

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: P195939

Luminaire Tested: **NAV-AF-03-D-UNV-5NQ-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195939
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24130)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-AF-03-D-UNV-5NQ-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 70 CRI, 4000K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE V NARROW OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 12550.5 lumens
Efficiency: N/A
Efficacy: 130.7 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')
IES Classification: Type V - Short - Full Cutoff
BUG Rating: B3 - U0 - G2

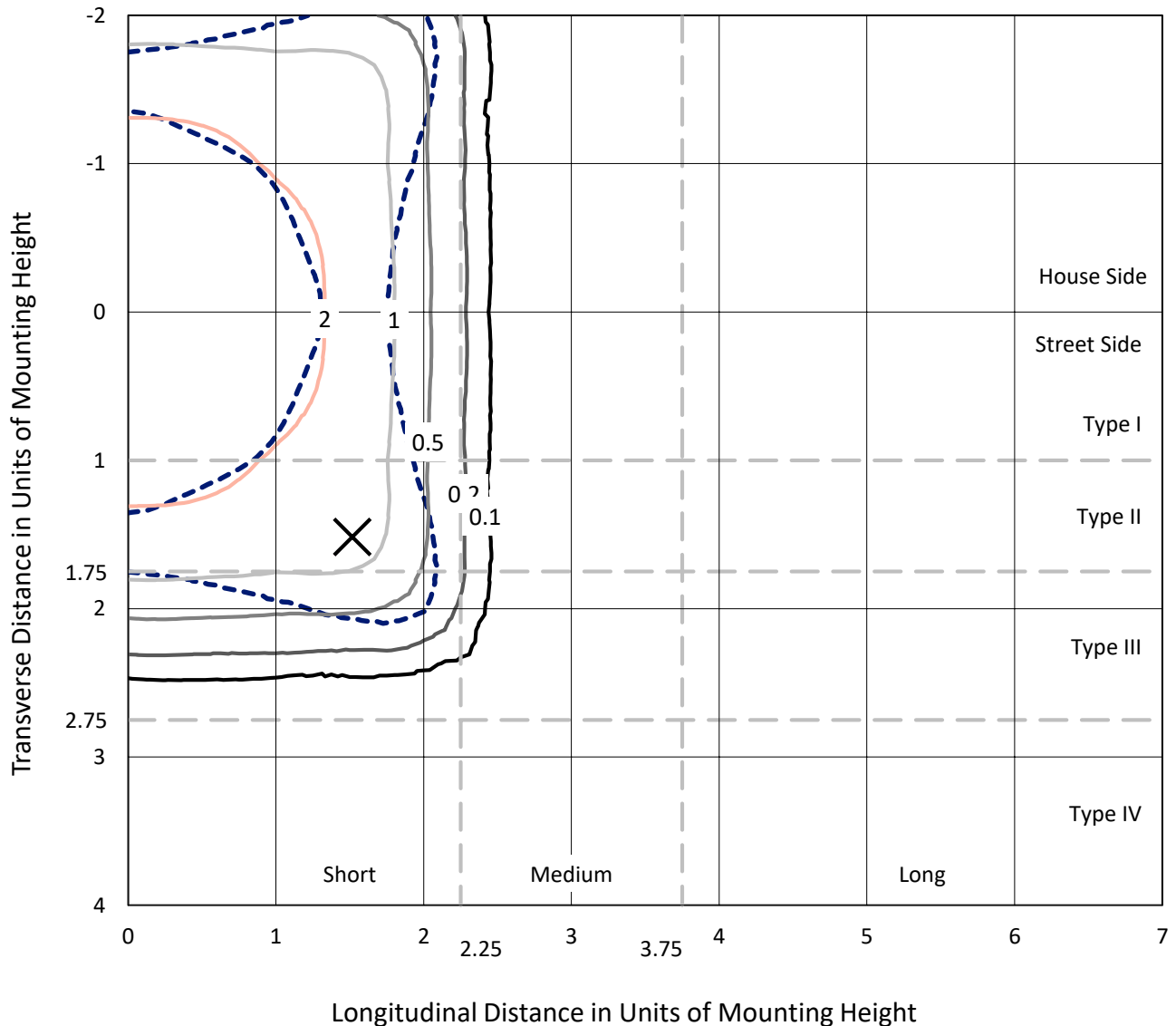
Input Watts (W): 96
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

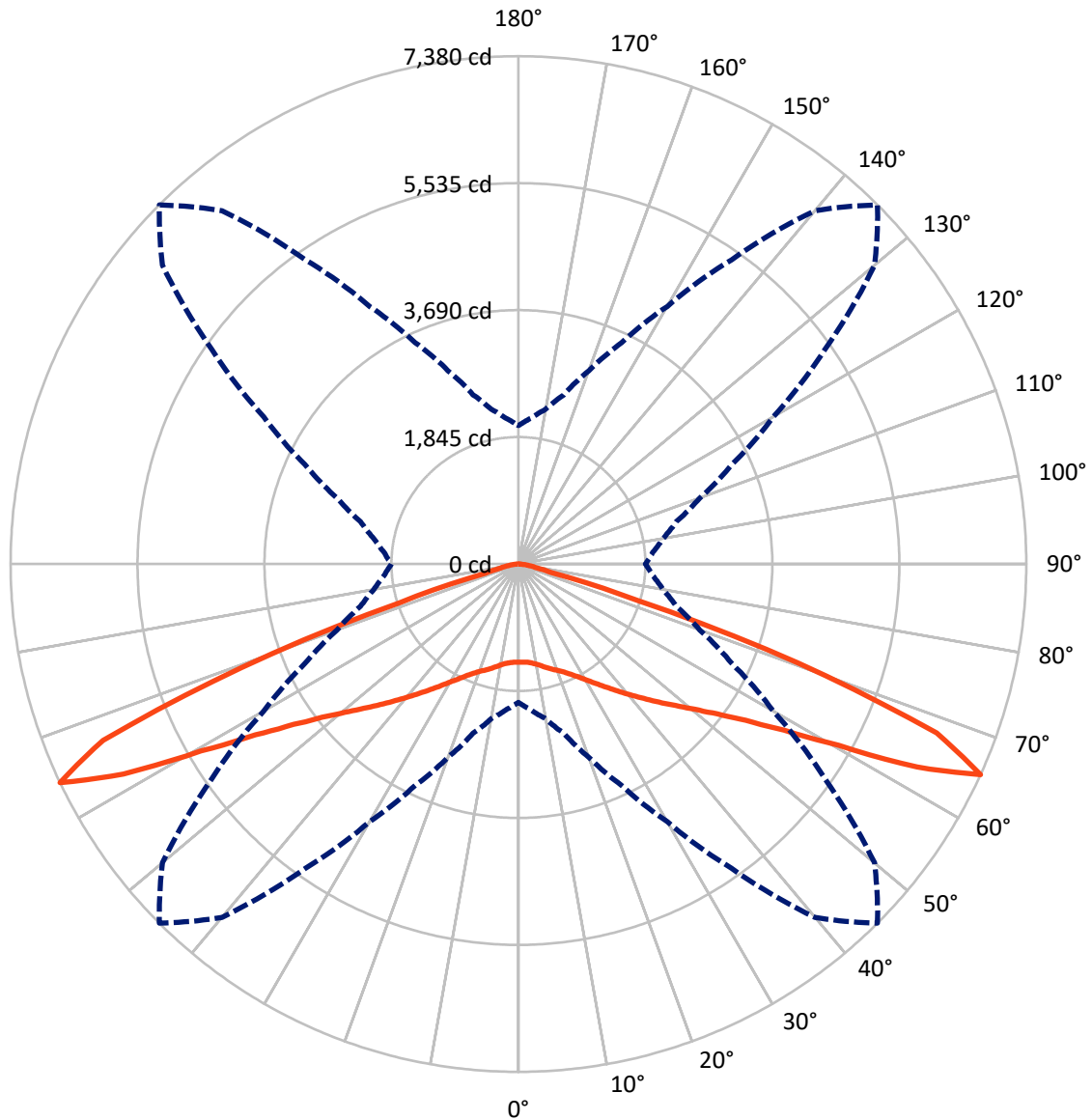
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 3.6 fc
 Type V - Short - Full Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 45-Deg Lateral - - - Horizontal Cone Through 65-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	6275.3	0.0	6275.3
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	6275.3	0.0	6275.3
	% Fixture	50.0	0.0	50.0
Total	Lumens	12550.5	0.0	12550.5
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	139.0	1.1
10°-20°	445.6	3.6
20°-30°	831.2	6.6
30°-40°	1401.5	11.2
40°-50°	2276.5	18.1
50°-60°	3566.9	28.4
60°-70°	3367.0	26.8
70°-80°	453.8	3.6
80°-90°	69.1	0.6
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°	12550.5	100.0
0°-180°	12550.5	100.0



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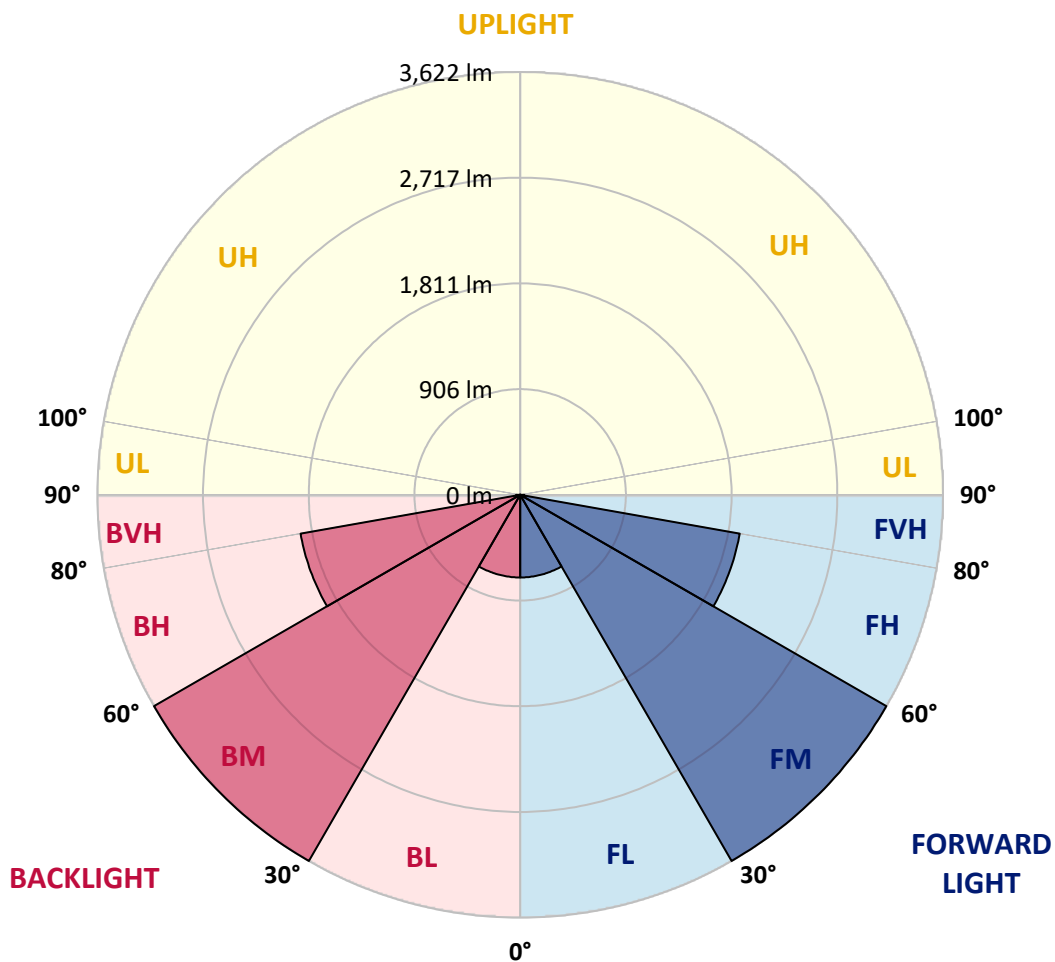
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	707.9	5.6			
FM	(30°-60°)	3622.5	28.9			
FH	(60°-80°)	1910.4	15.2			G2/5000
FVH	(80°-90°)	34.6	0.3			G1/100
BL	(0°-30°)	707.9	5.6	B2/1000		
BM	(30°-60°)	3622.5	28.9	B3/5000		
BH	(60°-80°)	1910.4	15.2	B3/2500		G2/5000
BVH	(80°-90°)	34.6	0.3			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G2

Type V Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1427.6	1427.6	1427.6	1427.6	1427.6	1427.6	1427.6	1427.6	1427.6	1427.6	1427.6
2.5°	1439.3	1439.3	1441.6	1440.9	1437.8	1435.4	1433.1	1430.0	1428.3	1426.8	1426.1
5°	1447.2	1447.2	1449.5	1448.7	1446.4	1443.3	1441.6	1439.3	1437.0	1435.4	1436.2
7.5°	1466.7	1467.5	1468.2	1467.5	1465.2	1462.8	1459.6	1458.9	1455.8	1453.4	1454.9
10°	1496.4	1496.4	1497.2	1498.0	1496.4	1491.0	1491.0	1489.4	1486.2	1483.1	1483.9
12.5°	1529.2	1529.2	1530.0	1530.0	1530.0	1526.9	1527.7	1526.9	1523.0	1521.4	1523.0
15°	1561.3	1562.0	1562.0	1563.7	1563.7	1564.4	1567.6	1567.6	1566.0	1565.2	1565.2
17.5°	1598.9	1600.4	1601.2	1603.5	1604.3	1605.8	1609.0	1609.8	1610.5	1608.2	1609.0
20°	1648.9	1649.6	1652.0	1652.8	1656.0	1656.0	1657.5	1656.7	1655.1	1652.0	1652.0
22.5°	1705.2	1706.7	1711.4	1711.4	1715.3	1712.9	1713.7	1711.4	1707.5	1706.0	1704.3
25°	1778.6	1781.0	1784.9	1783.3	1784.9	1781.0	1781.0	1781.0	1778.6	1776.4	1775.5
27.5°	1871.7	1867.8	1871.7	1868.5	1867.8	1864.6	1865.5	1863.9	1861.6	1860.7	1857.6
30°	1968.7	1964.0	1966.3	1967.0	1965.5	1964.7	1961.6	1959.3	1955.4	1956.1	1953.7
32.5°	2079.7	2075.0	2077.3	2078.1	2076.5	2078.1	2077.3	2071.9	2067.2	2070.2	2070.2
35°	2211.8	2208.7	2214.9	2217.2	2212.5	2210.2	2207.1	2200.9	2193.8	2198.5	2199.2
37.5°	2370.5	2366.6	2371.3	2377.5	2368.9	2364.2	2351.8	2342.4	2337.6	2340.0	2343.2
40°	2535.5	2536.2	2549.5	2551.1	2541.7	2536.2	2523.7	2509.7	2496.4	2496.4	2500.3
42.5°	2709.0	2711.3	2727.0	2732.5	2729.3	2719.2	2702.0	2684.8	2667.5	2670.7	2675.4
45°	2905.3	2902.1	2918.6	2931.9	2929.5	2926.4	2910.0	2878.7	2863.0	2862.2	2870.1
47.5°	3111.7	3118.0	3135.1	3157.7	3157.0	3149.2	3128.1	3099.1	3070.2	3072.5	3081.9
50°	3352.5	3361.1	3390.0	3412.7	3415.8	3413.5	3388.4	3354.8	3314.2	3316.5	3329.0
52.5°	3568.3	3580.7	3614.4	3661.2	3690.2	3703.5	3687.1	3655.8	3614.4	3616.7	3630.0
55°	3763.7	3783.3	3833.3	3897.4	3955.2	4009.3	4033.4	4032.7	4002.2	4009.3	4026.4
57.5°	3886.5	3913.8	3989.6	4092.8	4207.8	4316.4	4410.2	4498.6	4518.2	4554.9	4554.9
60°	3721.5	3785.6	3886.5	4063.2	4289.1	4533.0	4797.3	5054.5	5220.2	5350.9	5280.5
62.5°	3107.7	3202.3	3343.8	3576.8	3928.6	4364.1	4895.0	5493.1	6117.0	6498.5	6218.6
65°	2010.8	2129.7	2283.7	2545.6	2989.0	3549.5	4322.7	5397.7	6703.4	7380.4	6755.0
67.5°	796.7	877.2	971.0	1157.1	1541.8	2092.1	2960.0	4286.0	5919.2	6557.9	5856.7
70°	380.7	394.0	412.0	451.9	548.1	739.6	1189.2	2111.7	3630.0	4303.1	3543.2
72.5°	275.2	277.5	286.1	299.4	327.5	366.6	445.6	645.8	1251.7	1820.1	1253.2
75°	208.8	211.9	216.6	223.6	238.4	257.2	286.9	344.0	428.4	494.1	427.7
77.5°	158.7	161.8	165.7	172.8	180.6	193.8	204.8	227.5	263.5	277.5	276.0
80°	115.7	121.2	127.5	133.7	139.1	145.5	146.2	157.1	177.5	190.8	186.9
82.5°	73.4	78.2	94.6	101.7	102.4	103.9	103.2	103.9	114.9	124.3	121.2
85°	47.0	50.0	58.6	66.5	64.9	68.0	68.0	66.5	61.8	53.2	63.3
87.5°	23.4	24.2	28.1	35.2	33.7	29.7	28.9	28.9	21.1	18.0	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



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1427.6	1427.6	1427.6	1427.6	1427.6	1427.6	1427.6	1427.6
2.5°	1423.7	1425.3	1422.9	1422.9	1422.1	1423.7	1421.4	1421.4
5°	1434.7	1437.0	1436.2	1436.2	1437.8	1439.3	1438.6	1437.8
7.5°	1454.2	1455.8	1457.3	1458.1	1459.6	1458.9	1460.5	1459.6
10°	1483.9	1482.4	1484.7	1482.4	1483.1	1481.5	1482.4	1482.4
12.5°	1521.4	1519.1	1517.5	1515.9	1515.9	1512.8	1512.8	1513.7
15°	1564.4	1560.5	1557.4	1555.8	1554.3	1554.3	1551.9	1553.5
17.5°	1606.6	1602.8	1597.2	1597.2	1594.9	1593.3	1591.8	1595.7
20°	1651.2	1647.3	1644.2	1643.4	1638.7	1637.1	1637.9	1642.7
22.5°	1702.8	1700.5	1700.5	1698.9	1695.7	1693.4	1693.4	1698.9
25°	1772.4	1767.7	1768.5	1769.3	1767.7	1767.7	1766.1	1770.0
27.5°	1857.6	1853.7	1856.0	1857.6	1856.0	1858.4	1856.0	1859.2
30°	1957.7	1955.4	1957.7	1960.1	1956.1	1956.1	1954.6	1956.9
32.5°	2077.3	2074.1	2075.8	2075.8	2070.2	2065.5	2059.3	2064.0
35°	2208.7	2204.8	2207.8	2210.2	2203.9	2199.2	2189.9	2193.8
37.5°	2353.3	2354.8	2358.7	2368.9	2367.4	2359.5	2352.5	2355.7
40°	2515.1	2522.9	2540.2	2547.1	2545.6	2537.8	2528.4	2530.0
42.5°	2698.0	2708.3	2726.3	2737.9	2732.5	2721.6	2709.8	2714.5
45°	2897.4	2913.1	2936.6	2948.2	2941.2	2929.5	2913.1	2921.6
47.5°	3108.5	3139.8	3171.0	3186.7	3184.3	3168.0	3146.8	3149.2
50°	3361.1	3402.5	3442.3	3458.0	3446.3	3421.3	3391.6	3390.8
52.5°	3675.4	3720.0	3752.8	3748.8	3720.0	3680.9	3647.2	3645.7
55°	4067.9	4082.7	4078.0	4044.3	3993.6	3932.6	3889.6	3882.5
57.5°	4542.4	4492.4	4418.8	4317.3	4203.1	4087.4	4009.3	3980.3
60°	5122.5	4896.6	4633.9	4357.2	4104.6	3915.3	3795.8	3723.0
62.5°	5601.8	4947.4	4360.2	3879.4	3486.1	3252.4	3089.0	2988.1
65°	5437.6	4274.2	3423.6	2803.6	2374.4	2132.9	1960.1	1845.1
67.5°	4200.7	2856.0	1987.4	1377.6	1044.5	884.2	772.4	699.7
70°	2117.9	1095.4	663.8	468.3	400.3	372.1	353.4	342.5
72.5°	621.5	415.1	344.7	304.9	280.7	263.5	252.6	247.0
75°	344.0	280.7	247.9	225.2	209.5	197.8	190.8	186.1
77.5°	236.9	204.1	187.6	172.8	160.3	151.7	146.2	141.5
80°	165.7	149.4	142.3	134.5	125.1	118.0	110.3	107.1
82.5°	110.3	103.2	101.7	95.3	89.9	82.0	68.0	63.3
85°	64.9	64.1	64.1	61.8	57.9	50.8	40.6	40.6
87.5°	22.7	23.4	24.2	25.8	25.1	21.1	17.2	16.4
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)