

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: P195997

Luminaire Tested: **NAV-AF-01-D-UNV-AFL-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195997
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24283)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-AF-01-D-UNV-AFL-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(1) 70 CRI, 4000K, 1050mA LIGHTSQUARE WITH 16 LEDS EACH AND AUTOMOTIVE FRONTLINE OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5245.7 lumens
Efficiency: N/A
Efficacy: 88.9 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type II - Short - Full Cutoff
BUG Rating: B1 - U0 - G1

Input Watts (W): 59
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

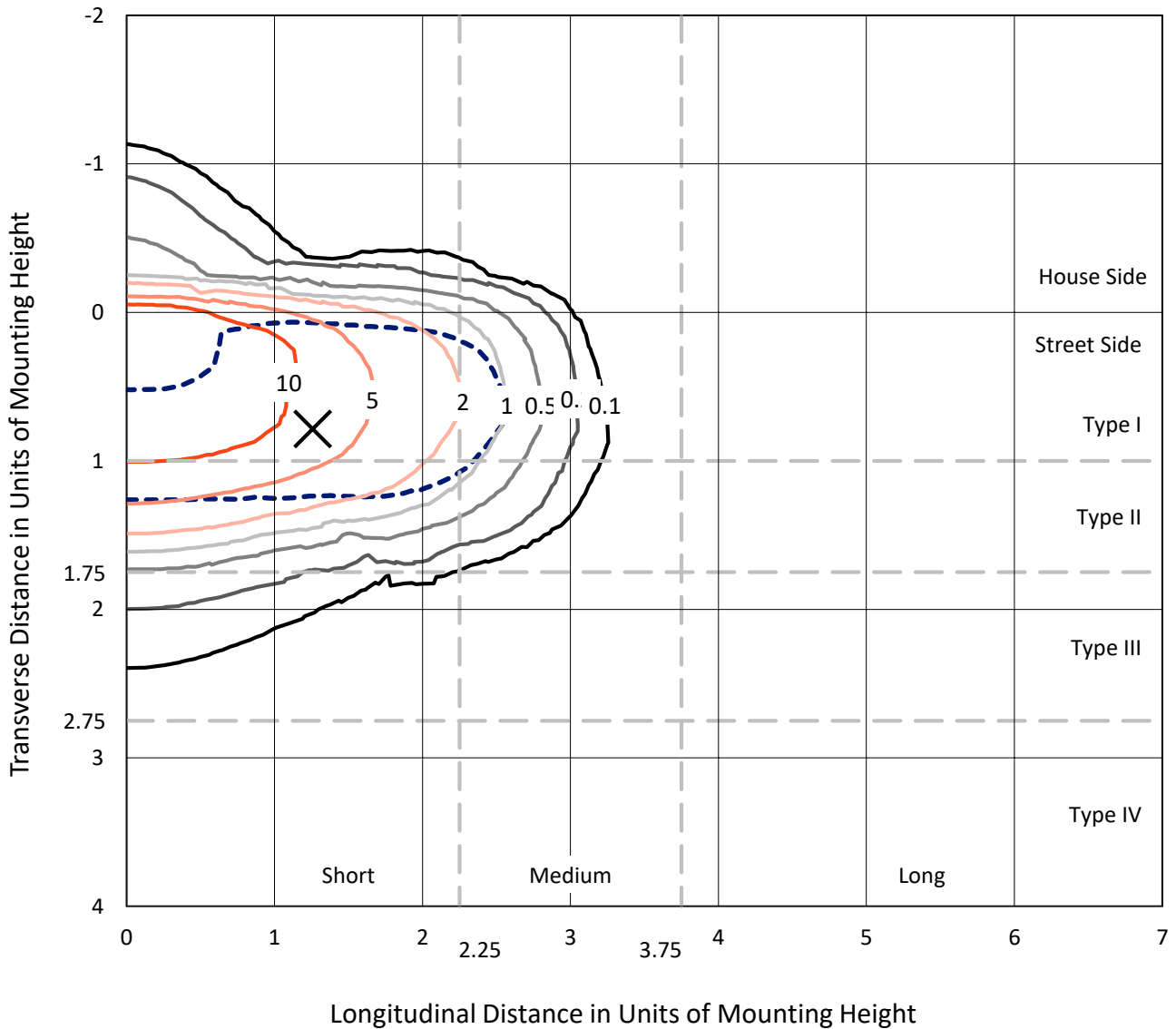


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Iso-Footcandle Lines of Horizontal Illumination

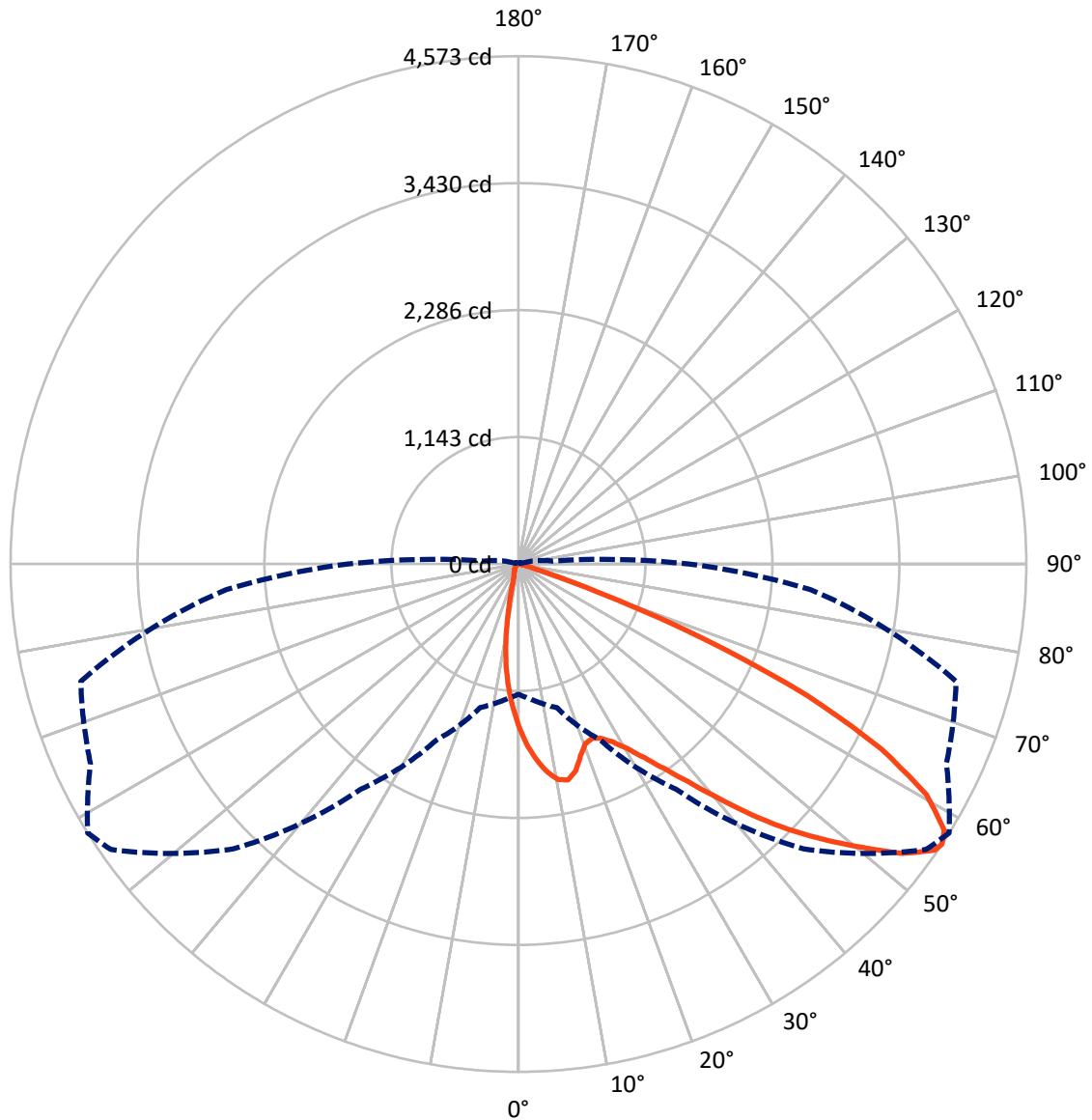
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 18.5 fc
 Type II - Short - Full Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 58-Deg Lateral - - - Horizontal Cone Through 56-Deg Vertical

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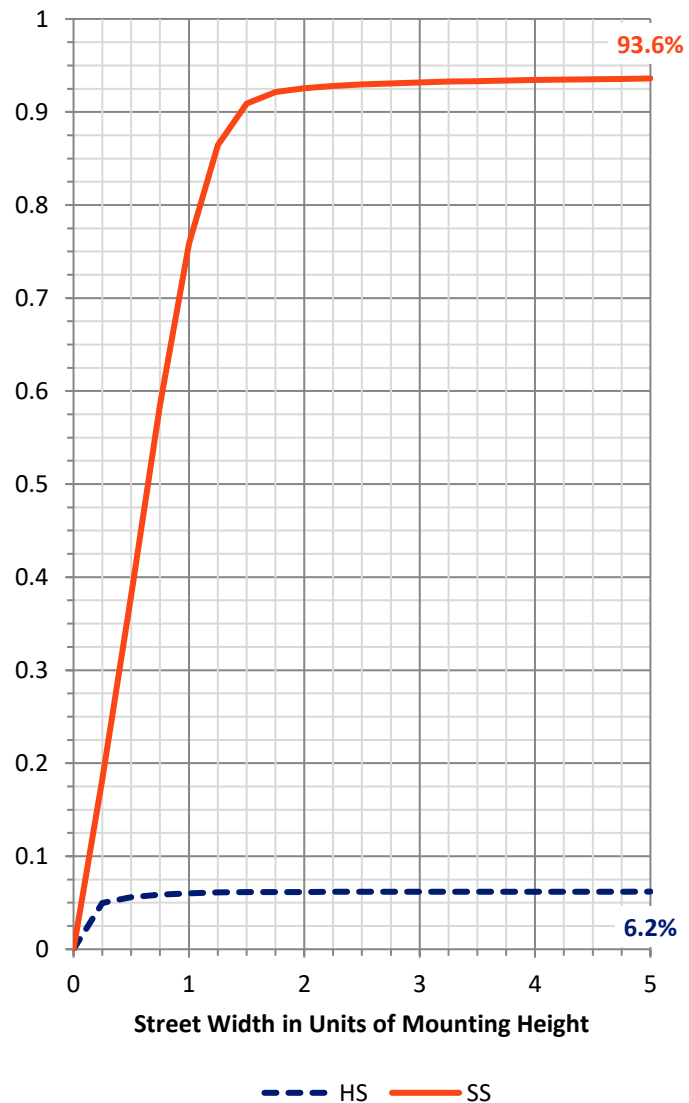
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	327.4	0.0	327.4
	% Fixture	6.2	0.0	6.2
Street Side	Lumens	4918.3	0.0	4918.3
	% Fixture	93.8	0.0	93.8
Total	Lumens	5245.7	0.0	5245.7
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	126.7	2.4
10°-20°	294.8	5.6
20°-30°	496.1	9.5
30°-40°	849.5	16.2
40°-50°	1281.8	24.4
50°-60°	1332.4	25.4
60°-70°	748.0	14.3
70°-80°	102.5	2.0
80°-90°	13.9	0.3
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°	5245.7	100.0
0°-180°	5245.7	100.0

Coefficient of Utilization



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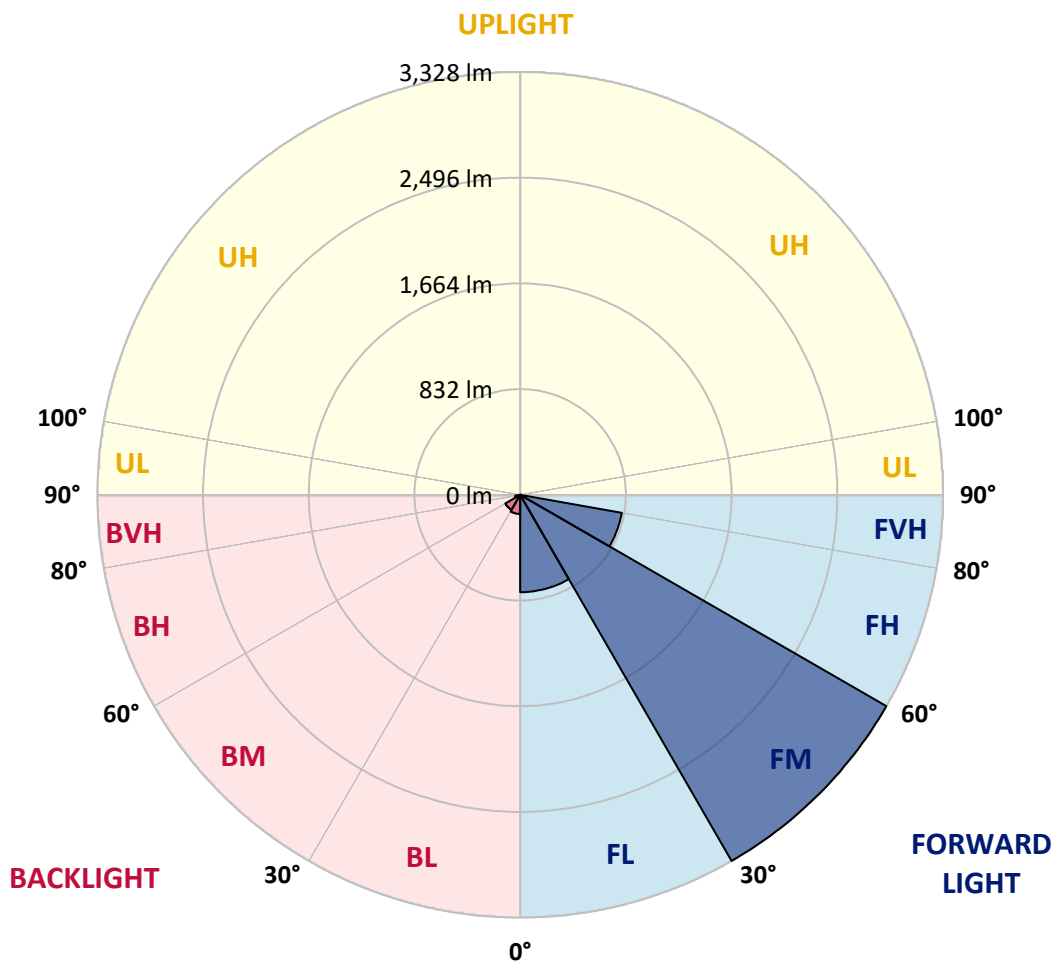
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	766.5	14.6			
FM	(30°-60°)	3328.1	63.4			
FH	(60°-80°)	811.7	15.5			G1/1800
FVH	(80°-90°)	12.0	0.2			G1/100
BL	(0°-30°)	151.0	2.9	B1/500		
BM	(30°-60°)	135.6	2.6	B0/220		
BH	(60°-80°)	38.8	0.7	B0/110		G0/110
BVH	(80°-90°)	1.9	0.0			G0/10
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G1

Type II Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	58°	65°	75°	85°
0°	1485.2	1485.2	1485.2	1485.2	1485.2	1485.2	1485.2	1485.2	1485.2	1485.2	1485.2
2.5°	1787.0	1776.1	1765.0	1744.1	1724.9	1695.3	1654.5	1644.5	1612.5	1559.7	1510.4
5°	1941.0	1939.1	1931.4	1914.7	1893.8	1857.8	1811.7	1781.0	1731.3	1648.1	1553.2
7.5°	1849.8	1866.6	1894.2	1933.5	1959.9	1956.3	1921.1	1894.2	1845.0	1731.3	1595.3
10°	1559.3	1562.5	1600.5	1683.0	1813.4	1935.0	1981.0	1973.9	1928.7	1804.2	1632.1
12.5°	1456.8	1458.8	1467.6	1494.0	1578.8	1748.5	1957.1	1994.7	1991.1	1873.8	1671.3
15°	1464.8	1466.0	1468.4	1476.8	1500.9	1586.1	1835.4	1931.0	2031.1	1939.8	1709.8
17.5°	1528.1	1527.3	1519.6	1511.6	1519.2	1547.2	1711.3	1812.2	2022.7	1995.5	1741.4
20°	1651.3	1655.3	1629.7	1594.1	1575.7	1576.9	1650.1	1725.7	1975.5	2038.7	1765.0
22.5°	1824.6	1827.4	1785.4	1723.8	1669.8	1642.4	1662.9	1702.9	1921.1	2078.7	1784.1
25°	2031.5	2031.5	1972.7	1885.0	1801.4	1741.8	1724.2	1739.3	1900.2	2124.0	1803.4
27.5°	2254.8	2262.9	2186.0	2071.2	1960.7	1873.4	1818.2	1815.4	1916.3	2180.8	1825.0
30°	2497.7	2505.0	2413.8	2273.2	2142.4	2030.8	1945.9	1927.4	1977.5	2257.2	1856.7
32.5°	2739.5	2745.5	2644.6	2501.4	2348.9	2217.7	2105.9	2076.7	2087.5	2368.8	1903.0
35°	3046.9	3048.1	2920.4	2749.9	2587.0	2432.9	2291.6	2262.9	2250.8	2509.8	1969.9
37.5°	3291.4	3281.8	3200.9	3039.7	2852.8	2691.9	2525.8	2488.1	2459.4	2707.9	2073.5
40°	3349.0	3349.0	3337.1	3288.6	3140.2	2985.3	2824.4	2768.3	2704.7	2941.2	2212.8
42.5°	3199.0	3208.6	3287.8	3393.0	3394.3	3295.0	3137.7	3090.5	2978.4	3207.0	2364.9
45°	2863.1	2866.0	3056.1	3340.2	3533.2	3589.9	3473.9	3408.7	3253.4	3483.1	2504.2
47.5°	2742.3	2751.1	2831.9	3179.3	3543.5	3828.9	3796.5	3706.9	3507.9	3735.2	2634.2
50°	2556.6	2567.4	2666.2	2942.4	3449.9	3982.1	4105.0	4009.0	3739.6	3945.3	2698.6
52.5°	2112.4	2129.2	2268.8	2629.1	3215.7	3988.6	4387.6	4329.9	3977.0	4057.8	2691.1
55°	1453.6	1466.0	1628.8	2052.3	2743.6	3792.9	4509.3	4548.9	4188.7	4083.0	2654.3
56°	1172.6	1219.1	1338.3	1748.5	2474.5	3626.4	4481.2	4572.9	4251.5	4079.0	2638.3
57.5°	775.2	784.0	914.1	1267.1	1987.1	3265.0	4354.8	4521.6	4332.4	4058.7	2626.6
60°	364.6	368.6	415.4	584.7	1075.4	2379.3	3943.8	4220.7	4362.0	4015.8	2626.2
62.5°	237.7	238.6	244.2	279.0	439.9	1295.9	3269.4	3668.0	4116.7	4011.0	2618.7
65°	195.7	197.7	190.9	195.3	230.2	488.7	2306.0	2859.6	3540.7	3898.2	2533.0
67.5°	172.5	172.9	163.7	158.5	168.5	214.5	1161.9	1803.8	2648.2	3312.2	2086.3
70°	157.3	156.9	146.5	134.5	134.8	142.5	378.6	749.2	1465.2	1966.7	1197.9
72.5°	139.6	140.5	134.5	117.6	112.0	100.9	142.5	202.1	498.7	631.6	315.8
75°	122.4	120.9	114.9	104.0	93.7	67.6	71.6	86.0	130.1	128.9	68.0
77.5°	92.9	91.2	94.0	88.9	73.2	47.3	39.2	44.8	58.8	54.8	27.6
80°	70.8	70.1	64.0	76.0	66.8	35.6	26.8	27.6	32.0	29.3	13.6
82.5°	51.2	50.8	48.4	46.9	42.5	26.0	20.5	21.6	24.0	20.5	10.0
85°	19.6	19.6	38.1	32.0	29.3	17.6	14.4	15.7	18.4	14.8	6.9
87.5°	3.2	3.2	25.6	21.2	13.2	8.8	9.2	10.0	10.8	8.8	5.2
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°	1485.2	1485.2	1485.2	1485.2	1485.2	1485.2	1485.2	1485.2	1485.2	1485.2	1485.2
2.5°	1481.2	1454.4	1395.6	1338.7	1289.1	1234.7	1207.1	1175.1	1163.0	1139.1	1141.4
5°	1496.4	1440.4	1322.4	1197.9	1083.8	967.7	885.3	807.6	764.5	721.6	721.6
7.5°	1512.0	1426.4	1243.9	1044.9	852.8	654.0	513.1	400.2	337.4	295.3	294.2
10°	1522.9	1408.4	1154.6	867.7	584.3	337.0	203.3	160.1	144.4	137.7	137.3
12.5°	1536.9	1390.4	1053.0	658.8	324.6	160.1	126.8	120.1	117.2	115.7	115.7
15°	1548.8	1364.7	929.8	443.0	170.5	120.1	109.3	106.9	106.5	106.1	106.5
17.5°	1551.6	1328.3	782.0	259.3	123.7	104.9	100.0	98.1	98.1	97.7	97.7
20°	1545.3	1280.3	618.8	160.1	106.9	96.5	91.2	88.9	88.5	88.5	88.5
22.5°	1532.1	1219.1	457.5	121.2	97.3	88.9	82.0	79.7	79.7	80.0	80.4
25°	1515.6	1146.6	314.1	104.4	90.0	80.8	74.1	71.6	72.4	73.2	73.7
27.5°	1494.8	1060.2	205.7	90.4	80.4	72.8	66.8	65.3	66.8	68.4	69.3
30°	1474.0	965.4	139.3	78.5	69.7	64.0	60.5	60.0	62.4	66.1	66.4
32.5°	1460.4	868.1	105.3	70.5	61.3	56.5	54.8	55.6	59.2	63.2	64.0
35°	1459.2	773.2	89.6	64.0	55.6	51.2	50.4	52.8	56.9	60.0	60.9
37.5°	1478.0	684.4	81.2	59.2	51.2	46.9	45.6	50.0	53.6	56.9	57.6
40°	1516.0	604.8	75.6	54.8	47.7	42.5	41.6	45.2	48.8	52.5	53.6
42.5°	1563.7	530.3	69.3	50.4	43.6	37.6	36.8	39.6	43.3	48.4	49.2
45°	1604.9	461.0	62.4	45.6	39.2	32.4	32.0	35.2	38.1	42.9	43.6
47.5°	1639.7	403.5	56.1	40.4	33.7	28.8	28.4	30.0	31.6	36.0	36.8
50°	1621.3	354.6	49.6	33.2	27.2	24.9	24.4	24.4	26.4	30.8	31.6
52.5°	1576.1	324.2	43.6	27.6	22.4	21.2	20.0	20.5	22.4	24.4	24.9
55°	1539.6	309.7	38.5	24.4	18.8	17.6	16.4	16.0	16.4	15.7	14.8
56°	1530.8	308.2	37.2	23.6	18.0	16.4	14.8	14.0	13.6	12.0	11.6
57.5°	1526.9	308.2	35.2	22.0	16.8	14.8	12.8	11.3	9.6	8.4	8.4
60°	1523.7	310.2	32.8	19.2	14.4	12.0	9.2	6.9	5.6	5.6	5.6
62.5°	1516.8	309.3	30.0	16.0	12.4	9.2	5.6	4.4	4.0	4.4	4.8
65°	1440.4	287.3	26.4	12.8	9.6	6.4	3.2	3.2	3.6	4.4	4.8
67.5°	1160.6	217.7	21.6	10.0	6.9	4.8	2.8	2.8	3.6	4.4	4.8
70°	637.5	114.9	18.4	7.2	5.2	4.0	2.8	2.4	3.6	4.4	4.8
72.5°	155.7	48.0	16.8	5.6	4.8	3.6	2.4	2.4	3.6	4.4	4.8
75°	38.5	36.0	13.6	4.4	4.0	3.2	2.4	2.4	3.6	4.4	4.8
77.5°	18.0	47.7	9.2	4.0	3.6	2.8	2.4	2.4	3.6	4.4	4.4
80°	10.8	36.0	5.6	3.6	3.2	2.8	2.4	2.4	3.6	4.4	4.8
82.5°	6.4	10.4	4.0	3.6	3.2	2.4	2.4	2.4	3.6	4.4	4.8
85°	5.6	5.2	4.0	3.6	3.2	2.8	2.4	2.4	4.0	4.8	4.8
87.5°	4.4	4.0	3.6	3.2	3.2	2.8	2.4	2.4	3.6	4.4	4.8
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)