

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: P197048

Luminaire Tested: **NAV-AF-02-D-UNV-SL2-8030-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P197048
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24257)
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-SL2-8030-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 80 CRI, 3000K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II SPILL
LIGHT ELIMINATOR OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7873 lumens
Efficiency: N/A
Efficacy: 92.6 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type II - Medium - Semi-Cutoff
BUG Rating: B1 - U0 - G2

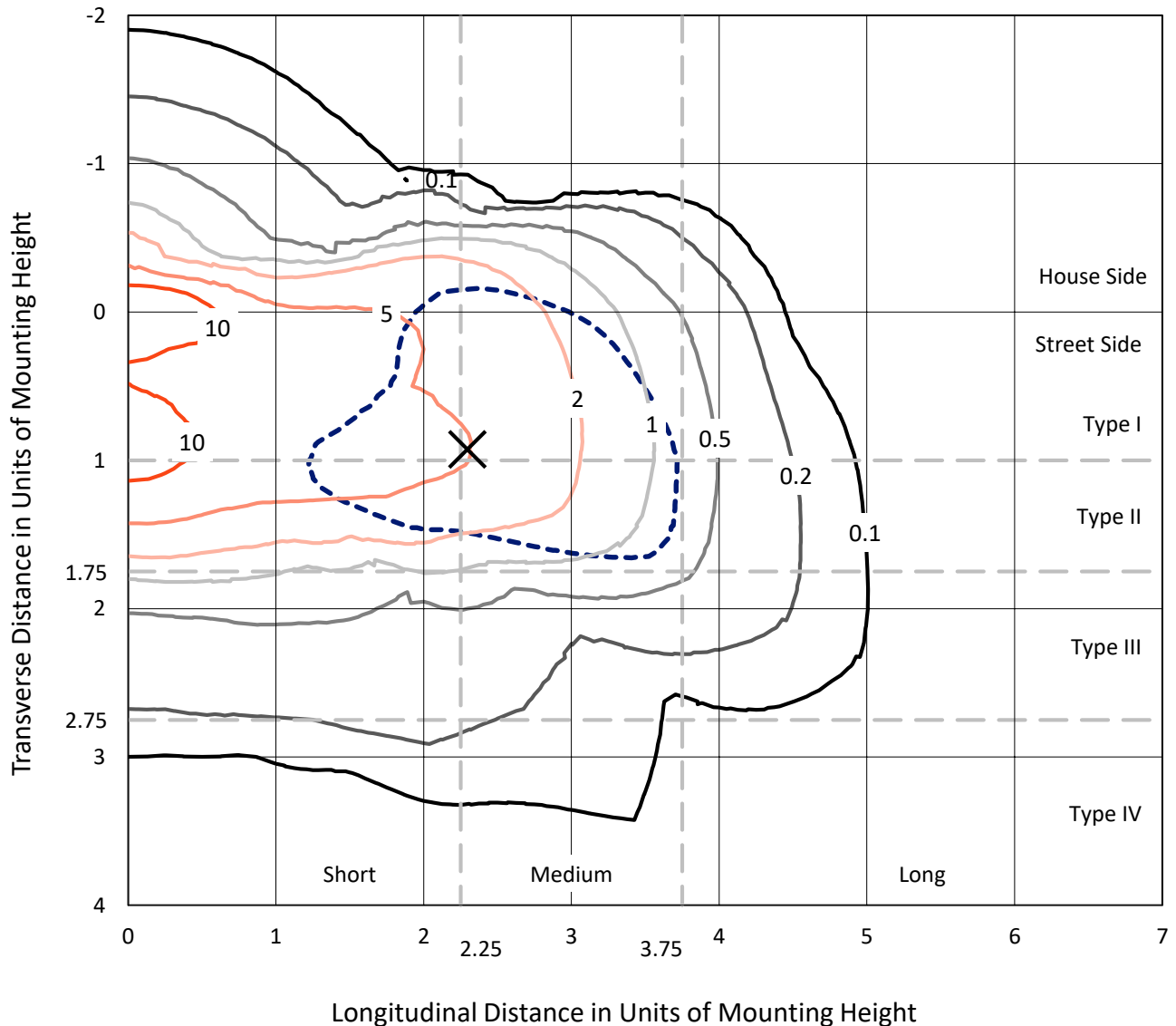
Input Watts (W): 85
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

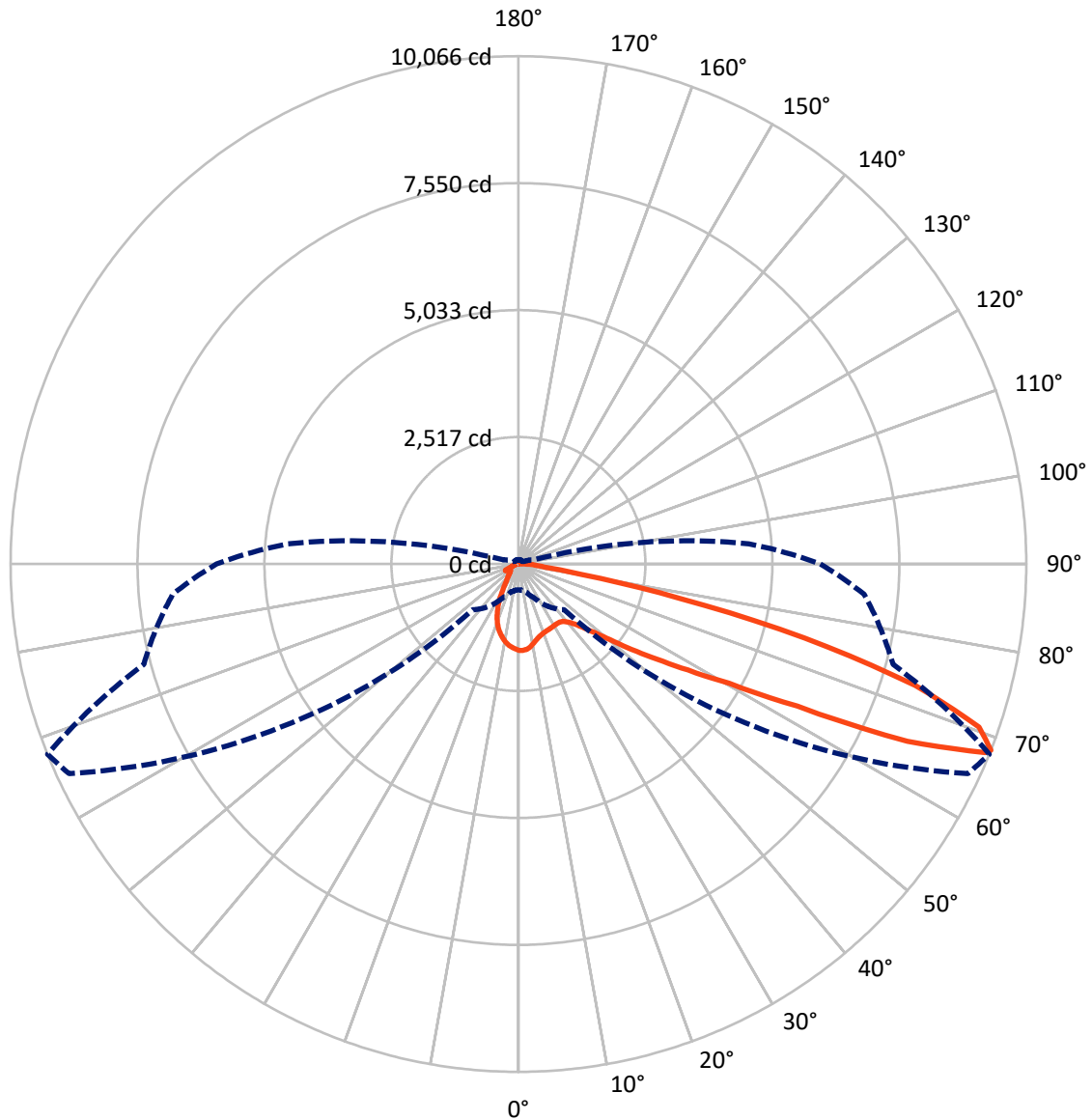
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 17.1 fc
 Type II - Medium - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 68-Deg Lateral - - - Horizontal Cone Through 68-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1288.0	0.0	1288.0
	% Fixture	16.4	0.0	16.4
Street Side	Lumens	6585.0	0.0	6585.0
	% Fixture	83.6	0.0	83.6
Total	Lumens	7873.0	0.0	7873.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	146.8	1.9
10°-20°	340.4	4.3
20°-30°	460.4	5.8
30°-40°	649.2	8.2
40°-50°	1067.5	13.6
50°-60°	1654.8	21.0
60°-70°	2145.5	27.3
70°-80°	1231.2	15.6
80°-90°	177.1	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°	7873.0	100.0
0°-180°	7873.0	100.0

Coefficient of Utilization



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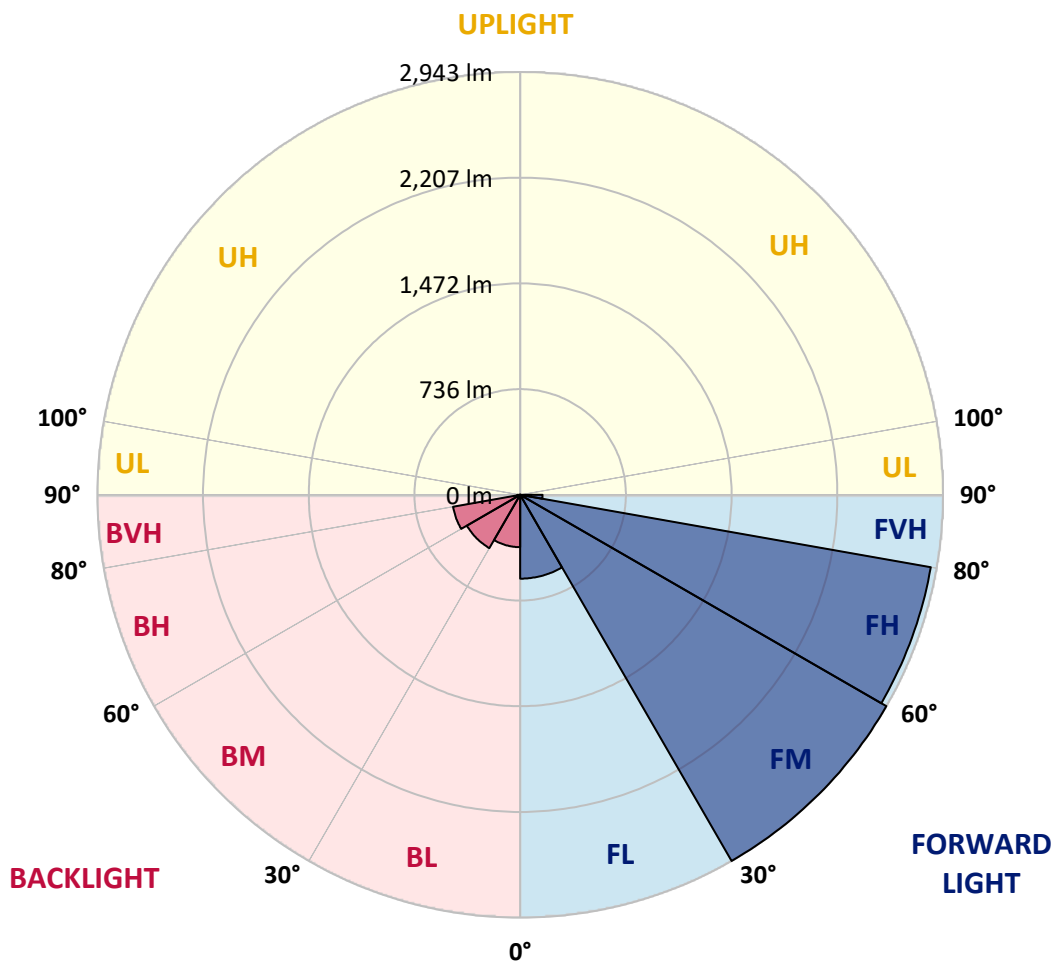
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	583.5	7.4			
FM (30°-60°)	2943.1	37.4			
FH (60°-80°)	2902.3	36.9			G2/5000
FVH (80°-90°)	156.0	2.0			G2/225
BL (0°-30°)	364.1	4.6	B1/500		
BM (30°-60°)	428.4	5.4	B1/1000		
BH (60°-80°)	474.4	6.0	B1/500		G1/500
BVH (80°-90°)	21.1	0.3			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 II Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	68°	75°	85°
0°	1713.1	1713.1	1713.1	1713.1	1713.1	1713.1	1713.1	1713.1	1713.1	1713.1	1713.1
2.5°	1667.3	1680.7	1680.7	1690.5	1699.2	1706.4	1712.6	1712.6	1712.6	1708.5	1704.9
5°	1492.0	1510.0	1512.5	1537.2	1569.6	1609.2	1653.4	1692.5	1700.2	1714.6	1720.3
7.5°	1370.1	1375.7	1385.5	1402.5	1435.4	1484.2	1553.7	1641.1	1662.2	1707.4	1731.1
10°	1283.7	1288.3	1296.5	1313.5	1343.3	1387.6	1456.0	1569.6	1604.6	1684.8	1731.6
12.5°	1220.4	1224.0	1231.7	1247.1	1277.5	1317.1	1387.0	1505.3	1548.5	1662.2	1738.8
15°	1171.0	1177.2	1183.4	1198.3	1229.1	1267.2	1338.2	1458.5	1505.3	1644.2	1752.2
17.5°	1151.5	1154.6	1155.6	1163.3	1191.1	1229.7	1300.6	1425.6	1474.0	1629.8	1762.5
20°	1163.8	1164.3	1154.1	1148.9	1164.9	1200.3	1269.3	1400.9	1450.3	1616.9	1766.6
22.5°	1217.8	1217.8	1191.1	1168.5	1157.7	1179.8	1248.2	1384.0	1437.4	1607.2	1766.6
25°	1320.7	1316.1	1274.4	1229.7	1181.8	1172.6	1234.8	1373.1	1427.7	1602.0	1759.9
27.5°	1456.0	1451.8	1398.9	1332.5	1246.1	1188.0	1230.2	1364.4	1417.9	1594.3	1745.5
30°	1620.5	1616.9	1556.8	1469.8	1342.3	1236.9	1241.0	1358.2	1410.2	1581.4	1721.3
32.5°	1784.6	1782.5	1734.7	1645.7	1475.0	1319.7	1269.3	1357.2	1406.1	1566.0	1692.0
35°	1949.7	1949.7	1920.4	1845.3	1653.4	1444.1	1328.4	1376.2	1413.8	1557.8	1666.8
37.5°	2193.4	2183.7	2129.2	2051.5	1878.2	1605.6	1424.1	1416.4	1443.6	1571.7	1658.6
40°	2570.9	2542.6	2406.4	2275.7	2123.5	1812.4	1564.0	1494.0	1510.5	1619.0	1678.1
42.5°	2965.9	2921.2	2740.6	2531.8	2377.0	2067.4	1747.6	1620.0	1619.5	1710.5	1740.4
45°	3304.8	3281.7	3086.2	2821.4	2666.6	2354.4	1979.5	1807.2	1788.7	1852.5	1860.2
47.5°	3501.8	3486.4	3368.6	3127.9	3010.1	2693.3	2273.7	2066.9	2032.0	2070.0	2058.2
50°	3447.3	3462.2	3428.2	3305.3	3379.4	3169.6	2648.6	2422.8	2356.5	2394.5	2365.7
52.5°	3160.3	3200.4	3230.8	3254.4	3591.8	3806.8	3119.7	2867.2	2812.1	2805.4	2777.7
55°	2643.4	2707.2	2802.9	2976.7	3534.7	4318.5	3942.5	3404.6	3324.4	3282.2	3293.0
57.5°	1799.0	1895.7	2101.9	2432.6	3238.0	4536.5	5159.3	4098.9	3963.1	3812.9	3847.9
60°	991.0	1071.8	1317.1	1650.4	2560.6	4504.1	6237.8	5227.2	4799.9	4401.8	4473.8
62.5°	641.3	658.8	841.4	1127.3	1571.7	3976.5	6836.9	7113.1	6207.5	5178.4	5279.7
65°	515.3	527.7	617.1	909.3	1094.9	2558.1	6863.7	9069.5	8472.4	6233.7	6236.8
67.5°	503.5	509.1	561.1	764.7	1027.0	1392.7	5932.8	9840.9	9979.3	7479.3	6877.1
68°	510.7	517.4	569.8	741.1	1026.5	1283.7	5483.3	9829.1	10066.2	7687.6	6877.1
70°	450.5	458.7	581.1	766.8	982.8	1103.7	3754.8	9307.1	9688.7	8166.4	6525.3
72.5°	235.5	228.9	287.5	605.3	1106.2	1149.9	1983.6	7775.5	8220.9	7563.1	5637.6
75°	183.6	167.1	161.0	239.1	973.0	1192.6	1152.0	5526.5	5862.9	5452.0	3768.2
77.5°	172.8	152.7	140.9	141.4	428.4	1241.0	931.9	3252.4	3252.4	2600.8	1202.4
80°	138.9	120.3	112.6	128.6	206.7	1143.8	972.5	1482.2	1264.1	672.2	331.2
82.5°	91.5	81.8	82.3	104.4	156.9	763.7	1126.3	731.8	549.8	297.8	194.9
85°	58.1	49.9	55.5	73.0	117.3	340.5	1115.0	508.6	364.1	167.1	97.2
87.5°	29.3	22.6	27.8	38.1	71.5	97.7	918.0	454.1	270.0	69.4	53.0
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°	1713.1	1713.1	1713.1	1713.1	1713.1	1713.1	1713.1	1713.1	1713.1	1713.1	1713.1
2.5°	1704.9	1693.6	1687.9	1678.6	1667.3	1656.0	1648.3	1644.7	1642.6	1643.7	1643.2
5°	1717.2	1702.3	1678.1	1643.7	1608.2	1570.6	1541.8	1519.7	1505.8	1501.7	1500.7
7.5°	1726.5	1704.9	1659.6	1596.9	1536.2	1470.4	1414.3	1369.5	1339.2	1325.3	1324.8
10°	1724.9	1697.2	1625.7	1533.1	1444.1	1347.4	1259.5	1184.4	1129.9	1103.7	1102.6
12.5°	1726.5	1688.4	1584.0	1458.5	1331.0	1192.6	1062.0	945.3	864.0	825.4	823.9
15°	1732.6	1679.2	1541.3	1375.2	1198.8	1003.4	816.7	670.1	596.1	570.9	570.9
17.5°	1732.1	1663.7	1492.0	1278.5	1041.9	780.2	557.5	467.0	459.8	482.9	486.5
20°	1721.8	1639.0	1428.2	1163.8	857.8	540.0	378.0	365.1	422.7	486.5	493.7
22.5°	1705.9	1607.2	1354.6	1030.6	643.4	351.8	291.6	311.1	389.3	468.5	479.8
25°	1683.8	1568.6	1270.3	875.8	427.9	253.0	243.3	267.4	322.5	375.4	383.7
27.5°	1651.4	1519.7	1178.2	708.2	273.1	208.3	211.9	228.9	252.5	275.1	279.8
30°	1610.8	1462.6	1077.9	522.5	207.3	186.2	192.3	202.6	212.9	227.3	230.4
32.5°	1569.6	1404.5	973.5	359.0	181.0	174.3	180.5	186.2	194.9	204.7	206.7
35°	1532.6	1350.5	866.1	250.5	169.7	166.6	169.7	173.3	182.1	191.8	192.9
37.5°	1505.8	1306.3	753.9	198.0	163.0	159.9	161.5	163.0	173.3	187.7	189.3
40°	1502.2	1277.0	640.3	177.9	157.9	153.8	152.7	153.8	167.1	183.6	185.1
42.5°	1537.2	1278.5	529.2	169.7	153.8	149.1	145.0	147.1	158.9	171.8	172.8
45°	1620.0	1314.5	433.0	166.1	150.2	146.6	140.4	141.4	147.1	153.8	154.8
47.5°	1766.1	1393.2	359.5	164.1	147.1	144.0	136.3	133.2	133.7	137.3	137.3
50°	1999.6	1524.9	314.7	162.0	144.5	138.9	130.1	123.9	122.4	124.5	125.0
52.5°	2347.7	1750.6	293.1	157.9	139.9	132.2	122.4	116.2	113.7	115.7	115.7
55°	2818.3	2111.2	282.9	152.2	134.2	123.9	115.2	110.1	108.0	109.5	109.5
57.5°	3354.7	2579.7	300.3	144.5	127.0	115.2	109.0	105.4	103.9	105.4	105.9
60°	3991.9	3192.7	420.7	134.7	119.3	107.5	103.9	101.8	100.8	102.3	102.3
62.5°	4838.9	4008.4	651.1	127.0	111.1	100.3	99.3	98.2	97.2	98.7	98.7
65°	5753.3	4750.5	670.1	122.4	103.9	94.1	94.6	94.6	93.6	95.1	95.1
67.5°	6044.4	4686.2	374.4	116.7	95.1	87.9	90.0	90.0	89.5	91.0	90.5
68°	5982.7	4584.4	326.1	115.2	93.6	86.4	88.5	89.0	88.5	90.0	89.5
70°	5522.9	4024.8	214.5	106.5	86.9	81.3	84.3	84.9	84.3	86.4	85.9
72.5°	4559.2	3018.9	158.4	93.1	78.7	74.6	77.7	78.2	78.7	80.7	80.2
75°	2895.4	1667.3	125.0	79.2	70.5	66.9	69.9	71.5	72.5	75.6	74.1
77.5°	793.0	506.1	101.3	67.4	60.7	59.1	61.2	63.3	64.3	67.9	65.3
80°	277.7	223.7	84.3	57.1	50.4	49.9	51.9	54.0	55.0	58.1	55.0
82.5°	168.7	146.1	67.4	44.7	39.6	39.1	41.7	43.7	44.7	44.7	42.7
85°	87.9	77.1	49.4	31.4	27.3	25.7	30.3	32.9	33.4	32.9	31.4
87.5°	49.4	43.7	26.2	14.9	12.3	12.9	15.9	19.5	21.1	20.6	19.5
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)