

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: P196838

Luminaire Tested: **NAV-AF-02-D-UNV-T4FT-7030**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P196838  
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-7030  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(2) 70 CRI, 3000K, 1050mA 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: 11874.3 lumens  
Efficiency: N/A  
Efficacy: 105.1 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')  
IES Classification: Type IV - Short - Non-Cutoff  
BUG Rating: B2 - U0 - G2

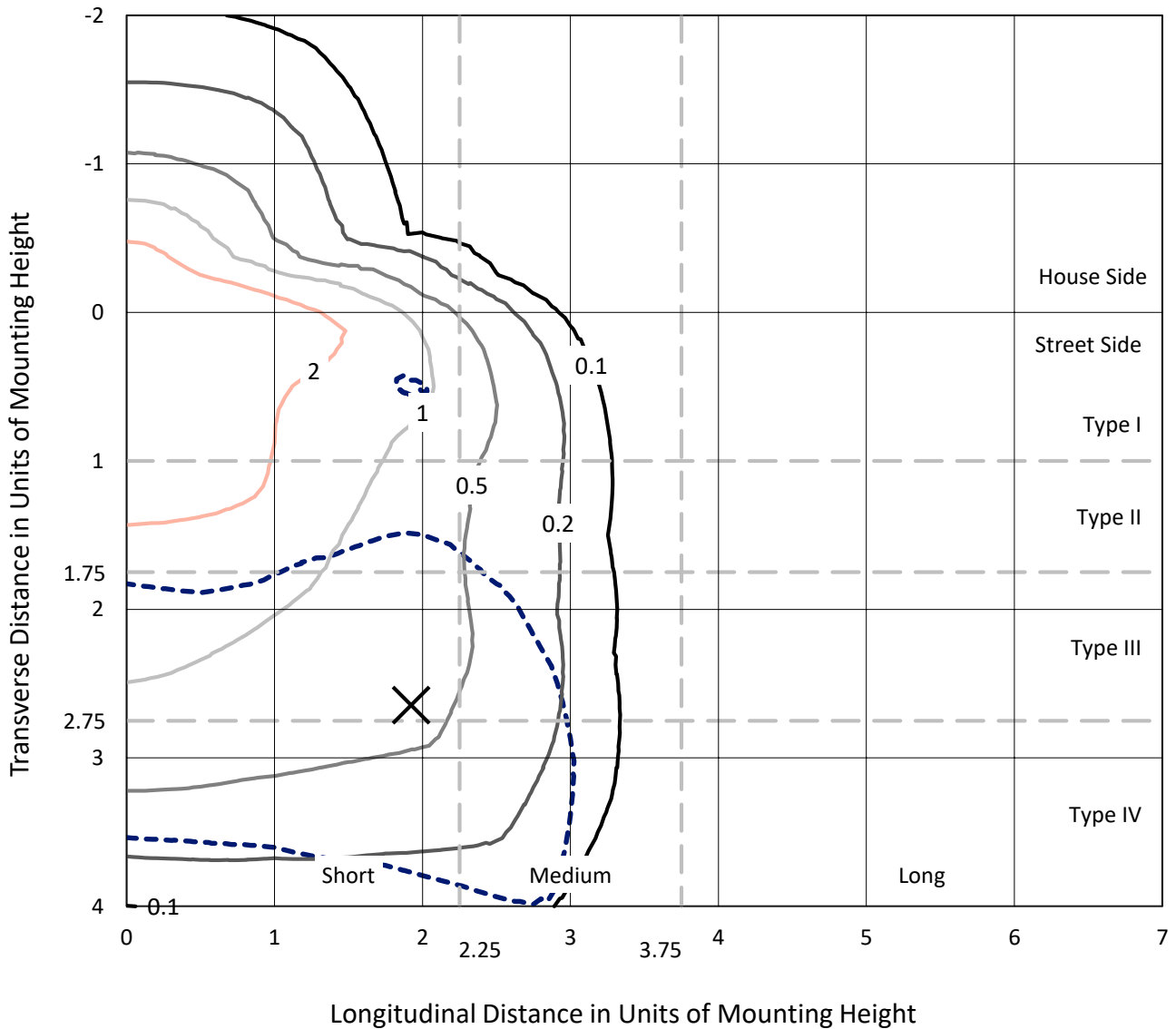
Input Watts (W): 113  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

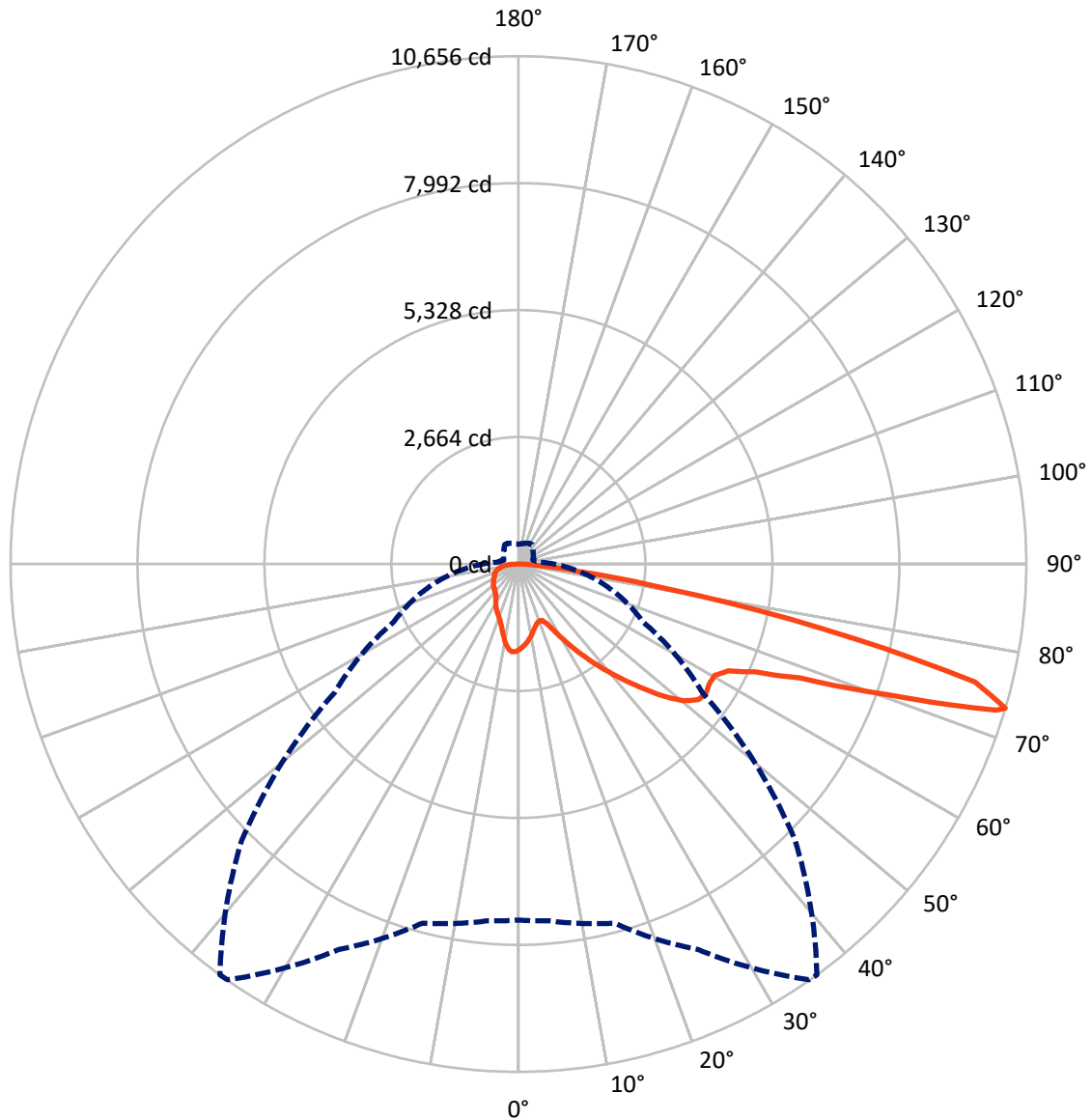
× Max cd  
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 4.5 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
<b>House Side</b>	Lumens	2289.7	0.0	2289.7
	% Fixture	19.3	0.0	19.3
<b>Street Side</b>	Lumens	9584.6	0.0	9584.6
	% Fixture	80.7	0.0	80.7
<b>Total</b>	Lumens	11874.3	0.0	11874.3
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	163.4	1.4
10°-20°	410.3	3.5
20°-30°	657.8	5.5
30°-40°	1088.1	9.2
40°-50°	1683.7	14.2
50°-60°	2253.9	19.0
60°-70°	2944.4	24.8
70°-80°	2405.0	20.3
80°-90°	267.7	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°	11874.3	100.0
0°-180°	11874.3	100.0

**Coefficient of Utilization**



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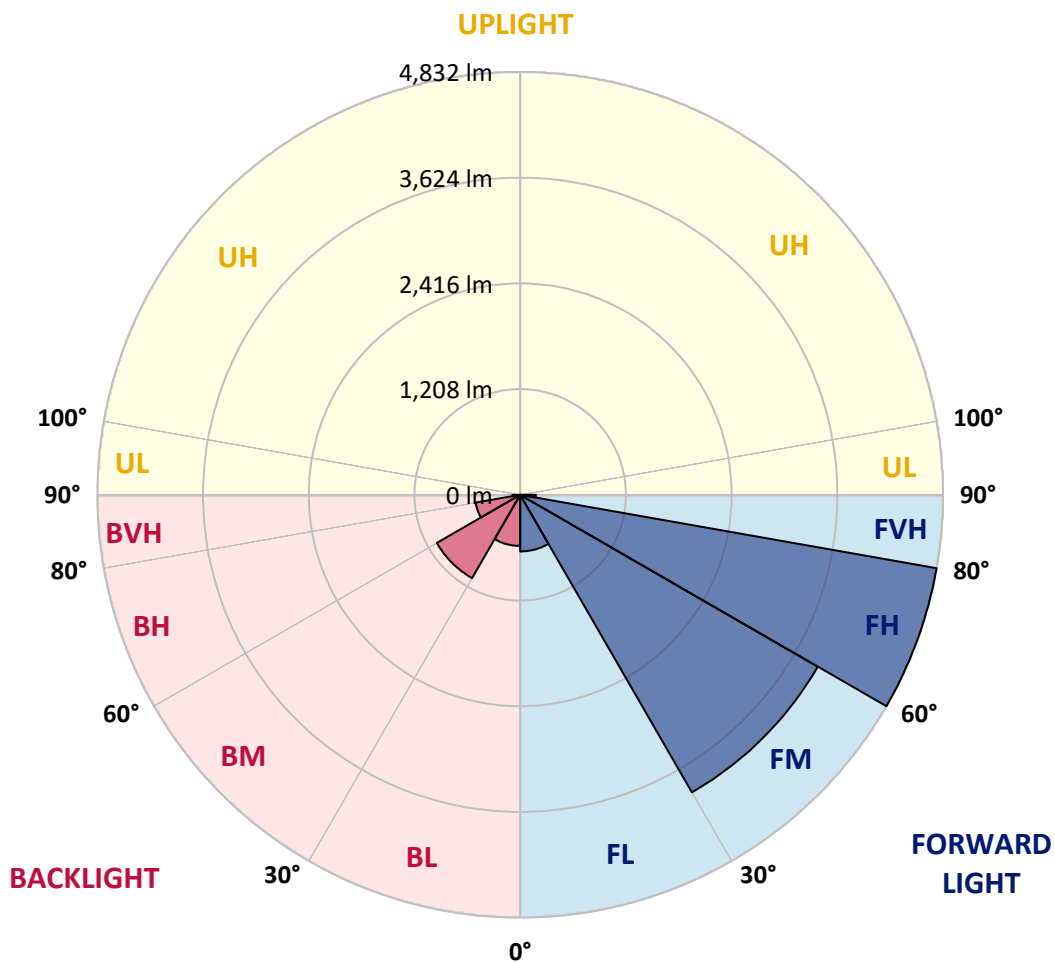
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	647.0	5.4			
FM (30°-60°)	3926.1	33.1			
FH (60°-80°)	4832.0	40.7			G2/5000
FVH (80°-90°)	179.5	1.5			G2/225
BL (0°-30°)	584.5	4.9	B2/1000		
BM (30°-60°)	1099.7	9.3	B2/2500		
BH (60°-80°)	517.4	4.4	B2/1000		G2/1000
BVH (80°-90°)	88.2	0.7			G1/100
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°	36°	45°	55°	65°	75°	85°
0°	1798.6	1798.6	1798.6	1798.6	1798.6	1798.6	1798.6	1798.6	1798.6	1798.6	1798.6
2.5°	1729.9	1734.5	1735.2	1740.5	1740.5	1739.7	1742.0	1751.1	1755.6	1766.1	1775.3
5°	1644.7	1650.1	1652.2	1661.3	1672.6	1673.5	1681.7	1699.0	1715.6	1739.0	1758.6
7.5°	1548.9	1554.9	1561.0	1579.8	1596.4	1597.9	1613.8	1641.7	1663.6	1692.2	1727.7
10°	1456.1	1457.6	1463.6	1487.8	1509.6	1511.9	1534.5	1566.2	1595.6	1635.6	1675.6
12.5°	1380.0	1384.5	1382.9	1401.0	1419.9	1421.4	1451.5	1491.5	1534.5	1579.8	1627.3
15°	1353.5	1352.7	1336.9	1336.1	1344.4	1346.0	1375.3	1422.1	1470.4	1526.3	1587.3
17.5°	1371.6	1365.5	1324.1	1298.4	1293.1	1294.6	1316.5	1367.8	1419.2	1483.3	1556.4
20°	1471.1	1447.8	1350.5	1288.6	1271.2	1271.2	1284.2	1325.6	1382.1	1456.9	1548.9
22.5°	1707.2	1671.1	1463.6	1353.5	1292.4	1286.3	1276.5	1308.3	1370.8	1460.6	1579.8
25°	2004.6	1987.2	1671.1	1526.3	1400.2	1380.6	1315.8	1327.1	1394.2	1501.3	1664.3
27.5°	2279.9	2249.7	1943.5	1777.5	1599.4	1569.3	1432.0	1386.0	1450.1	1576.8	1786.5
30°	2440.7	2420.3	2223.3	2064.9	1852.9	1814.5	1617.6	1502.1	1549.7	1701.2	1960.1
32.5°	2615.6	2603.6	2504.0	2359.9	2127.6	2083.0	1857.4	1691.5	1702.0	1866.4	2169.1
35°	2785.4	2801.3	2744.7	2639.0	2423.3	2381.9	2179.6	1939.0	1889.8	2052.1	2392.3
37.5°	2989.2	2992.9	2957.4	2888.9	2734.1	2700.3	2533.4	2203.0	2094.4	2249.7	2608.1
40°	3395.8	3336.2	3197.4	3143.1	3050.9	3029.9	2839.7	2445.2	2284.5	2452.8	2811.8
42.5°	3835.6	3742.7	3525.6	3436.5	3399.6	3379.9	3094.8	2606.6	2462.4	2655.6	3011.7
45°	4190.2	4114.8	3901.9	3791.9	3796.4	3764.7	3317.3	2750.7	2655.6	2859.4	3235.0
47.5°	4539.5	4413.5	4175.2	4159.3	4212.1	4165.3	3530.0	2894.9	2857.1	3081.2	3458.4
50°	4562.1	4447.5	4350.9	4477.7	4568.2	4510.1	3723.2	3083.4	3066.1	3349.8	3746.6
52.5°	4286.8	4270.2	4417.4	4630.9	4780.9	4728.8	3880.9	3277.3	3279.6	3685.6	4097.4
55°	4186.5	4165.3	4341.9	4604.4	4807.4	4776.4	3998.6	3496.1	3516.5	4092.9	4473.8
57.5°	4355.4	4302.6	4337.4	4554.6	4745.4	4727.4	4120.8	3739.1	3776.0	4562.1	4821.7
60°	4879.7	4771.9	4587.8	4628.6	4747.8	4737.2	4295.8	4010.0	4071.8	5051.0	5042.0
62.5°	5665.2	5542.9	5168.0	4986.9	4960.5	4940.1	4584.8	4342.6	4373.5	5404.2	4913.7
65°	6526.7	6395.5	5949.6	5653.1	5497.7	5453.9	5051.0	4744.0	4550.1	5403.4	4414.3
67.5°	7494.0	7355.2	6910.7	6627.8	6459.6	6384.9	5807.7	5068.4	4492.7	4946.1	3532.4
70°	8484.5	8352.6	8148.8	8247.7	8321.6	8207.7	6999.8	5176.2	4080.9	3877.8	2372.0
72.5°	7958.7	7948.2	8102.7	9039.8	10465.0	10487.6	8190.3	4871.6	3152.9	2304.9	1264.4
73°	7470.6	7515.1	7801.7	8922.8	10648.3	10655.8	8213.7	4713.8	2894.9	1985.7	1110.5
75°	3870.3	4172.1	5235.9	7235.1	9859.9	9895.4	7240.5	3568.5	1725.4	1103.0	748.4
77.5°	1036.7	1023.0	1687.0	3524.8	6573.6	6526.7	4575.0	1727.7	826.9	691.8	525.1
80°	355.3	359.9	574.1	1289.4	3068.3	3177.7	1985.7	753.7	544.0	482.1	371.9
82.5°	181.1	187.1	300.3	548.5	1283.4	1256.2	639.0	443.6	364.4	292.7	208.2
85°	96.5	99.5	165.2	284.4	470.8	476.1	224.8	236.9	231.6	166.0	102.6
87.5°	47.5	49.0	79.2	125.2	174.3	168.3	78.4	102.6	113.9	93.5	56.6
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°	1798.6	1798.6	1798.6	1798.6	1798.6	1798.6	1798.6	1798.6	1798.6	1798.6	1798.6
2.5°	1786.5	1786.5	1796.3	1812.9	1825.0	1836.3	1843.9	1856.0	1862.8	1862.0	1861.2
5°	1774.5	1782.0	1801.5	1822.0	1835.5	1844.7	1844.7	1849.9	1849.9	1847.7	1844.7
7.5°	1746.5	1759.4	1788.0	1806.2	1809.9	1800.1	1780.5	1765.4	1746.5	1736.7	1733.0
10°	1702.0	1718.6	1754.8	1763.1	1743.6	1708.9	1661.3	1620.6	1584.4	1567.8	1562.5
12.5°	1658.3	1680.2	1714.1	1701.2	1654.5	1586.7	1513.5	1457.6	1416.9	1401.0	1395.8
15°	1622.1	1648.5	1674.8	1634.8	1553.4	1459.1	1378.5	1326.3	1295.4	1283.4	1280.3
17.5°	1597.9	1628.8	1637.9	1563.2	1450.1	1344.4	1272.8	1238.8	1225.3	1220.0	1218.5
20°	1599.4	1634.2	1612.2	1493.8	1350.5	1244.1	1196.6	1186.8	1186.8	1186.8	1186.0
22.5°	1641.0	1671.1	1601.7	1428.9	1254.7	1159.6	1139.2	1147.5	1153.6	1153.6	1152.8
25°	1727.0	1743.6	1609.3	1366.3	1164.9	1086.4	1087.1	1103.0	1108.3	1108.3	1106.8
27.5°	1858.2	1844.7	1622.8	1296.9	1076.6	1020.1	1030.6	1044.9	1048.7	1046.3	1045.7
30°	2022.7	1968.5	1634.2	1215.4	993.6	958.2	967.2	975.4	972.5	967.2	966.4
32.5°	2206.8	2094.4	1627.3	1124.2	920.4	894.1	899.3	903.8	899.3	886.5	886.5
35°	2389.4	2208.2	1590.4	1024.6	862.4	832.1	831.4	845.7	845.0	830.0	830.7
37.5°	2549.2	2298.0	1518.7	933.3	812.6	786.8	790.0	799.0	803.5	783.2	780.8
40°	2688.9	2359.9	1417.6	855.5	772.6	774.1	765.8	751.4	746.1	737.1	735.7
42.5°	2820.1	2402.9	1310.4	790.7	752.1	769.5	741.7	707.7	693.4	701.7	706.9
45°	2949.1	2451.2	1207.1	737.1	726.6	756.0	717.5	679.8	663.2	666.9	672.2
47.5°	3106.8	2518.3	1082.6	679.8	687.4	731.1	702.4	661.7	636.8	621.6	617.1
50°	3314.3	2615.6	921.2	617.9	645.8	703.8	689.5	635.3	608.1	577.9	570.4
52.5°	3573.9	2707.8	758.3	568.1	611.9	680.4	668.4	612.6	579.4	543.2	537.1
55°	3832.6	2720.5	617.9	525.1	573.4	648.8	642.8	594.5	547.7	518.3	512.3
57.5°	4013.6	2599.1	523.6	488.9	536.5	609.5	619.4	572.6	521.2	498.7	495.0
60°	4016.7	2308.6	466.2	464.8	508.5	575.7	595.3	547.0	504.8	489.6	486.6
62.5°	3697.6	1860.4	429.3	446.7	488.2	547.7	577.1	532.6	501.0	495.0	491.8
65°	3099.2	1374.6	399.9	430.1	469.3	524.3	562.0	528.2	499.5	497.1	495.0
67.5°	2288.2	942.4	375.0	408.9	448.2	500.2	547.7	521.2	490.3	499.5	496.5
70°	1439.5	629.3	351.6	384.8	420.2	472.3	529.0	509.2	479.1	473.7	464.1
72.5°	812.6	454.9	323.6	353.9	384.0	435.3	503.2	488.9	453.4	432.3	422.5
73°	734.1	430.8	316.9	346.3	375.8	427.7	497.1	482.8	445.9	422.5	413.4
75°	537.1	352.4	285.9	315.3	341.0	393.2	468.5	452.7	412.7	384.8	378.7
77.5°	389.3	271.6	246.0	272.4	295.0	344.8	425.6	407.4	368.2	353.1	347.0
80°	280.7	206.0	203.7	229.3	249.0	299.5	379.4	360.7	322.9	367.4	357.6
82.5°	167.5	131.9	149.3	178.1	198.5	251.2	329.8	307.8	271.6	274.6	234.0
85°	80.0	74.8	92.8	116.9	131.2	172.0	274.6	257.3	217.3	178.1	174.3
87.5°	35.5	34.0	44.5	52.0	70.2	103.4	187.8	166.7	157.7	94.3	74.0
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)