

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: P270400

Luminaire Tested: **NAV-AF-02-D-UNV-T4W-7027-1200**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P270400  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24127)  
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-T4W-7027-1200  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(2) 70 CRI, 2700K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV WIDE OPTICS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 11471.6 lumens  
Efficiency: N/A  
Efficacy: 88.9 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')  
IES Classification: Type IV - Short - Semi-Cutoff  
BUG Rating: B2 - U0 - G2

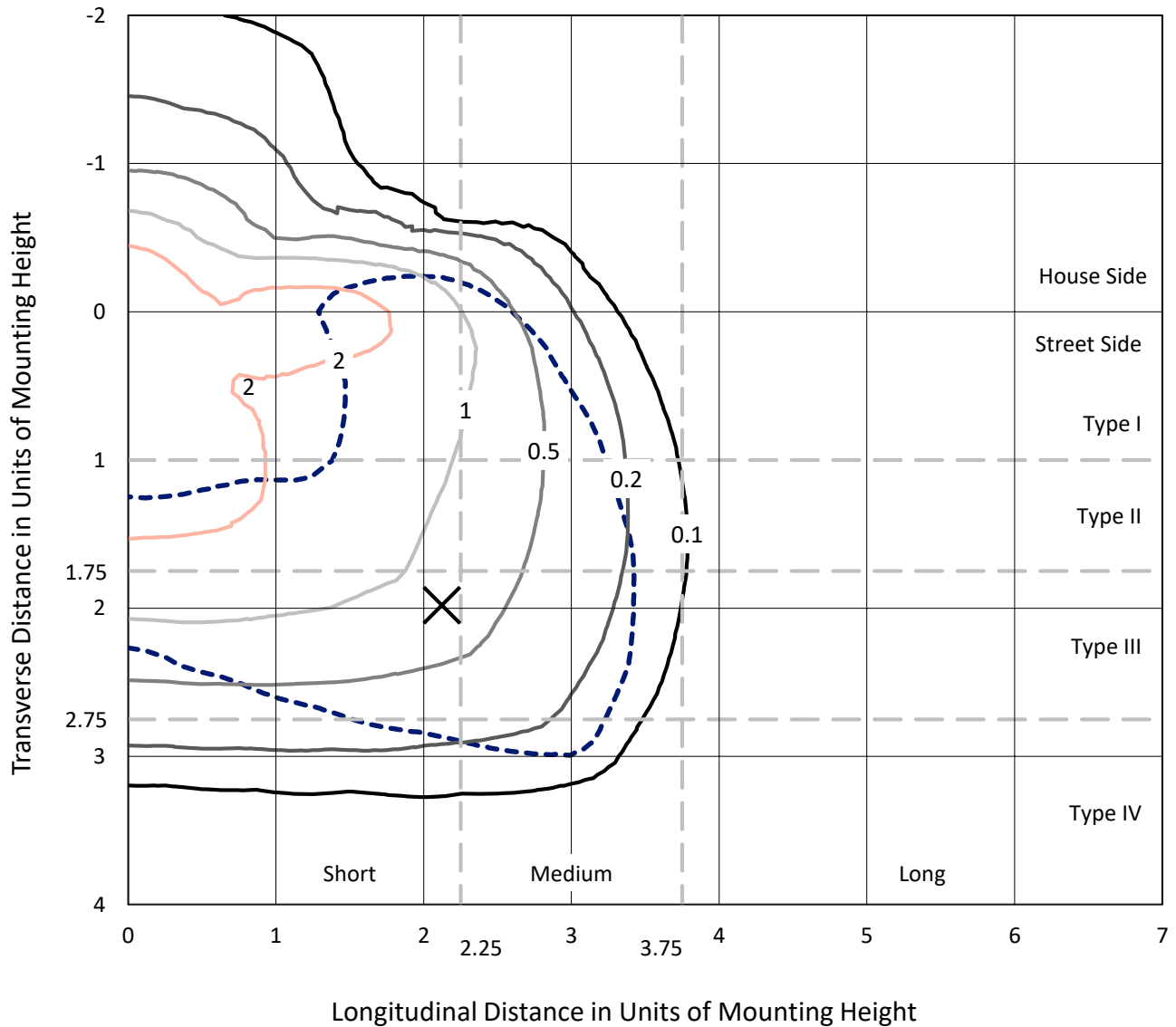
Input Watts (W): 129  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

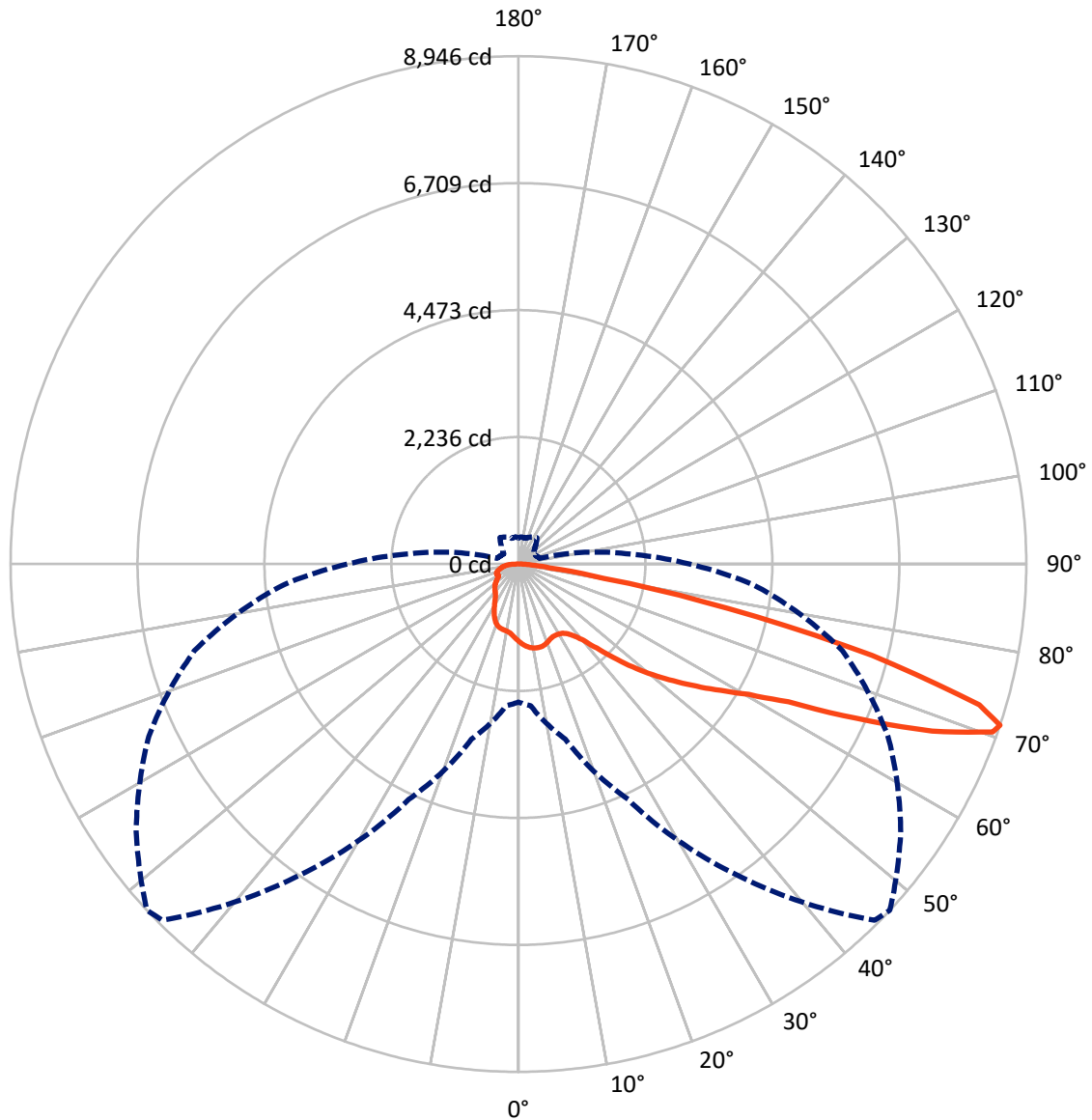
✕ Max cd  
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 3.9 fc  
 Type IV - Short - Semi-Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 47-Deg Lateral      - - - Horizontal Cone Through 71-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	2458.5	0.0	2458.5
	% Fixture	21.4	0.0	21.4
<b>Street Side</b>	Lumens	9013.1	0.0	9013.1
	% Fixture	78.6	0.0	78.6
<b>Total</b>	Lumens	11471.6	0.0	11471.6
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	130.3	1.1
10°-20°	381.1	3.3
20°-30°	566.2	4.9
30°-40°	813.0	7.1
40°-50°	1441.5	12.6
50°-60°	2466.7	21.5
60°-70°	3501.8	30.5
70°-80°	1917.9	16.7
80°-90°	253.2	2.2
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°	11471.6	100.0
0°-180°	11471.6	100.0



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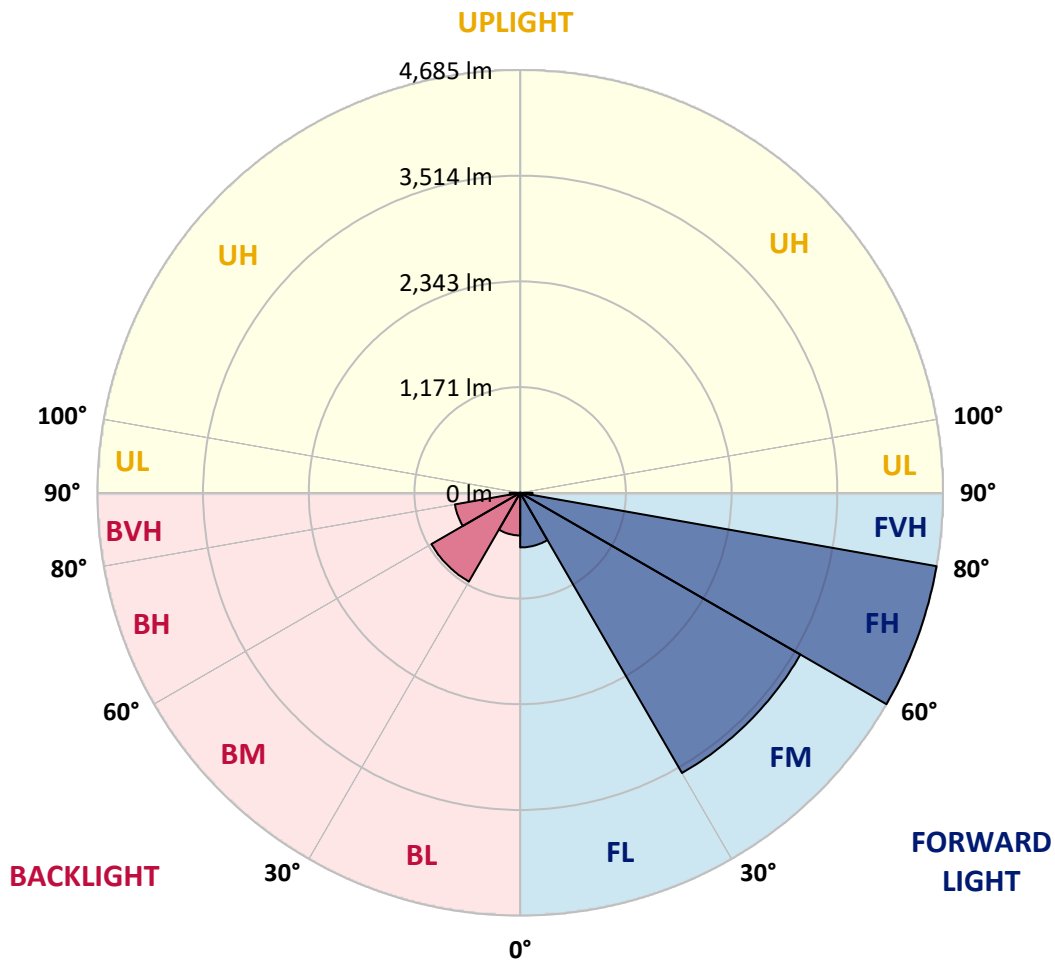
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	605.4	5.3			
FM	(30°-60°)	3585.2	31.3			
FH	(60°-80°)	4685.1	40.8			G2/5000
FVH	(80°-90°)	137.3	1.2			G2/225
BL	(0°-30°)	472.1	4.1	B1/500		
BM	(30°-60°)	1136.0	9.9	B2/2500		
BH	(60°-80°)	734.6	6.4	B2/1000		G2/1000
BVH	(80°-90°)	115.8	1.0			G2/225
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B2-U0-G2**

Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	47°	55°	65°	75°	85°
0°	1364.2	1364.2	1364.2	1364.2	1364.2	1364.2	1364.2	1364.2	1364.2	1364.2	1364.2
2.5°	1447.3	1444.5	1445.9	1440.7	1428.0	1414.7	1414.7	1400.5	1385.7	1370.9	1354.6
5°	1537.4	1532.9	1529.3	1512.8	1488.3	1460.9	1456.3	1428.0	1397.7	1367.1	1337.3
7.5°	1612.5	1608.0	1596.8	1567.2	1531.4	1490.6	1485.3	1448.2	1408.1	1365.7	1324.0
10°	1665.9	1663.0	1641.5	1603.6	1562.0	1513.6	1504.8	1466.8	1419.1	1366.4	1313.6
12.5°	1695.7	1691.2	1665.3	1620.6	1571.6	1522.4	1513.6	1477.2	1422.8	1365.0	1303.3
15°	1683.9	1681.5	1657.1	1611.6	1562.6	1520.3	1512.8	1475.6	1420.7	1359.8	1293.5
17.5°	1633.3	1638.5	1619.1	1574.5	1534.5	1504.8	1496.4	1461.5	1409.5	1347.1	1278.6
20°	1563.4	1569.3	1559.6	1514.4	1491.2	1472.0	1467.6	1439.3	1390.9	1328.5	1260.9
22.5°	1489.0	1494.3	1495.0	1452.6	1445.3	1437.7	1434.1	1413.9	1374.5	1317.4	1249.0
25°	1437.7	1443.7	1445.3	1408.1	1412.5	1414.7	1413.9	1399.9	1371.6	1317.4	1250.4
27.5°	1424.4	1427.3	1425.9	1391.7	1399.9	1412.5	1413.3	1410.2	1383.5	1332.1	1271.2
30°	1470.4	1472.0	1453.4	1402.1	1410.2	1426.6	1427.3	1425.9	1408.7	1370.9	1318.1
32.5°	1669.7	1668.2	1604.4	1472.0	1443.7	1449.7	1451.9	1465.2	1466.8	1434.9	1385.7
35°	1972.9	1972.3	1897.8	1671.9	1538.8	1507.6	1510.6	1531.4	1550.0	1528.5	1500.2
37.5°	2306.8	2309.1	2263.6	1957.3	1744.0	1614.0	1611.0	1626.7	1660.1	1667.4	1671.1
40°	2676.9	2688.2	2685.9	2285.3	2031.7	1795.4	1765.6	1747.7	1812.4	1853.4	1906.2
42.5°	3100.1	3097.0	3098.6	2645.1	2360.3	2080.8	2025.8	1942.6	2017.7	2088.2	2204.3
45°	3463.5	3475.5	3484.3	3027.8	2728.3	2407.2	2351.5	2199.8	2267.4	2373.0	2549.8
47.5°	3829.4	3808.5	3824.9	3454.0	3137.9	2779.6	2707.5	2503.0	2566.3	2714.9	2984.1
50°	4255.4	4245.6	4171.3	4009.9	3633.0	3157.3	3062.9	2819.8	2911.9	3110.4	3520.1
52.5°	4637.4	4585.4	4527.4	4447.1	4119.9	3539.4	3419.7	3149.1	3318.6	3564.7	4185.5
55°	4777.1	4742.2	4812.1	4916.2	4635.2	3928.9	3795.1	3533.5	3777.3	4084.4	4968.3
57.5°	4925.9	4937.8	5095.4	5305.7	5122.9	4344.6	4199.5	3988.5	4280.6	4665.6	5843.2
60°	5000.1	5047.8	5362.3	5757.0	5586.6	4800.3	4661.1	4511.0	4838.9	5307.9	6716.0
62.5°	5012.8	5076.7	5522.2	5915.2	6225.3	5498.3	5337.6	5174.9	5536.2	6017.9	7347.9
65°	4780.9	4879.1	5508.0	6110.1	6807.4	6664.6	6562.8	6278.9	6470.0	6643.1	7455.7
67.5°	4099.1	4206.3	4963.0	6029.9	7274.2	7874.9	7855.6	7436.3	7191.0	6884.7	6656.5
70°	3008.7	3094.8	3821.8	5154.8	7070.6	8824.9	8859.3	8186.4	7392.5	6371.8	4949.7
71°	2433.1	2507.4	3192.9	4576.4	6673.6	8874.0	8945.5	8219.9	7182.8	5908.6	4143.8
72.5°	1514.4	1556.0	2120.2	3454.0	5746.5	8368.6	8489.1	7791.7	6522.8	4994.2	2929.1
75°	571.7	588.0	786.6	1523.3	3430.1	6287.1	6432.8	5888.6	4582.3	2851.0	1225.8
77.5°	307.0	315.2	390.4	633.3	1374.5	3604.1	3791.3	3358.8	2198.2	997.7	501.1
80°	205.9	211.1	269.9	375.4	631.9	1372.3	1528.5	1348.5	822.9	569.4	356.8
82.5°	133.0	136.1	183.7	246.9	408.1	482.5	550.9	575.5	513.7	408.1	215.7
85°	87.8	90.0	121.2	157.7	252.8	238.0	243.8	318.9	350.2	269.1	110.0
87.5°	50.6	52.0	72.9	81.0	113.7	89.2	96.7	151.6	208.1	175.4	63.2
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°	1364.2	1364.2	1364.2	1364.2	1364.2	1364.2	1364.2	1364.2	1364.2	1364.2	1364.2
2.5°	1347.1	1341.1	1327.8	1319.6	1315.8	1314.4	1312.9	1315.8	1315.8	1314.4	1311.3
5°	1322.6	1311.3	1289.1	1273.4	1265.4	1263.0	1266.0	1269.8	1272.0	1272.0	1269.8
7.5°	1304.7	1288.3	1258.5	1237.1	1224.4	1220.6	1228.8	1242.3	1251.2	1255.7	1256.4
10°	1289.8	1267.5	1234.8	1212.5	1202.1	1200.7	1211.0	1228.2	1246.7	1254.9	1256.4
12.5°	1276.4	1251.2	1215.4	1194.7	1187.2	1191.0	1205.0	1220.6	1242.3	1254.2	1254.9
15°	1263.7	1237.8	1199.9	1178.2	1176.8	1182.8	1196.2	1208.8	1225.2	1240.0	1240.0
17.5°	1249.0	1220.6	1181.4	1161.1	1161.1	1166.4	1175.3	1182.0	1192.4	1206.6	1205.9
20°	1231.0	1202.1	1162.0	1141.1	1136.6	1133.8	1133.8	1135.2	1144.1	1156.7	1159.0
22.5°	1217.7	1188.0	1145.6	1120.4	1100.2	1080.9	1072.8	1069.8	1078.0	1089.9	1092.8
25°	1217.7	1188.0	1140.4	1098.0	1049.0	1011.9	996.2	991.6	1000.0	1011.0	1015.5
27.5°	1237.8	1208.0	1152.3	1078.0	988.0	928.5	910.0	906.2	913.7	922.6	927.1
30°	1284.7	1255.7	1186.5	1054.9	920.4	842.3	821.5	817.7	821.5	825.3	830.5
32.5°	1362.6	1338.1	1242.3	1034.0	852.0	764.2	738.9	732.9	734.5	735.3	739.8
35°	1489.7	1478.6	1316.6	1009.5	787.3	700.3	674.3	662.4	661.6	665.4	670.6
37.5°	1684.6	1691.2	1412.5	973.9	733.7	655.0	629.0	617.0	611.0	618.6	624.4
40°	1959.7	1975.3	1523.3	925.6	689.9	628.2	600.6	589.5	581.4	579.0	582.1
42.5°	2317.2	2312.7	1636.3	863.8	642.3	610.4	581.4	569.4	556.1	539.0	535.3
45°	2741.0	2676.9	1730.7	788.1	588.0	593.2	563.4	547.2	526.3	501.1	498.1
47.5°	3241.3	3065.0	1788.6	707.0	537.5	571.0	543.5	518.1	487.7	471.3	469.0
50°	3844.1	3519.3	1829.6	624.4	492.1	542.7	515.2	481.8	451.9	447.5	446.7
52.5°	4557.9	4055.3	1880.2	550.1	456.5	506.3	486.9	452.7	428.9	431.1	431.1
55°	5316.9	4609.9	1881.6	491.5	425.3	463.9	466.1	438.6	420.0	427.5	429.7
57.5°	6009.0	5094.6	1733.5	449.8	395.6	430.5	459.5	443.9	429.7	455.7	458.0
60°	6612.7	5467.9	1415.5	415.6	371.0	417.8	474.2	475.8	472.8	543.5	548.7
62.5°	6833.4	5471.4	1005.2	386.6	357.5	425.3	505.6	507.7	507.7	573.2	582.8
65°	6524.2	5015.7	669.1	369.5	348.6	441.5	530.8	521.1	498.1	543.5	533.1
67.5°	5434.3	3904.5	489.1	358.3	336.1	442.3	553.0	528.6	489.1	527.8	510.0
70°	3735.0	2484.5	409.5	348.0	321.1	423.0	565.0	526.3	475.8	492.1	468.3
71°	3006.4	1982.6	388.7	344.2	315.2	411.9	566.6	523.4	469.0	479.4	458.0
72.5°	1980.5	1221.4	363.5	336.1	306.3	392.5	562.8	516.6	460.2	460.9	446.7
75°	781.3	506.3	327.2	317.5	281.0	361.3	546.3	502.5	443.0	428.2	422.3
77.5°	394.7	330.8	287.6	291.4	251.3	329.3	523.4	479.4	419.2	399.1	394.7
80°	288.4	251.3	246.0	252.8	217.7	298.1	494.3	448.3	388.7	409.5	400.7
82.5°	175.4	153.2	192.5	208.9	182.1	266.2	460.2	411.9	350.2	322.6	312.3
85°	83.3	90.0	139.0	153.9	134.6	212.5	420.8	371.7	305.6	263.9	268.4
87.5°	41.0	49.8	79.5	92.2	88.5	156.1	317.5	288.4	240.8	198.4	194.0
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)