1565.7	1559.4	1552.0	1552.0	1548.8	1545.8
35°	1682.7	1672.1	1666.8	1670.0	1666.8	1668.9	1663.6	1658.4
37.5°	1805.8	1799.5	1798.4	1808.0	1805.8	1808.0	1808.0	1800.6
40°	1969.1	1964.8	1972.1	1988.0	1994.3	1993.2	1995.4	1985.9
42.5°	2156.5	2149.1	2152.3	2165.9	2173.3	2175.4	2174.4	2165.9
45°	2343.9	2346.0	2346.0	2360.8	2368.1	2372.3	2365.0	2361.8
47.5°	2555.5	2558.7	2551.3	2560.8	2562.9	2570.3	2563.9	2558.7
50°	2799.8	2788.3	2771.4	2774.5	2774.5	2772.4	2765.0	2758.8
52.5°	3072.5	3046.2	3014.6	3004.1	2992.5	2980.9	2966.1	2954.6
55°	3383.1	3337.9	3281.0	3254.7	3232.6	3206.2	3172.6	3161.0
57.5°	3743.3	3665.3	3589.5	3542.2	3485.3	3450.5	3407.3	3405.3
60°	4170.8	4065.5	3931.7	3861.2	3804.4	3763.2	3730.6	3718.0
62.5°	4664.6	4483.5	4339.3	4263.5	4197.1	4171.8	4130.8	4136.0
65°	5171.1	4986.8	4846.7	4785.7	4723.6	4706.7	4668.8	4682.5
67.5°	5719.6	5568.0	5414.3	5357.4	5300.6	5283.7	5244.8	5256.3
70°	6211.4	6018.7	5843.9	5732.3	5635.4	5557.5	5508.0	5488.0
72.5°	6309.4	5975.6	5700.7	5421.6	5260.5	5119.5	5061.6	5039.5
75°	5669.1	5151.1	4759.4	4431.9	4250.8	4045.5	4023.4	3992.8
77.5°	4409.7	3820.1	3346.3	2925.1	2681.9	2431.2	2344.9	2279.6
80°	2630.3	2021.7	1566.8	1098.2	896.1	721.3	678.1	632.8
82.5°	941.3	603.3	406.4	316.9	283.3	261.2	244.3	222.2
85°	227.4	191.6	181.1	164.3	162.1	137.9	97.9	87.4
87.5°	72.6	66.3	67.4	64.2	67.4	50.5	41.0	36.8
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)