

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: P197116

Luminaire Tested: **NAV-AF-04-D-UNV-SL4-8030-600-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P197116
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24285)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-AF-04-D-UNV-SL4-8030-600-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 80 CRI, 3000K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV SPILL
LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 10686 lumens
Efficiency: N/A
Efficacy: 82.8 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B1 - 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

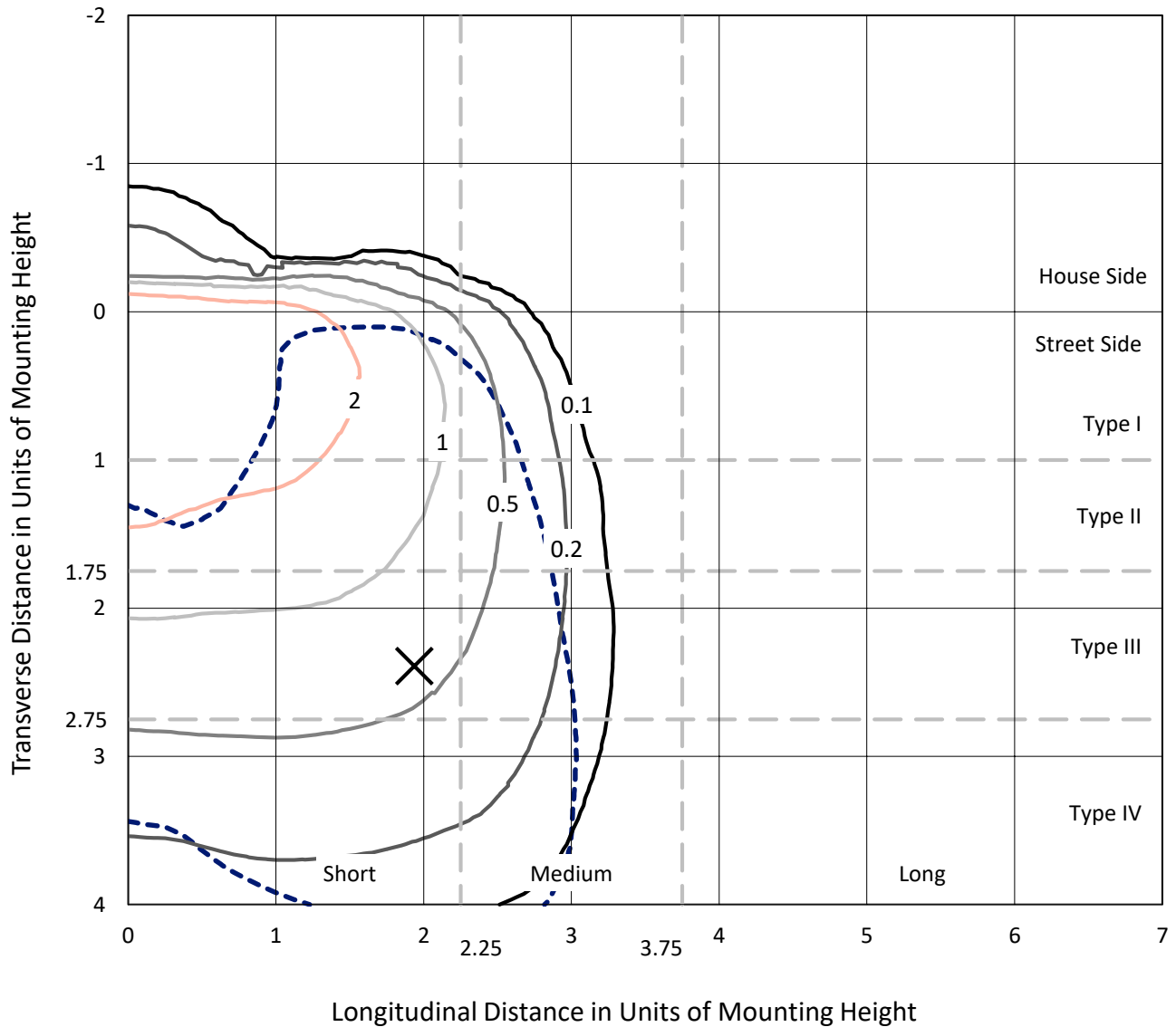


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Iso-Footcandle Lines of Horizontal Illumination

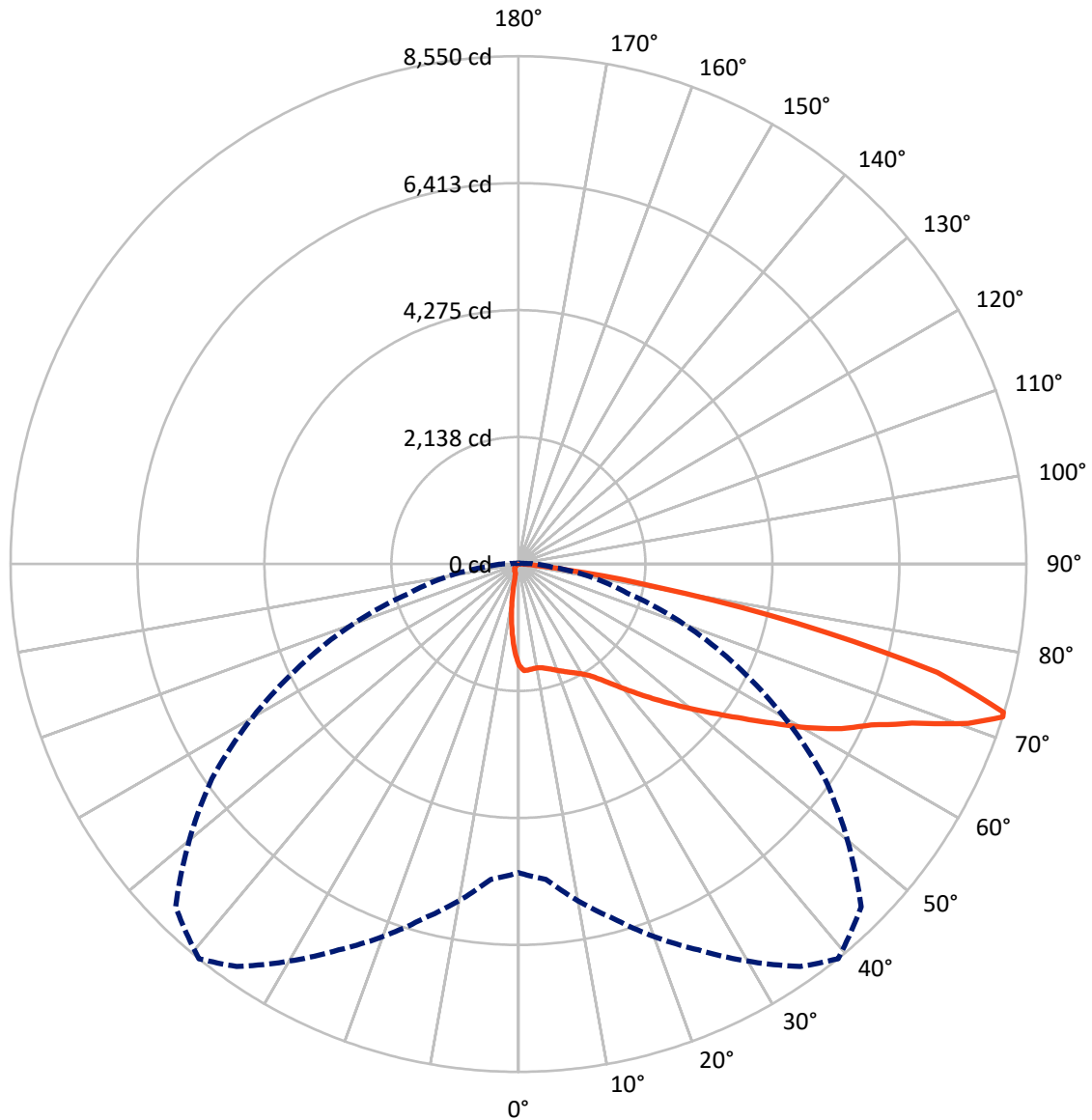
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 4.5 fc
 Type IV - Short - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 39-Deg Lateral - - - Horizontal Cone Through 72-Deg Vertical

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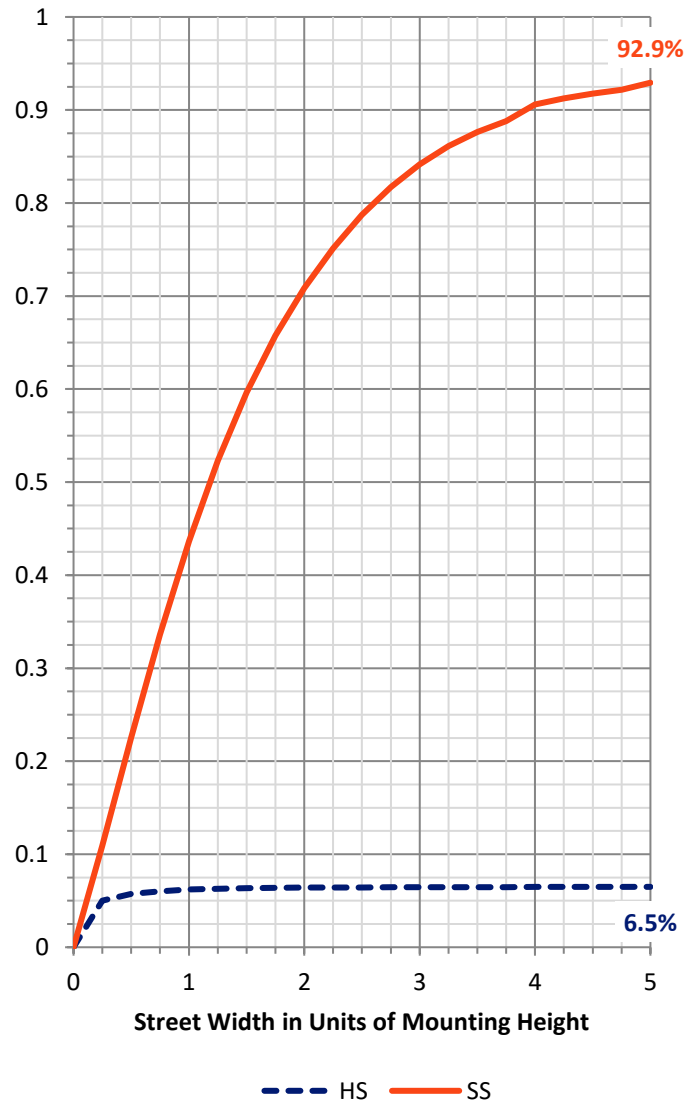
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	700.3	0.0	700.3
	% Fixture	6.6	0.0	6.6
Street Side	Lumens	9985.7	0.0	9985.7
	% Fixture	93.4	0.0	93.4
Total	Lumens	10686.0	0.0	10686.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	139.1	1.3
10°-20°	336.8	3.2
20°-30°	559.4	5.2
30°-40°	891.5	8.3
40°-50°	1471.6	13.8
50°-60°	2222.3	20.8
60°-70°	2894.9	27.1
70°-80°	1956.1	18.3
80°-90°	214.2	2.0
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°	10686.0	100.0
0°-180°	10686.0	100.0



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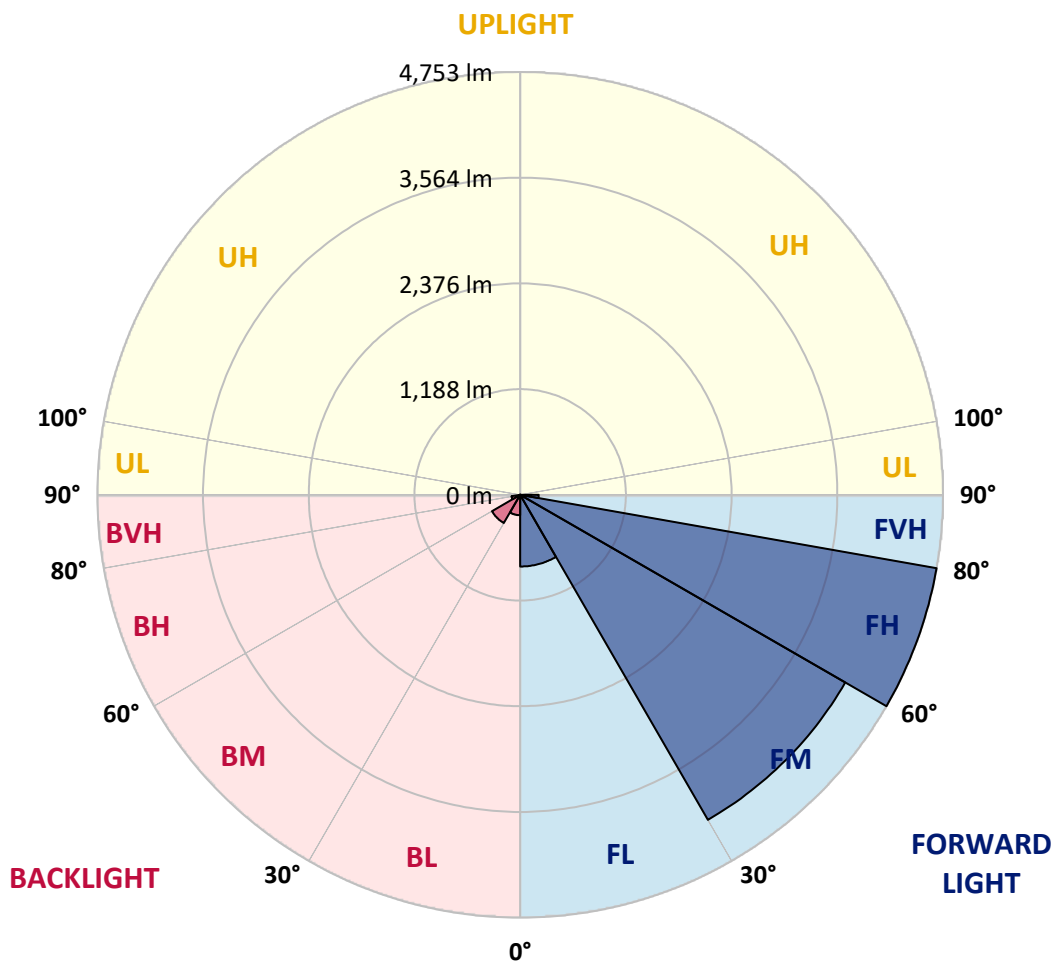
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	806.0	7.5			
FM	(30°-60°)	4219.0	39.5			
FH	(60°-80°)	4752.6	44.5			G2/5000
FVH	(80°-90°)	208.1	1.9			G2/225
BL	(0°-30°)	229.3	2.1	B1/500		
BM	(30°-60°)	366.4	3.4	B1/1000		
BH	(60°-80°)	98.4	0.9	B0/110		G0/110
BVH	(80°-90°)	6.2	0.1			G0/10
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G2

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	39°	45°	55°	65°	75°	85°
0°	1710.4	1710.4	1710.4	1710.4	1710.4	1710.4	1710.4	1710.4	1710.4	1710.4	1710.4
2.5°	1821.3	1824.6	1820.4	1812.9	1801.9	1795.2	1786.0	1765.8	1740.6	1718.8	1693.6
5°	1835.5	1837.2	1832.2	1817.9	1801.1	1791.8	1780.1	1758.2	1732.2	1702.0	1656.6
7.5°	1839.7	1838.9	1833.0	1815.4	1789.3	1777.6	1757.4	1730.5	1703.6	1675.9	1624.7
10°	1838.1	1838.1	1833.9	1817.1	1787.6	1776.7	1754.0	1725.5	1691.9	1664.2	1609.6
12.5°	1832.2	1835.5	1833.0	1823.8	1801.9	1793.5	1773.4	1744.8	1712.9	1684.3	1626.4
15°	1839.7	1844.8	1849.8	1846.5	1833.9	1826.3	1807.8	1778.4	1752.4	1722.1	1660.0
17.5°	1870.0	1880.9	1892.7	1893.5	1880.1	1866.6	1845.6	1815.4	1790.2	1762.4	1695.2
20°	1927.1	1935.5	1957.3	1961.5	1934.7	1915.3	1885.9	1850.7	1825.5	1801.9	1728.0
22.5°	2011.9	2021.2	2038.8	2032.9	1987.6	1964.9	1927.9	1887.6	1861.6	1848.1	1765.8
25°	2140.5	2143.0	2147.2	2121.2	2046.4	2021.2	1975.8	1930.5	1909.5	1907.8	1819.6
27.5°	2291.7	2295.0	2276.6	2218.6	2111.9	2079.2	2027.9	1986.7	1976.7	1989.3	1887.6
30°	2464.7	2465.6	2414.3	2320.2	2187.5	2151.4	2098.5	2053.1	2062.3	2093.4	1975.0
32.5°	2642.0	2633.6	2563.0	2440.4	2290.8	2247.2	2201.8	2156.4	2183.3	2246.3	2102.7
35°	2804.1	2800.8	2717.6	2574.8	2425.3	2386.6	2353.8	2306.0	2349.6	2452.1	2276.6
37.5°	2966.3	2963.7	2868.8	2720.1	2590.7	2563.0	2538.7	2501.7	2573.1	2723.5	2509.3
40°	3145.2	3141.0	3024.2	2881.4	2783.1	2768.0	2753.7	2737.8	2859.6	3068.7	2799.1
42.5°	3366.1	3347.6	3188.9	3057.0	2994.8	2999.0	2999.9	3015.8	3206.5	3479.5	3141.0
45°	3619.8	3578.7	3354.4	3245.2	3227.5	3252.7	3277.9	3344.3	3610.6	3952.5	3519.0
47.5°	3866.0	3799.6	3545.1	3447.6	3483.7	3535.8	3596.3	3725.7	4064.2	4447.3	3861.8
50°	4077.7	4009.6	3734.1	3653.4	3768.5	3845.8	3953.3	4149.1	4543.0	4865.6	4077.7
52.5°	4244.0	4190.2	3934.0	3880.2	4084.4	4190.2	4359.1	4616.1	4995.0	5141.2	4228.9
55°	4366.6	4339.8	4125.5	4133.1	4435.5	4588.4	4798.4	5089.1	5376.4	5355.4	4342.3
57.5°	4505.2	4484.2	4326.3	4431.3	4858.1	5055.5	5298.3	5531.8	5653.6	5527.6	4453.2
60°	4647.2	4653.9	4569.9	4792.5	5380.6	5599.0	5810.7	5868.7	5891.3	5702.3	4569.9
62.5°	4754.7	4783.3	4790.9	5182.3	5916.5	6103.0	6194.6	6153.4	6148.4	5936.7	4560.7
65°	4878.2	4953.0	5077.3	5609.9	6403.8	6526.4	6592.0	6651.6	6525.6	6006.4	4112.1
67.5°	5091.6	5209.2	5489.0	6134.1	6966.6	7148.1	7333.7	7270.7	6581.9	5298.3	3132.6
70°	5378.9	5522.6	6016.5	6818.8	7730.2	8034.3	8189.8	7221.2	5588.1	3661.0	1652.4
72°	5197.5	5327.7	6179.5	7168.2	8271.2	8550.1	8161.2	6298.8	4050.8	1897.7	553.6
72.5°	5021.0	5155.5	6127.4	7164.0	8325.0	8538.4	7975.5	5935.0	3584.5	1476.8	381.4
75°	3483.7	3653.4	5252.9	6439.9	7517.7	7283.3	6102.2	3593.8	1298.7	253.7	126.0
77.5°	1801.1	1932.1	3186.3	4550.6	5239.5	4798.4	3606.4	1559.2	359.5	134.4	83.2
80°	1116.4	1181.1	1490.3	2242.1	2721.8	2380.7	1591.1	630.0	230.2	79.8	66.4
82.5°	578.0	627.5	938.3	904.7	1005.6	835.9	587.2	527.6	142.0	49.6	68.0
85°	189.9	201.6	576.3	601.5	430.1	289.0	260.4	503.2	41.2	31.9	58.0
87.5°	25.2	29.4	202.5	344.4	211.7	131.0	156.3	177.3	14.3	17.6	16.0
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°	1710.4	1710.4	1710.4	1710.4	1710.4	1710.4	1710.4	1710.4	1710.4	1710.4	1710.4
2.5°	1676.8	1665.8	1631.4	1597.0	1557.5	1521.3	1492.8	1474.3	1482.7	1455.0	1459.2
5°	1628.9	1601.2	1525.6	1444.1	1355.9	1273.5	1208.0	1159.3	1150.0	1108.0	1109.7
7.5°	1582.7	1537.3	1414.7	1280.3	1134.1	1015.6	908.1	814.0	780.4	746.0	725.8
10°	1557.5	1495.3	1321.4	1125.7	919.9	746.0	594.8	476.3	426.8	390.6	373.0
12.5°	1565.0	1482.7	1251.7	985.4	714.9	494.0	336.0	249.5	219.3	202.5	196.6
15°	1590.2	1485.2	1188.7	848.5	520.0	299.1	197.4	168.9	166.3	165.5	164.7
17.5°	1613.8	1487.7	1122.3	705.7	347.8	190.7	158.8	156.3	156.3	156.3	156.3
20°	1638.1	1488.6	1049.2	556.1	228.5	156.3	149.5	147.9	149.5	149.5	149.5
22.5°	1666.7	1494.5	978.7	410.8	168.9	147.0	142.8	142.0	142.8	142.8	142.0
25°	1702.0	1507.1	902.2	294.0	152.9	141.1	136.9	136.1	136.9	136.1	136.1
27.5°	1749.0	1523.9	813.2	210.9	146.2	135.2	131.0	131.0	131.0	130.2	130.2
30°	1809.5	1544.0	693.9	166.3	139.5	129.4	126.0	126.0	125.2	124.3	124.3
32.5°	1896.0	1576.8	563.7	150.4	131.9	121.8	118.4	119.3	118.4	117.6	116.8
35°	2018.7	1628.0	435.2	142.0	124.3	114.2	110.9	110.9	110.9	109.2	109.2
37.5°	2192.6	1706.2	325.9	133.6	116.8	106.7	102.5	102.5	101.6	100.0	100.8
40°	2407.6	1804.5	236.1	126.0	109.2	98.3	94.9	93.2	91.6	89.9	89.9
42.5°	2666.4	1900.2	177.3	118.4	101.6	91.6	87.4	85.7	82.3	80.6	79.8
45°	2956.2	2001.9	147.0	109.2	93.2	84.0	80.6	77.3	73.1	70.6	69.7
47.5°	3200.6	2064.0	131.0	100.0	84.8	76.4	73.1	68.0	63.0	61.3	61.3
50°	3347.6	2038.0	117.6	90.7	76.4	68.9	64.7	58.0	54.6	52.9	52.1
52.5°	3430.0	1960.7	106.7	83.2	68.9	60.5	54.6	48.7	47.0	45.4	45.4
55°	3486.3	1849.0	94.9	75.6	62.2	52.9	46.2	42.0	40.3	39.5	38.6
57.5°	3540.0	1712.9	84.0	68.9	55.4	47.0	39.5	37.8	34.4	33.6	33.6
60°	3556.0	1525.6	73.9	61.3	49.6	41.2	34.4	31.9	28.6	27.7	27.7
62.5°	3352.7	1213.9	65.5	52.1	43.7	35.3	30.2	26.9	23.5	23.5	23.5
65°	2801.6	824.1	56.3	45.4	38.6	30.2	26.0	21.8	20.2	20.2	20.2
67.5°	1951.5	459.5	47.9	38.6	32.8	25.2	21.8	18.5	17.6	18.5	18.5
70°	879.5	182.3	40.3	31.9	26.9	21.0	18.5	16.0	17.6	17.6	17.6
72°	263.8	97.4	33.6	26.0	21.8	18.5	16.0	15.1	16.8	17.6	17.6
72.5°	195.7	87.4	31.9	25.2	21.8	17.6	15.1	15.1	16.8	17.6	17.6
75°	100.8	59.6	24.4	18.5	16.0	14.3	12.6	14.3	16.8	16.8	16.8
77.5°	79.0	48.7	20.2	14.3	13.4	12.6	11.8	13.4	15.1	15.1	15.1
80°	73.9	31.9	16.0	13.4	11.8	10.9	10.9	11.8	13.4	14.3	14.3
82.5°	74.8	26.0	14.3	12.6	10.9	10.1	10.1	10.9	12.6	13.4	13.4
85°	47.9	17.6	12.6	10.9	10.1	9.2	9.2	10.1	11.8	12.6	12.6
87.5°	16.0	13.4	10.9	10.1	8.4	8.4	8.4	8.4	10.1	10.9	11.8
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)