

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: P195404

Luminaire Tested: **NAV-AF-02-D-UNV-T4FT-7060-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195404
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-7060-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 70 CRI, 5700K, 1200mA 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: 13468 lumens
Efficiency: N/A
Efficacy: 104.4 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 - G3

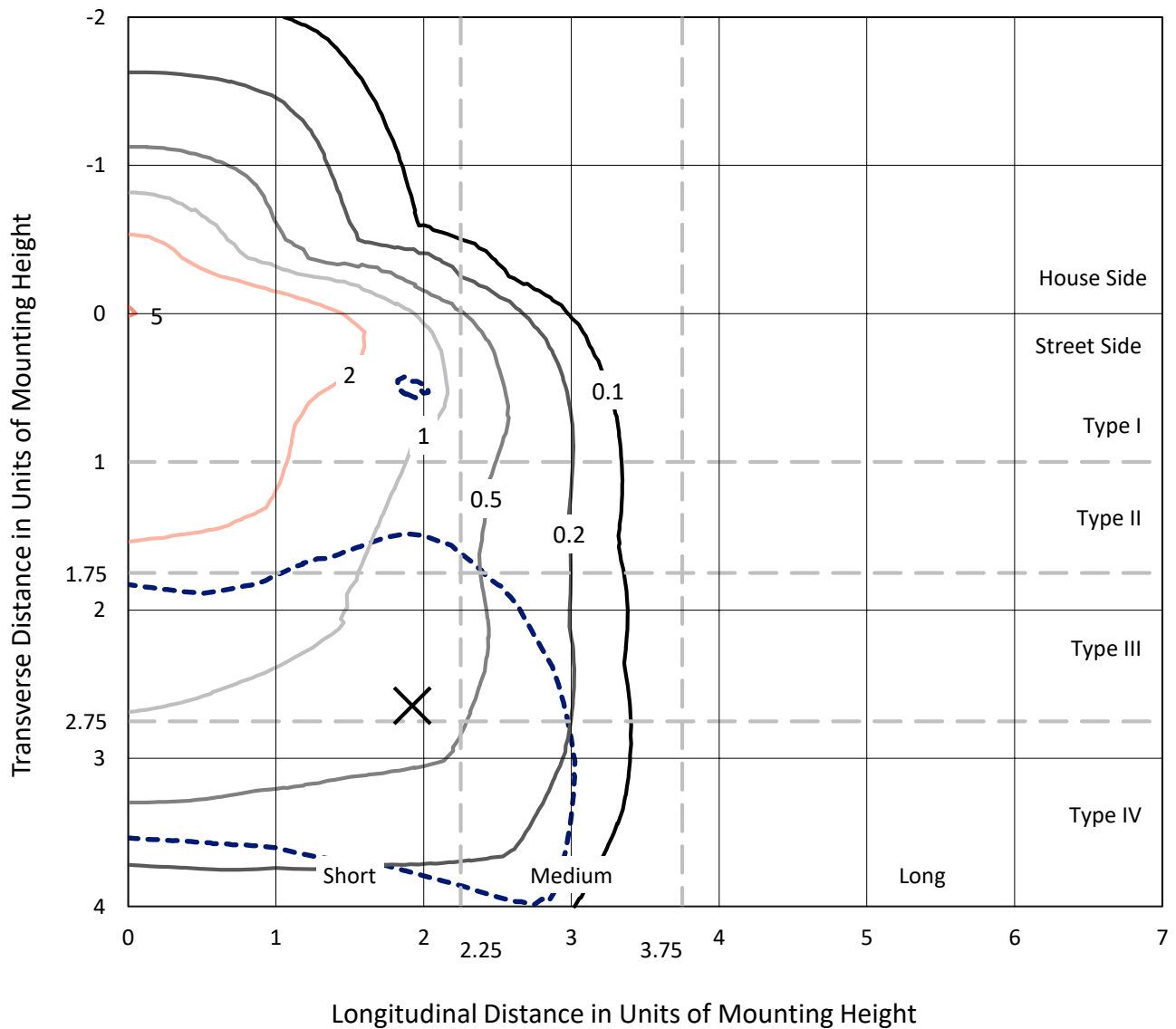
Input Watts (W): 129
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

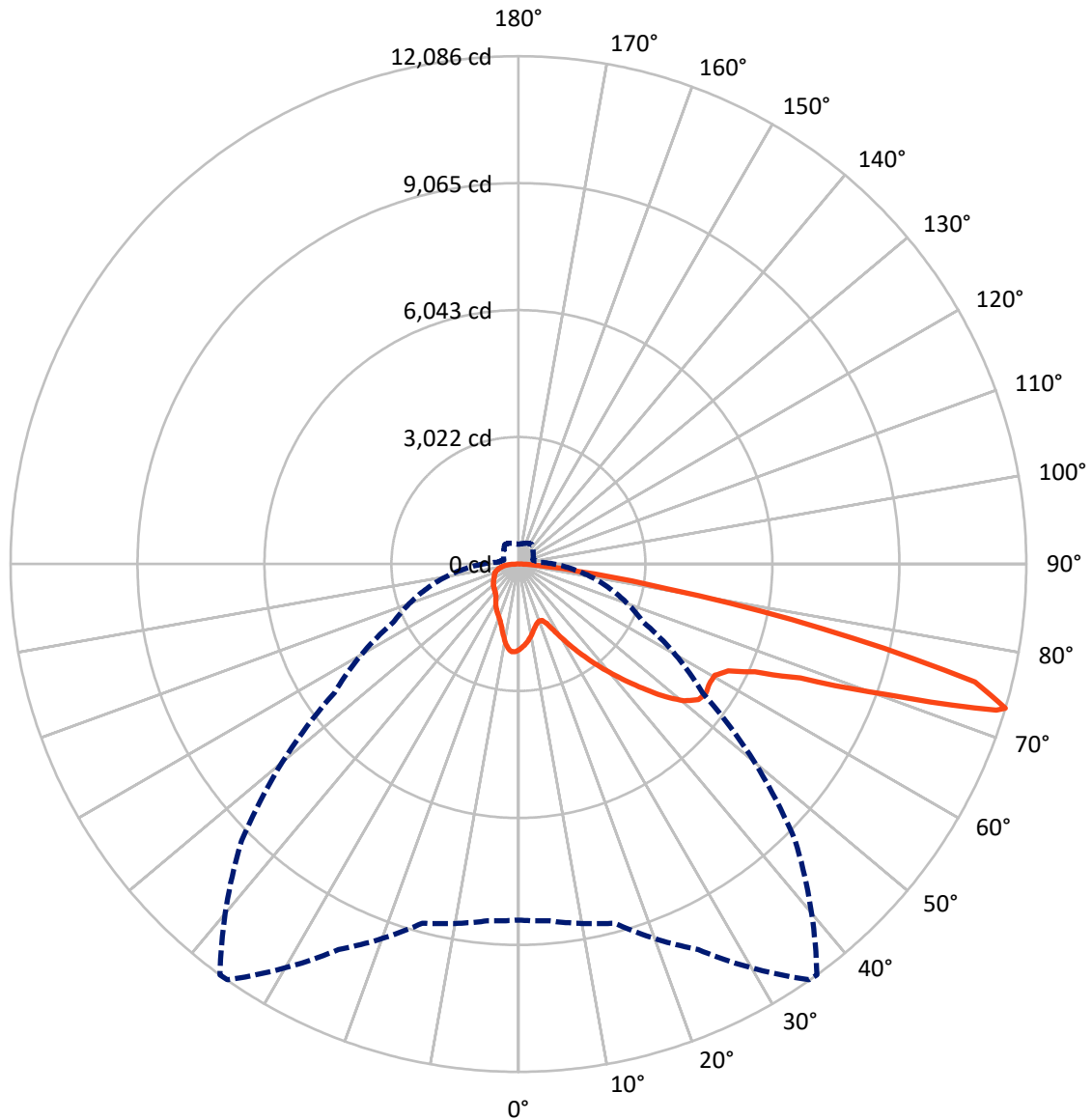
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 5.1 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
House Side	Lumens	2597.0	0.0	2597.0
	% Fixture	19.3	0.0	19.3
Street Side	Lumens	10871.0	0.0	10871.0
	% Fixture	80.7	0.0	80.7
Total	Lumens	13468.0	0.0	13468.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	185.3	1.4
10°-20°	465.4	3.5
20°-30°	746.1	5.5
30°-40°	1234.1	9.2
40°-50°	1909.7	14.2
50°-60°	2556.5	19.0
60°-70°	3339.5	24.8
70°-80°	2727.8	20.3
80°-90°	303.6	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°	13468.0	100.0
0°-180°	13468.0	100.0



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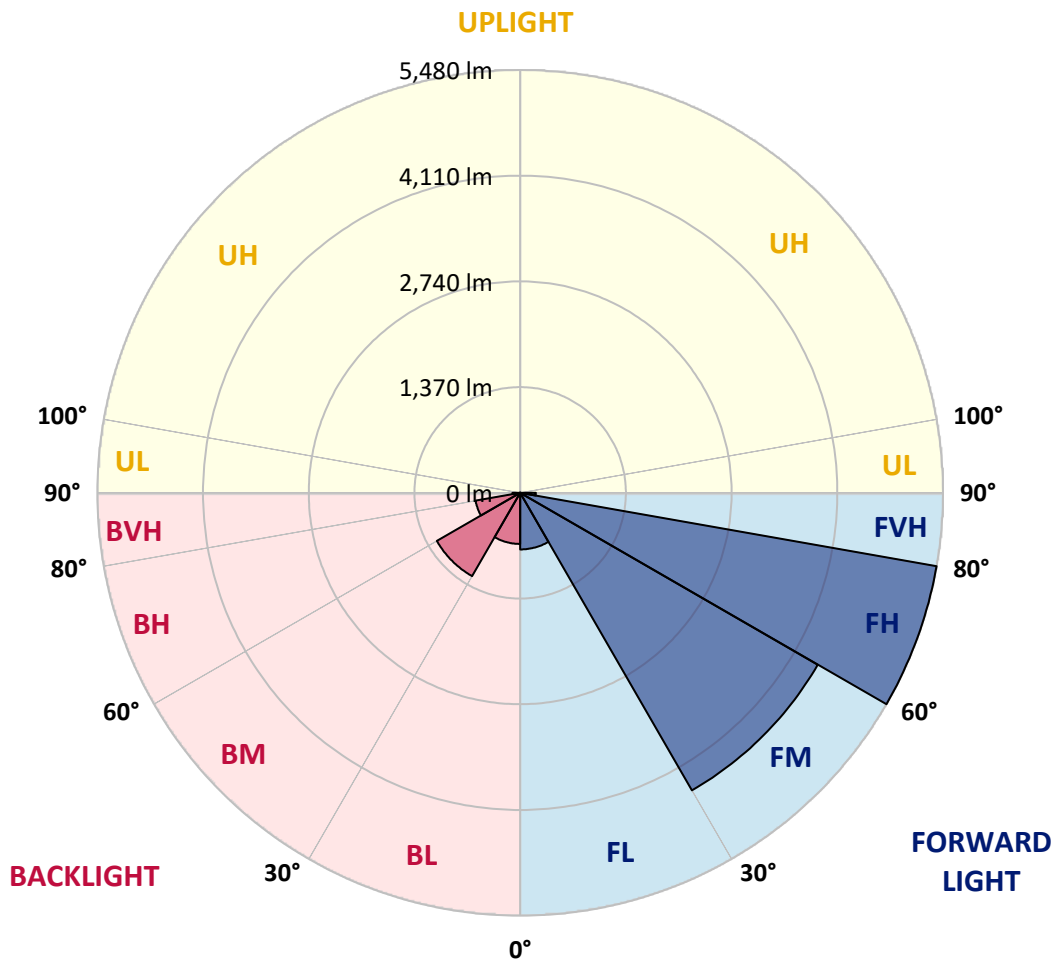
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	733.9	5.4			
FM	(30°-60°)	4453.0	33.1			
FH	(60°-80°)	5480.5	40.7			G3/7500
FVH	(80°-90°)	203.6	1.5			G2/225
BL	(0°-30°)	662.9	4.9	B2/1000		
BM	(30°-60°)	1247.2	9.3	B2/2500		
BH	(60°-80°)	586.9	4.4	B2/1000		G2/1000
BVH	(80°-90°)	100.0	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-G3

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	36°	45°	55°	65°	75°	85°
0°	2040.0	2040.0	2040.0	2040.0	2040.0	2040.0	2040.0	2040.0	2040.0	2040.0	2040.0
2.5°	1962.1	1967.3	1968.1	1974.1	1974.1	1973.3	1975.8	1986.1	1991.2	2003.2	2013.5
5°	1865.4	1871.4	1874.0	1884.3	1897.1	1898.0	1907.4	1927.1	1945.9	1972.4	1994.7
7.5°	1756.8	1763.6	1770.5	1791.9	1810.7	1812.4	1830.4	1862.0	1886.8	1919.4	1959.6
10°	1651.5	1653.2	1660.1	1687.5	1712.3	1714.8	1740.5	1776.5	1809.8	1855.2	1900.5
12.5°	1565.1	1570.2	1568.5	1589.1	1610.4	1612.2	1646.4	1691.7	1740.5	1791.9	1845.8
15°	1535.1	1534.3	1516.3	1515.5	1524.9	1526.6	1560.0	1613.0	1667.8	1731.1	1800.4
17.5°	1555.7	1548.8	1501.8	1472.7	1466.7	1468.4	1493.2	1551.4	1609.6	1682.3	1765.3
20°	1668.6	1642.1	1531.7	1461.6	1441.9	1441.9	1456.4	1503.5	1567.7	1652.4	1756.8
22.5°	1936.5	1895.4	1660.1	1535.1	1465.8	1459.0	1447.9	1483.8	1554.8	1656.7	1791.9
25°	2273.6	2253.9	1895.4	1731.1	1588.2	1565.9	1492.4	1505.2	1581.4	1702.9	1887.7
27.5°	2586.0	2551.7	2204.3	2016.1	1814.1	1779.9	1624.1	1571.9	1644.7	1788.4	2026.3
30°	2768.2	2745.1	2521.8	2342.1	2101.6	2058.0	1834.6	1703.7	1757.6	1929.6	2223.1
32.5°	2966.7	2953.1	2840.1	2676.7	2413.1	2362.6	2106.8	1918.5	1930.5	2117.0	2460.2
35°	3159.3	3177.2	3113.1	2993.3	2748.5	2701.5	2472.1	2199.2	2143.6	2327.5	2713.5
37.5°	3390.3	3394.6	3354.4	3276.5	3101.1	3062.6	2873.5	2498.7	2375.4	2551.7	2958.2
40°	3851.5	3783.9	3626.5	3564.9	3460.5	3436.5	3220.9	2773.4	2591.1	2781.9	3189.2
42.5°	4350.4	4245.2	3998.7	3897.8	3855.8	3833.6	3510.1	2956.5	2793.0	3012.1	3416.0
45°	4752.6	4667.0	4425.7	4300.8	4305.9	4270.0	3762.6	3119.9	3012.1	3243.1	3669.3
47.5°	5148.8	5005.9	4735.5	4717.5	4777.4	4724.4	4003.9	3283.4	3240.6	3494.7	3922.6
50°	5174.5	5044.4	4934.9	5078.6	5181.3	5115.4	4222.9	3497.3	3477.6	3799.3	4249.5
52.5°	4862.1	4843.3	5010.2	5252.3	5422.6	5363.6	4401.8	3717.2	3719.8	4180.1	4647.4
55°	4748.3	4724.4	4924.6	5222.4	5452.6	5417.5	4535.3	3965.4	3988.5	4642.2	5074.4
57.5°	4940.0	4880.1	4919.5	5165.9	5382.4	5361.9	4673.9	4240.9	4282.8	5174.5	5468.8
60°	5534.7	5412.4	5203.6	5249.8	5385.0	5373.0	4872.4	4548.1	4618.3	5729.0	5718.7
62.5°	6425.5	6286.9	5861.6	5656.2	5626.3	5603.2	5200.1	4925.5	4960.5	6129.4	5573.2
65°	7402.7	7253.8	6748.1	6411.8	6235.6	6185.9	5729.0	5380.7	5160.8	6128.6	5006.8
67.5°	8499.8	8342.3	7838.3	7517.4	7326.6	7241.9	6587.2	5748.7	5095.7	5610.0	4006.4
70°	9623.3	9473.6	9242.5	9354.6	9438.5	9309.3	7939.3	5871.0	4628.5	4398.3	2690.3
72.5°	9026.9	9014.9	9190.3	10253.1	11869.5	11895.2	9289.6	5525.3	3576.0	2614.2	1434.2
73°	8473.2	8523.7	8848.9	10120.5	12077.5	12086.0	9316.1	5346.5	3283.4	2252.2	1259.6
75°	4389.8	4732.1	5938.6	8206.2	11183.3	11223.5	8212.2	4047.5	1957.0	1251.0	848.9
77.5°	1175.7	1160.3	1913.4	3997.9	7455.8	7402.7	5189.0	1959.6	937.9	784.7	595.6
80°	403.0	408.2	651.2	1462.4	3480.2	3604.2	2252.2	854.9	617.0	546.8	421.9
82.5°	205.4	212.2	340.6	622.1	1455.6	1424.8	724.8	503.2	413.3	332.0	236.2
85°	109.5	113.0	187.4	322.6	534.0	540.0	255.0	268.7	262.7	188.3	116.4
87.5°	53.9	55.6	89.8	142.0	197.7	190.8	89.0	116.4	129.2	106.1	64.2
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°	2040.0	2040.0	2040.0	2040.0	2040.0	2040.0	2040.0	2040.0	2040.0	2040.0	2040.0
2.5°	2026.3	2026.3	2037.4	2056.3	2070.0	2082.8	2091.4	2105.0	2112.7	2111.9	2111.0
5°	2012.6	2021.2	2043.4	2066.5	2081.9	2092.2	2092.2	2098.2	2098.2	2095.6	2092.2
7.5°	1981.0	1995.5	2028.0	2048.6	2052.8	2041.7	2019.5	2002.4	1981.0	1969.8	1965.6
10°	1930.5	1949.3	1990.4	1999.8	1977.5	1938.2	1884.3	1838.1	1797.0	1778.2	1772.2
12.5°	1880.8	1905.7	1944.2	1929.6	1876.6	1799.6	1716.6	1653.2	1607.0	1589.1	1583.1
15°	1839.8	1869.7	1899.7	1854.3	1761.9	1654.9	1563.4	1504.3	1469.3	1455.6	1452.1
17.5°	1812.4	1847.5	1857.7	1773.0	1644.7	1524.9	1443.6	1405.1	1389.7	1383.7	1382.0
20°	1814.1	1853.5	1828.7	1694.3	1531.7	1411.1	1357.2	1346.0	1346.0	1346.0	1345.2
22.5°	1861.2	1895.4	1816.7	1620.7	1423.0	1315.2	1292.1	1301.5	1308.4	1308.4	1307.5
25°	1958.7	1977.5	1825.2	1549.7	1321.2	1232.2	1233.1	1251.0	1257.0	1257.0	1255.3
27.5°	2107.6	2092.2	1840.6	1471.0	1221.1	1156.9	1168.9	1185.2	1189.4	1186.9	1186.0
30°	2294.2	2232.5	1853.5	1378.5	1127.0	1086.8	1097.0	1106.4	1103.0	1097.0	1096.2
32.5°	2502.9	2375.4	1845.8	1275.0	1044.0	1014.0	1020.0	1025.1	1020.0	1005.5	1005.5
35°	2710.0	2504.7	1803.8	1162.1	978.1	943.8	943.0	959.2	958.4	941.3	942.1
37.5°	2891.4	2606.5	1722.5	1058.5	921.6	892.5	895.9	906.2	911.3	888.2	885.7
40°	3049.7	2676.7	1607.9	970.4	876.2	878.0	868.5	852.3	846.3	836.0	834.3
42.5°	3198.6	2725.4	1486.4	896.8	853.1	872.8	841.2	802.7	786.4	795.8	801.8
45°	3345.0	2780.2	1369.1	836.0	824.0	857.4	813.8	771.0	752.2	756.4	762.4
47.5°	3523.8	2856.4	1227.9	771.0	779.6	829.2	796.7	750.5	722.2	705.1	700.0
50°	3759.1	2966.7	1044.8	700.8	732.5	798.4	782.1	720.5	689.7	655.5	646.9
52.5°	4053.5	3071.1	860.0	644.3	694.0	771.8	758.2	694.8	657.2	616.1	609.3
55°	4347.0	3085.7	700.8	595.6	650.3	735.9	729.1	674.3	621.2	587.9	581.0
57.5°	4552.4	2947.9	593.9	554.5	608.4	691.4	702.5	649.5	591.3	565.6	561.3
60°	4555.8	2618.5	528.8	527.1	576.7	652.9	675.2	620.4	572.5	555.4	551.9
62.5°	4193.8	2110.2	486.9	506.6	553.6	621.2	654.6	604.1	568.2	561.3	557.9
65°	3515.3	1559.1	453.5	487.8	532.3	594.7	637.5	599.0	566.5	563.9	561.3
67.5°	2595.4	1068.8	425.3	463.8	508.3	567.3	621.2	591.3	556.2	566.5	563.1
70°	1632.7	713.7	398.8	436.4	476.6	535.7	599.9	577.6	543.4	537.4	526.3
72.5°	921.6	516.0	367.1	401.3	435.6	493.7	570.8	554.5	514.3	490.3	479.2
73°	832.6	488.6	359.4	392.8	426.1	485.2	563.9	547.7	505.7	479.2	468.9
75°	609.3	399.6	324.3	357.7	386.8	445.8	531.4	513.4	468.1	436.4	429.6
77.5°	441.5	308.1	279.0	308.9	334.6	391.1	482.6	462.1	417.6	400.5	393.6
80°	318.3	233.6	231.0	260.1	282.4	339.7	430.4	409.0	366.2	416.7	405.6
82.5°	190.0	149.7	169.4	201.9	225.1	285.0	373.9	349.1	308.1	311.5	265.3
85°	90.7	84.7	105.3	132.6	148.9	195.1	311.5	291.8	246.4	201.9	197.7
87.5°	40.2	38.5	50.5	59.0	79.6	117.2	213.1	189.1	178.8	107.0	83.9
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)