

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: P270392

Luminaire Tested: **NAV-AF-02-D-UNV-T3R-7027-1200**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P270392  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24250)  
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-T3R-7027-1200  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(2) 70 CRI, 2700K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III  
ROADWAY OPTICS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 11807.2 lumens  
Efficiency: N/A  
Efficacy: 91.5 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')  
IES Classification: Type III - Medium - Full Cutoff  
BUG Rating: B2 - U0 - G2

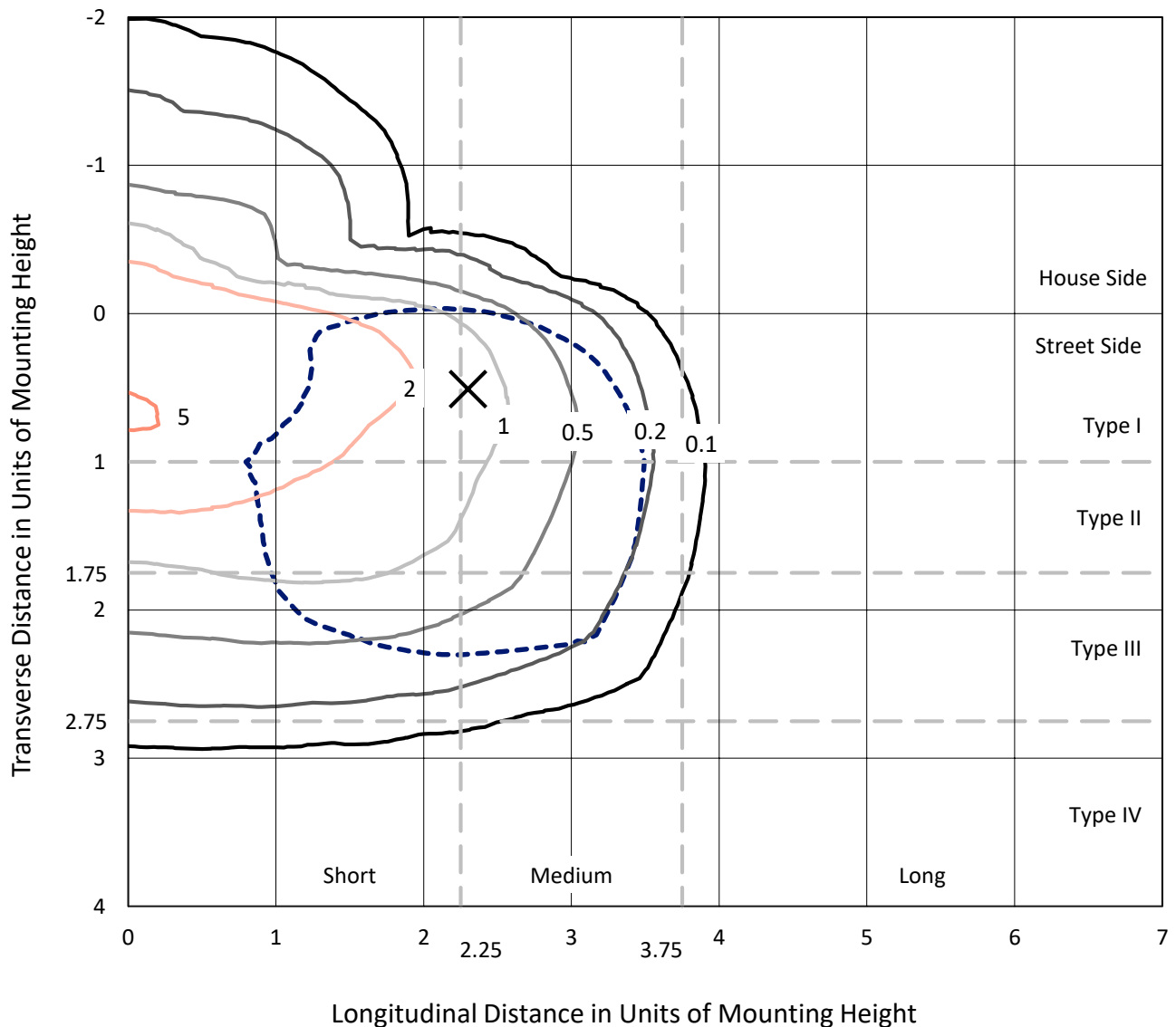
Input Watts (W): 129  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

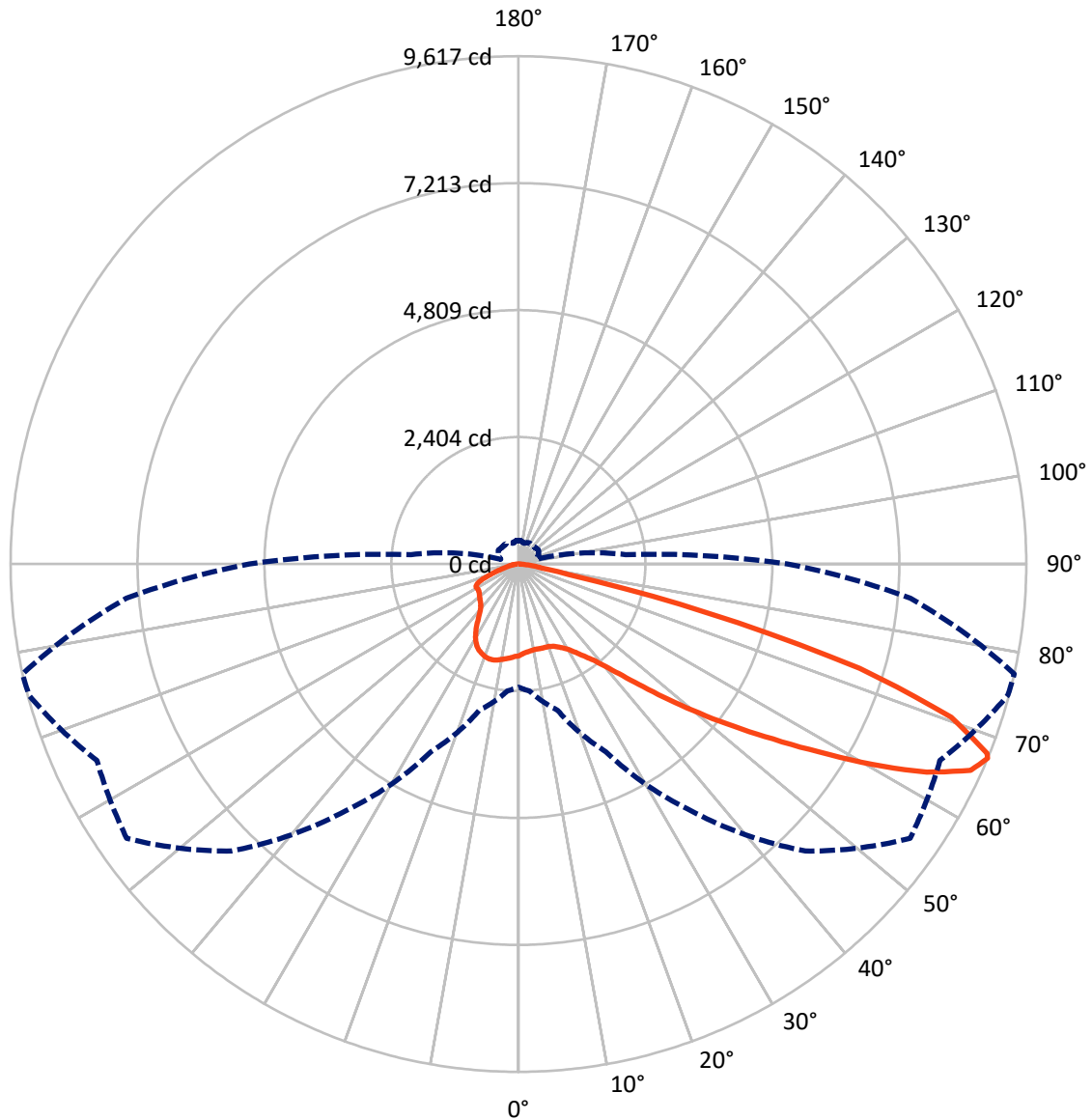
× Max cd  
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 5.2 fc  
 Type III - Medium - Full Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 77.5-Deg Lateral    - - - Horizontal Cone Through 67-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	2029.1	0.0	2029.1
	% Fixture	17.2	0.0	17.2
<b>Street Side</b>	Lumens	9778.1	0.0	9778.1
	% Fixture	82.8	0.0	82.8
<b>Total</b>	Lumens	11807.2	0.0	11807.2
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	154.8	1.3
10°-20°	428.6	3.6
20°-30°	728.2	6.2
30°-40°	1165.0	9.9
40°-50°	1793.6	15.2
50°-60°	2488.4	21.1
60°-70°	3319.4	28.1
70°-80°	1579.7	13.4
80°-90°	149.6	1.3
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°	11807.2	100.0
0°-180°	11807.2	100.0



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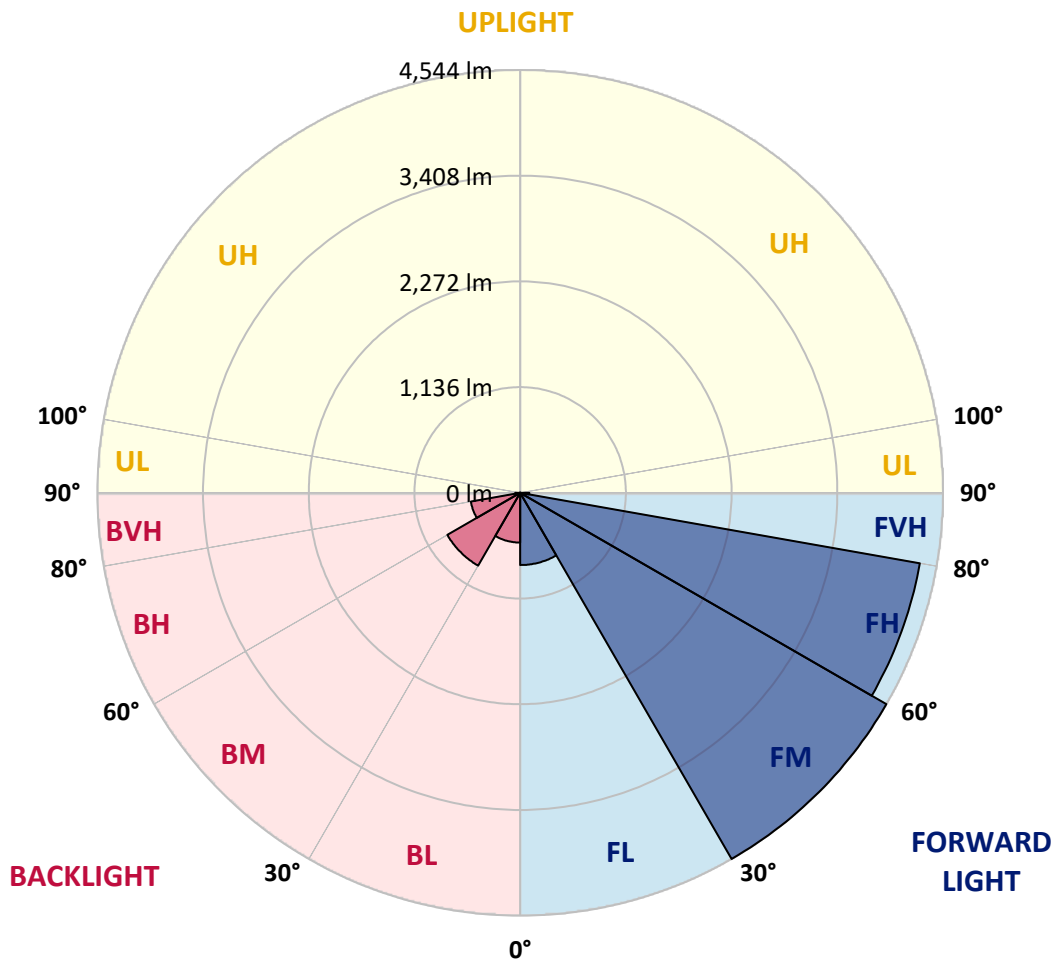
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	776.4	6.6			
FM	(30°-60°)	4543.5	38.5			
FH	(60°-80°)	4361.0	36.9			G2/5000
FVH	(80°-90°)	97.1	0.8			G1/100
BL	(0°-30°)	535.2	4.5	B2/1000		
BM	(30°-60°)	903.5	7.7	B1/1000		
BH	(60°-80°)	538.0	4.6	B2/1000		G2/1000
BVH	(80°-90°)	52.4	0.4			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 III Medium





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	77.5°	85°
0°	1737.7	1737.7	1737.7	1737.7	1737.7	1737.7	1737.7	1737.7	1737.7	1737.7	1737.7
2.5°	1558.2	1565.4	1566.3	1587.3	1596.8	1620.9	1647.2	1670.6	1691.0	1698.2	1711.5
5°	1402.0	1402.0	1404.2	1418.1	1445.1	1483.7	1538.4	1598.4	1661.1	1676.3	1715.0
7.5°	1320.2	1321.8	1323.2	1337.0	1358.1	1392.6	1447.2	1528.9	1633.4	1658.9	1726.7
10°	1327.5	1325.4	1318.1	1315.2	1323.9	1345.8	1393.2	1477.2	1610.0	1649.4	1747.9
12.5°	1442.0	1437.7	1413.7	1378.7	1346.5	1338.6	1371.4	1450.9	1599.1	1649.4	1783.7
15°	1638.5	1641.4	1594.0	1521.0	1437.0	1380.1	1375.8	1441.4	1595.4	1653.8	1825.3
17.5°	1893.8	1895.3	1829.7	1723.8	1584.4	1466.9	1405.7	1441.4	1595.4	1658.1	1865.4
20°	2165.4	2155.2	2080.7	1948.0	1766.8	1587.3	1460.4	1450.1	1599.8	1664.6	1903.4
22.5°	2398.3	2388.8	2310.6	2171.3	1964.0	1729.6	1534.0	1479.4	1623.9	1691.8	1956.7
25°	2601.9	2607.7	2531.8	2374.8	2160.2	1890.3	1644.3	1546.5	1674.3	1740.6	2022.4
27.5°	2849.2	2838.3	2750.7	2601.1	2362.5	2056.7	1782.2	1631.1	1734.1	1799.8	2102.7
30°	3135.4	3130.2	3011.9	2858.0	2585.1	2242.8	1918.7	1722.4	1812.2	1880.7	2203.4
32.5°	3482.6	3482.0	3355.0	3165.9	2835.4	2452.9	2079.9	1847.2	1926.0	1995.3	2336.9
35°	3876.0	3875.4	3744.0	3494.3	3123.6	2685.8	2269.7	1999.0	2066.9	2139.9	2496.0
37.5°	4149.0	4144.7	4076.1	3833.7	3442.6	2956.5	2506.9	2203.4	2226.7	2308.5	2688.0
40°	4201.6	4227.9	4287.0	4143.9	3790.7	3257.3	2745.0	2423.0	2444.8	2550.0	2929.6
42.5°	4144.7	4178.9	4375.4	4415.4	4138.9	3621.3	3042.6	2727.3	2755.1	2885.7	3213.3
45°	4095.1	4124.9	4371.0	4565.7	4482.6	4018.4	3414.1	3098.9	3151.3	3313.4	3537.4
47.5°	4010.5	4038.2	4284.7	4592.8	4678.9	4400.8	3861.5	3545.5	3636.0	3832.3	3906.8
50°	4006.0	4018.4	4167.2	4502.2	4746.7	4691.3	4357.0	4068.1	4206.8	4433.0	4315.5
52.5°	3895.1	3981.9	4116.9	4357.8	4748.3	4860.5	4845.3	4641.0	4854.8	5105.1	4763.5
55°	3216.3	3316.4	3949.0	4287.0	4739.5	5005.9	5291.2	5250.4	5584.7	5848.1	5265.7
57.5°	3003.3	3045.6	3464.5	4308.1	4812.5	5246.0	5737.1	5905.0	6419.6	6707.0	5867.8
60°	2944.9	2989.4	3367.3	4318.4	5010.2	5683.1	6342.2	6644.4	7401.1	7706.2	6551.7
62.5°	2879.8	2937.5	3374.8	4327.9	5357.6	6329.7	7144.9	7446.4	8409.0	8681.3	7192.4
65°	2690.2	2766.8	3239.6	4267.9	5737.8	7141.3	8206.1	8282.8	9241.8	9414.7	7579.2
67°	2330.4	2414.3	2868.9	3922.1	5702.9	7688.0	9054.9	8806.1	9595.8	9617.0	7453.6
67.5°	2216.5	2303.3	2743.5	3778.4	5602.9	7759.5	9205.3	8878.3	9592.8	9569.5	7336.9
70°	1492.5	1590.3	1942.9	2774.1	4494.3	7221.7	9168.8	8655.7	8963.6	8695.9	6303.4
72.5°	740.7	743.6	969.2	1519.6	2723.0	5179.5	7648.6	7404.8	7266.1	6760.4	4625.6
75°	356.8	363.5	457.5	671.5	1148.0	2674.1	5216.1	4996.5	4254.2	3683.4	2315.0
77.5°	272.2	278.8	355.4	437.1	478.7	872.2	2583.5	2088.0	1232.7	984.5	652.4
80°	210.3	222.6	299.9	335.7	316.7	349.6	812.2	639.4	479.4	440.1	323.3
82.5°	164.2	171.4	254.7	254.7	218.9	234.3	378.0	369.4	297.8	268.6	173.7
85°	116.1	130.7	205.2	189.7	143.8	145.3	226.3	216.8	153.3	123.3	67.9
87.5°	51.8	66.5	146.0	124.1	76.6	59.1	92.6	79.6	60.5	46.7	31.4
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°	1737.7	1737.7	1737.7	1737.7	1737.7	1737.7	1737.7	1737.7	1737.7	1737.7	1737.7
2.5°	1726.1	1737.7	1755.9	1766.8	1781.5	1787.4	1793.1	1803.3	1811.4	1809.2	1805.7
5°	1742.2	1761.8	1784.5	1791.7	1791.7	1784.5	1780.0	1780.8	1778.6	1777.1	1772.7
7.5°	1765.4	1792.5	1808.5	1801.2	1778.6	1750.1	1723.0	1707.0	1691.8	1682.3	1685.2
10°	1798.2	1828.2	1828.9	1796.8	1742.8	1680.8	1627.5	1593.2	1560.4	1545.8	1550.1
12.5°	1845.7	1875.7	1850.1	1780.8	1685.8	1588.8	1491.0	1420.2	1356.7	1341.3	1337.0
15°	1896.9	1920.1	1863.3	1746.5	1604.2	1444.4	1280.2	1174.3	1103.5	1091.1	1086.7
17.5°	1941.3	1954.4	1856.6	1685.2	1474.9	1223.2	1032.0	960.5	945.8	953.1	953.1
20°	1980.8	1976.5	1828.2	1590.3	1271.3	978.0	867.0	866.2	886.0	904.2	905.8
22.5°	2030.3	1996.0	1783.0	1449.4	1028.3	815.9	796.9	815.9	837.8	858.3	860.4
25°	2089.5	2018.0	1722.4	1248.7	826.9	740.7	748.7	764.8	778.7	794.8	795.4
27.5°	2148.6	2034.8	1637.0	1013.0	717.4	692.7	701.3	708.0	711.5	721.8	721.8
30°	2217.1	2047.9	1513.6	811.6	667.0	650.3	645.2	642.3	645.2	659.0	659.7
32.5°	2303.3	2071.2	1345.0	696.2	643.7	620.4	594.0	579.4	589.6	614.5	618.9
35°	2401.1	2099.0	1143.0	650.3	635.7	605.7	557.6	535.0	538.7	561.3	564.9
37.5°	2523.8	2134.7	943.7	639.4	643.7	604.3	540.8	508.7	492.6	493.3	492.6
40°	2680.6	2170.6	786.0	642.3	661.2	608.0	532.8	482.4	448.9	450.3	453.3
42.5°	2844.8	2193.8	686.0	651.0	682.4	613.1	529.9	456.9	427.7	452.4	475.2
45°	3036.8	2187.4	634.3	659.0	698.4	615.2	519.0	454.0	429.8	504.3	546.7
47.5°	3257.3	2158.8	605.0	662.7	702.8	614.5	510.9	463.4	448.2	577.3	625.5
50°	3496.7	2114.3	581.7	656.8	700.7	611.6	519.6	475.2	455.4	593.3	630.6
52.5°	3758.6	2073.5	557.6	643.7	689.7	602.9	530.5	470.1	435.0	546.7	575.2
55°	4068.8	2063.9	530.5	621.1	671.5	593.3	524.7	454.0	412.3	484.5	502.2
57.5°	4423.4	2123.1	495.5	593.3	646.6	574.3	510.9	445.2	404.3	440.8	450.3
60°	4873.8	2253.7	458.3	564.1	616.0	545.9	498.5	447.4	406.6	434.2	436.4
62.5°	5225.5	2371.2	424.8	528.5	575.2	511.7	485.4	449.6	413.1	443.0	439.4
65°	5353.3	2313.6	383.1	475.2	517.5	473.6	467.1	450.9	413.1	448.2	440.1
67°	5091.2	2038.4	343.7	421.8	462.6	440.1	449.6	445.2	405.8	447.4	433.5
67.5°	4966.5	1941.3	333.5	413.1	448.2	429.8	445.2	442.2	403.6	445.9	429.8
70°	4095.8	1392.6	281.7	346.7	375.1	378.7	418.3	423.3	386.1	418.9	389.8
72.5°	2914.2	871.4	243.0	268.6	302.9	324.1	381.7	397.8	362.7	364.3	340.1
75°	1442.0	467.7	216.8	207.2	235.7	270.0	332.8	362.7	328.4	303.5	295.6
77.5°	486.8	264.9	183.2	167.2	183.2	216.8	275.9	316.7	289.8	256.8	251.7
80°	251.7	192.6	143.0	134.2	144.4	167.9	216.0	263.5	247.5	248.9	205.2
82.5°	156.9	117.5	102.9	102.1	109.5	128.5	159.1	213.8	212.4	181.7	132.1
85°	73.0	67.9	65.7	67.9	70.1	73.0	103.7	152.5	161.2	97.7	86.9
87.5°	30.6	30.0	26.3	28.4	31.4	30.6	41.6	64.9	90.5	61.4	56.2
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)