

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: P197115

Luminaire Tested: **NAV-AF-03-D-UNV-SL4-8030-600-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P197115
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-03-D-UNV-SL4-8030-600-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 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: 7933 lumens
Efficiency: N/A
Efficacy: 82.6 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B1 - 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

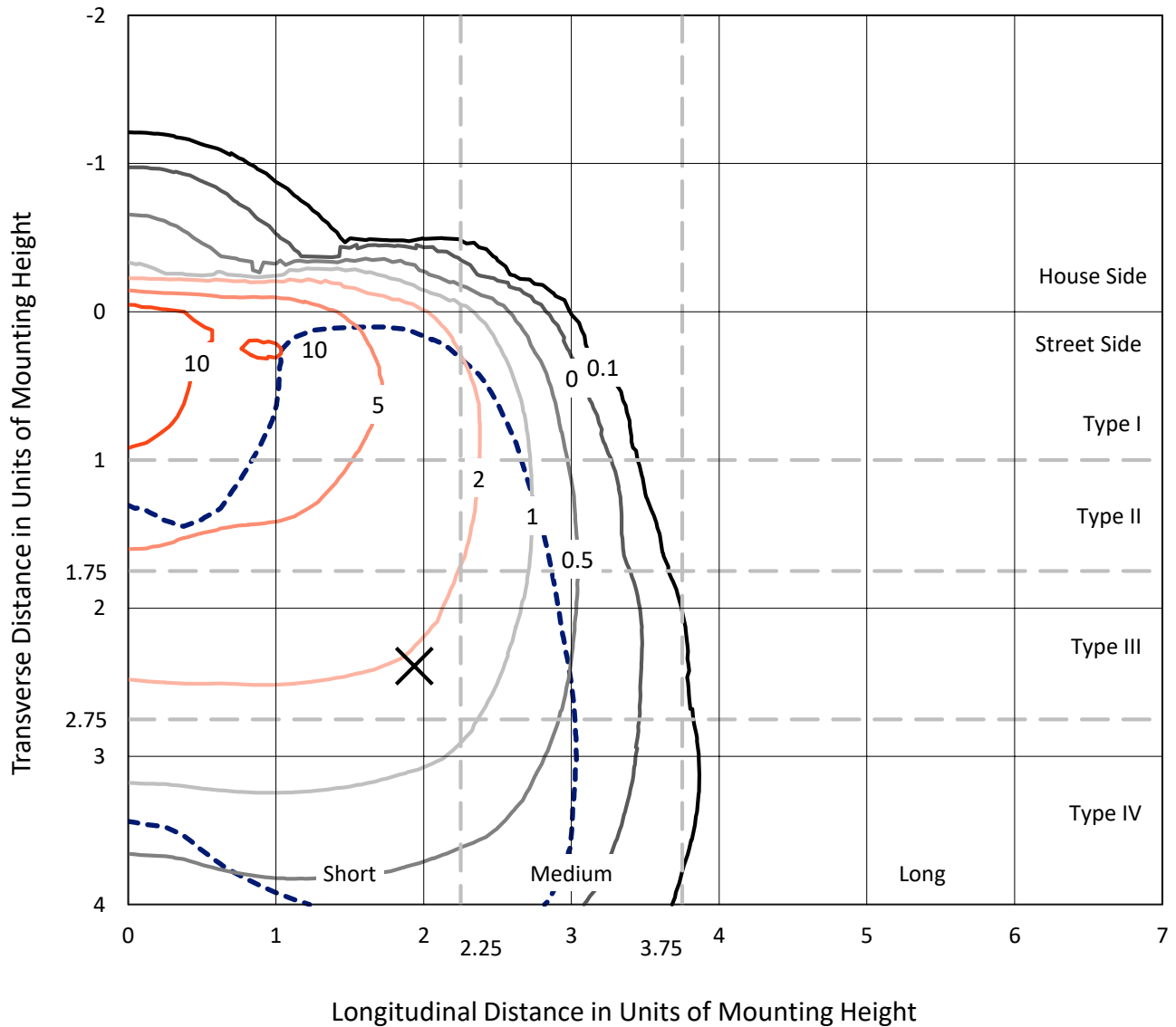


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Iso-Footcandle Lines of Horizontal Illumination

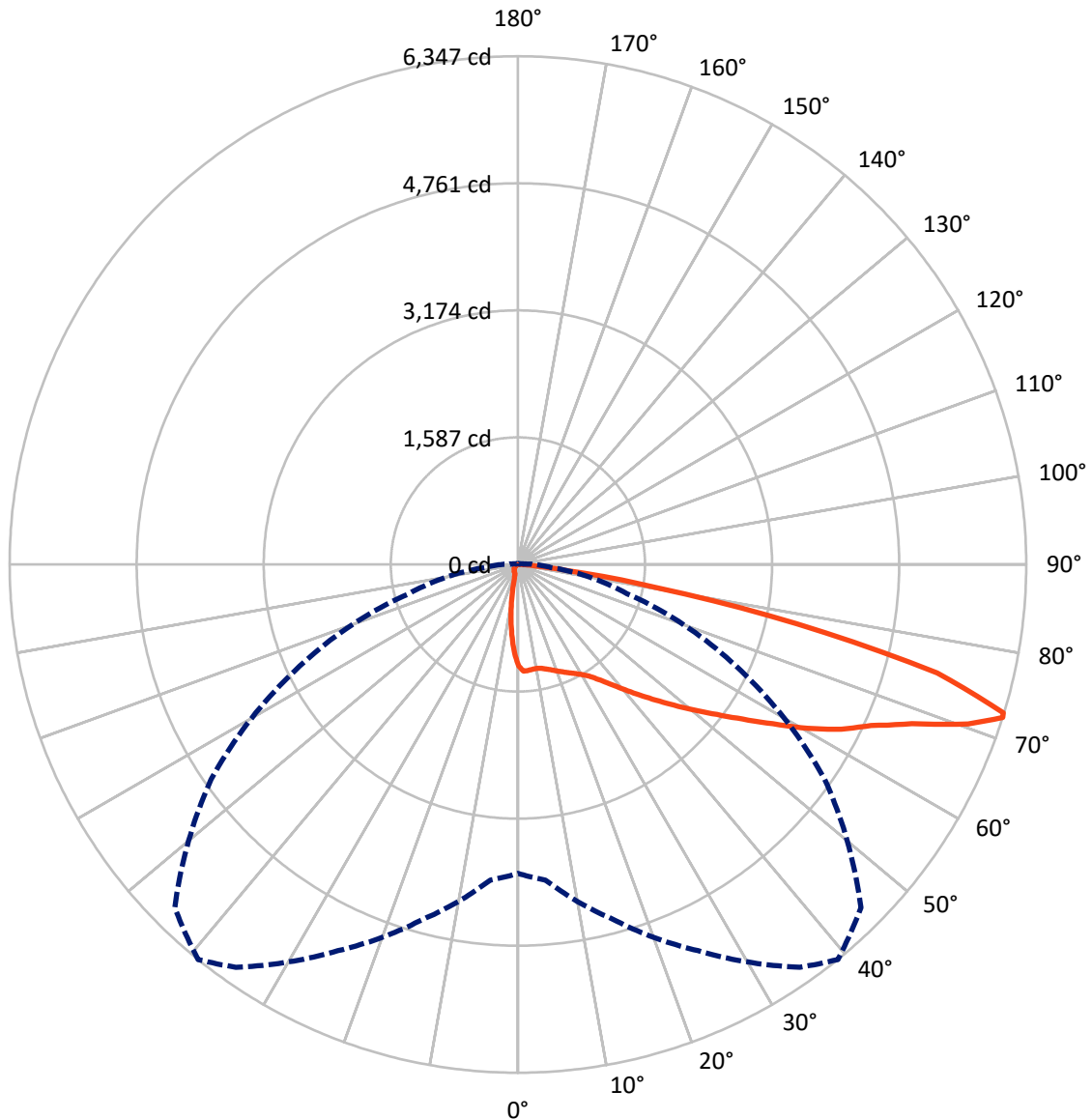
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 13.3 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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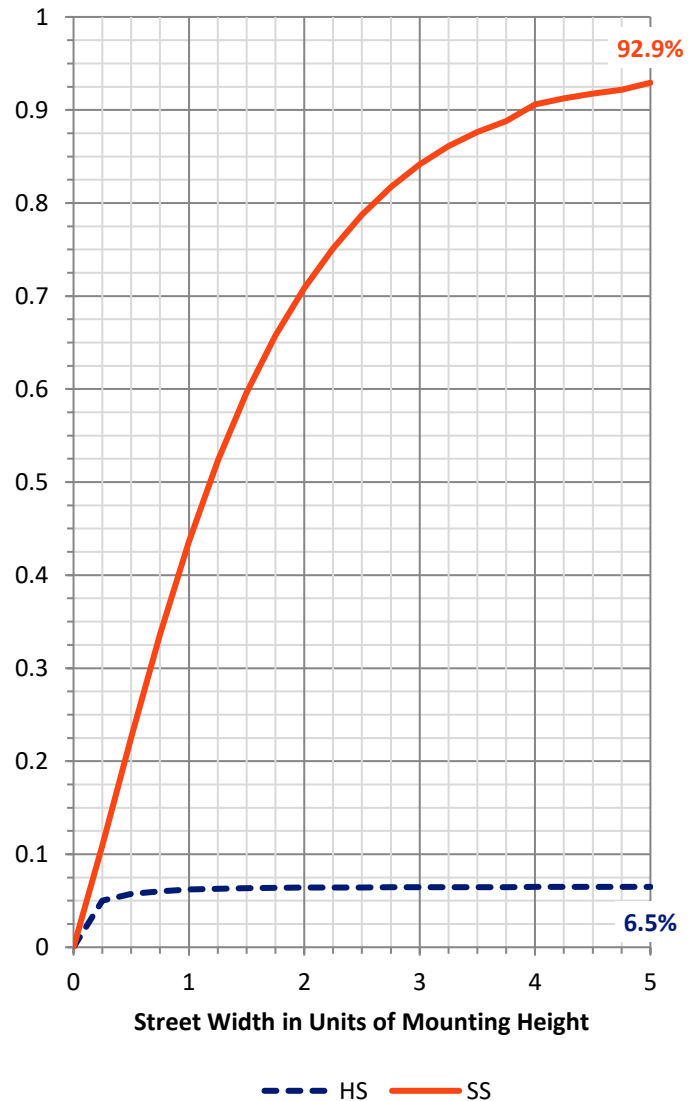
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	519.9	0.0	519.9
	% Fixture	6.6	0.0	6.6
Street Side	Lumens	7413.1	0.0	7413.1
	% Fixture	93.4	0.0	93.4
Total	Lumens	7933.0	0.0	7933.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	103.3	1.3
10°-20°	250.0	3.2
20°-30°	415.3	5.2
30°-40°	661.8	8.3
40°-50°	1092.4	13.8
50°-60°	1649.8	20.8
60°-70°	2149.1	27.1
70°-80°	1452.2	18.3
80°-90°	159.0	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°	7933.0	100.0
0°-180°	7933.0	100.0



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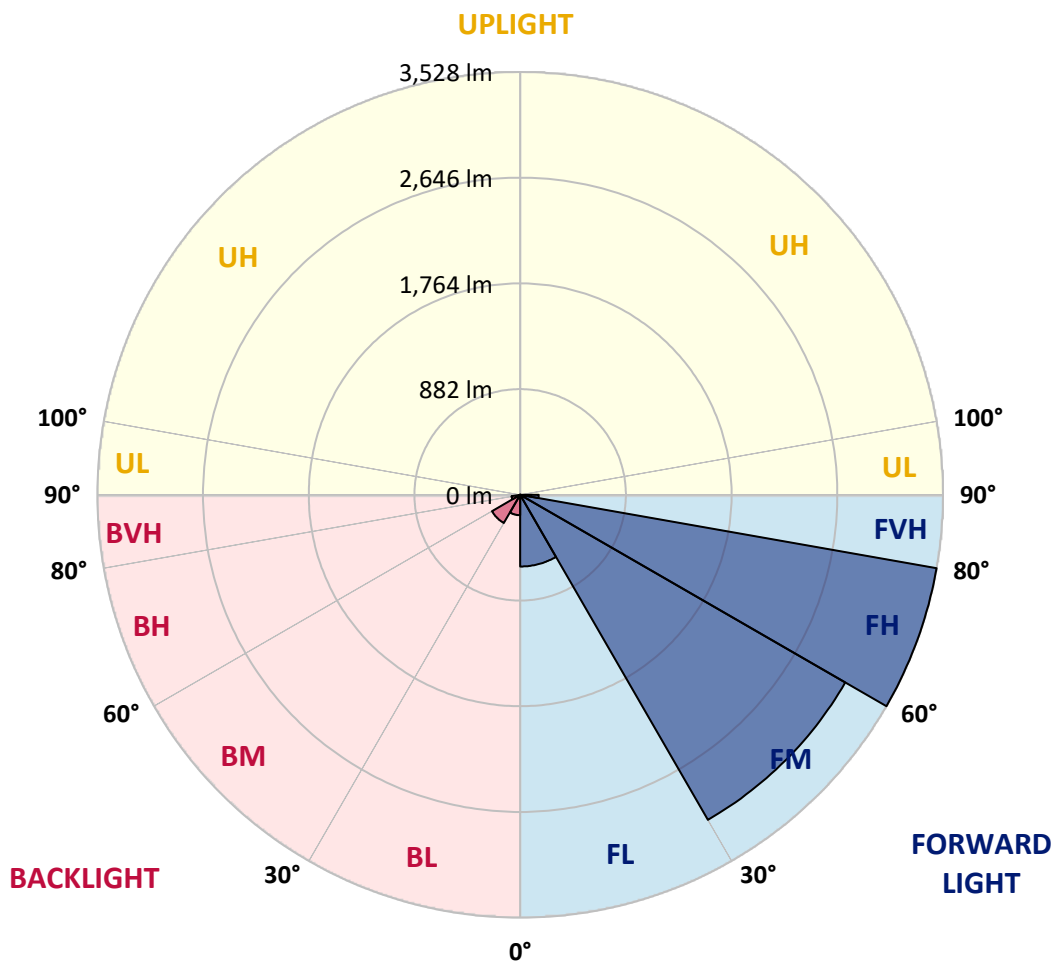
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	598.3	7.5			
FM	(30°-60°)	3132.0	39.5			
FH	(60°-80°)	3528.2	44.5			G2/5000
FVH	(80°-90°)	154.5	1.9			G2/225
BL	(0°-30°)	170.2	2.1	B1/500		
BM	(30°-60°)	272.0	3.4	B1/1000		
BH	(60°-80°)	73.1	0.9	B0/110		G0/110
BVH	(80°-90°)	4.6	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°	1269.7	1269.7	1269.7	1269.7	1269.7	1269.7	1269.7	1269.7	1269.7	1269.7	1269.7
2.5°	1352.0	1354.5	1351.4	1345.8	1337.7	1332.7	1325.9	1310.9	1292.2	1276.0	1257.3
5°	1362.7	1363.9	1360.2	1349.6	1337.1	1330.2	1321.5	1305.3	1285.9	1263.5	1229.8
7.5°	1365.8	1365.1	1360.8	1347.7	1328.3	1319.6	1304.7	1284.7	1264.7	1244.2	1206.1
10°	1364.5	1364.5	1361.4	1348.9	1327.1	1319.0	1302.2	1281.0	1256.0	1235.4	1194.9
12.5°	1360.2	1362.7	1360.8	1353.9	1337.7	1331.5	1316.5	1295.3	1271.6	1250.4	1207.4
15°	1365.8	1369.5	1373.3	1370.8	1361.4	1355.8	1342.1	1320.2	1300.9	1278.5	1232.3
17.5°	1388.2	1396.3	1405.1	1405.7	1395.7	1385.7	1370.1	1347.7	1329.0	1308.4	1258.5
20°	1430.6	1436.9	1453.1	1456.2	1436.2	1421.9	1400.1	1373.9	1355.2	1337.7	1282.8
22.5°	1493.6	1500.5	1513.6	1509.2	1475.5	1458.7	1431.3	1401.3	1382.0	1372.0	1310.9
25°	1589.0	1590.9	1594.0	1574.7	1519.2	1500.5	1466.8	1433.1	1417.5	1416.3	1350.8
27.5°	1701.3	1703.8	1690.1	1647.0	1567.8	1543.5	1505.5	1474.9	1467.4	1476.8	1401.3
30°	1829.8	1830.4	1792.3	1722.5	1624.0	1597.1	1557.8	1524.2	1531.0	1554.1	1466.2
32.5°	1961.3	1955.1	1902.7	1811.7	1700.7	1668.2	1634.6	1600.9	1620.8	1667.6	1561.0
35°	2081.7	2079.2	2017.5	1911.5	1800.4	1771.8	1747.4	1711.9	1744.3	1820.4	1690.1
37.5°	2202.1	2200.2	2129.7	2019.3	1923.3	1902.7	1884.6	1857.2	1910.2	2021.8	1862.8
40°	2334.9	2331.8	2245.1	2139.1	2066.1	2054.9	2044.3	2032.4	2122.9	2278.2	2078.0
42.5°	2498.9	2485.2	2367.3	2269.4	2223.3	2226.4	2227.0	2238.9	2380.4	2583.1	2331.8
45°	2687.3	2656.7	2490.2	2409.1	2396.0	2414.7	2433.4	2482.7	2680.4	2934.2	2612.4
47.5°	2870.0	2820.7	2631.8	2559.4	2586.2	2624.9	2669.8	2765.8	3017.2	3301.5	2866.9
50°	3027.1	2976.6	2772.1	2712.2	2797.6	2855.0	2934.8	3080.2	3372.6	3612.1	3027.1
52.5°	3150.6	3110.7	2920.5	2880.6	3032.1	3110.7	3236.1	3426.9	3708.2	3816.7	3139.4
55°	3241.7	3221.7	3062.7	3068.3	3292.8	3406.3	3562.2	3778.0	3991.3	3975.7	3223.6
57.5°	3344.6	3329.0	3211.7	3289.7	3606.5	3753.1	3933.3	4106.7	4197.1	4103.5	3305.9
60°	3450.0	3455.0	3392.6	3557.9	3994.4	4156.6	4313.7	4356.7	4373.6	4233.3	3392.6
62.5°	3529.8	3551.0	3556.6	3847.2	4392.3	4530.7	4598.7	4568.2	4564.4	4407.3	3385.7
65°	3621.5	3677.0	3769.3	4164.7	4754.0	4845.0	4893.7	4938.0	4844.4	4459.0	3052.7
67.5°	3779.9	3867.2	4074.9	4553.8	5171.8	5306.5	5444.4	5397.6	4886.2	3933.3	2325.5
70°	3993.2	4099.8	4466.5	5062.1	5738.7	5964.5	6079.9	5360.8	4148.4	2717.8	1226.7
72°	3858.5	3955.1	4587.5	5321.5	6140.3	6347.4	6058.6	4676.0	3007.2	1408.8	411.0
72.5°	3727.5	3827.3	4548.8	5318.4	6180.3	6338.7	5920.8	4406.0	2661.1	1096.4	283.1
75°	2586.2	2712.2	3899.6	4780.8	5580.9	5406.9	4530.1	2667.9	964.1	188.3	93.5
77.5°	1337.1	1434.4	2365.5	3378.2	3889.6	3562.2	2677.3	1157.5	266.9	99.8	61.7
80°	828.8	876.8	1106.3	1664.5	2020.6	1767.4	1181.2	467.7	170.9	59.2	49.3
82.5°	429.1	465.9	696.6	671.7	746.5	620.5	435.9	391.6	105.4	36.8	50.5
85°	140.9	149.7	427.8	446.5	319.3	214.5	193.3	373.6	30.6	23.7	43.0
87.5°	18.7	21.8	150.3	255.7	157.2	97.3	116.0	131.6	10.6	13.1	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



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CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	1269.7	1269.7	1269.7	1269.7	1269.7	1269.7	1269.7	1269.7	1269.7	1269.7	1269.7
2.5°	1244.8	1236.7	1211.1	1185.5	1156.2	1129.4	1108.2	1094.5	1100.7	1080.1	1083.3
5°	1209.2	1188.7	1132.5	1072.0	1006.6	945.4	896.8	860.6	853.8	822.6	823.8
7.5°	1174.9	1141.3	1050.2	950.4	841.9	754.0	674.2	604.3	579.4	553.8	538.8
10°	1156.2	1110.1	981.0	835.7	682.9	553.8	441.5	353.6	316.8	290.0	276.9
12.5°	1161.8	1100.7	929.2	731.5	530.7	366.7	249.5	185.2	162.8	150.3	145.9
15°	1180.5	1102.6	882.4	629.9	386.0	222.0	146.6	125.4	123.5	122.9	122.2
17.5°	1198.0	1104.5	833.2	523.9	258.2	141.6	117.9	116.0	116.0	116.0	116.0
20°	1216.1	1105.1	778.9	412.8	169.6	116.0	111.0	109.8	111.0	111.0	111.0
22.5°	1237.3	1109.5	726.5	305.0	125.4	109.1	106.0	105.4	106.0	106.0	105.4
25°	1263.5	1118.8	669.8	218.3	113.5	104.8	101.7	101.0	101.7	101.0	101.0
27.5°	1298.4	1131.3	603.7	156.5	108.5	100.4	97.3	97.3	97.3	96.7	96.7
30°	1343.3	1146.2	515.1	123.5	103.5	96.0	93.5	93.5	92.9	92.3	92.3
32.5°	1407.6	1170.6	418.5	111.6	97.9	90.4	87.9	88.6	87.9	87.3	86.7
35°	1498.6	1208.6	323.0	105.4	92.3	84.8	82.3	82.3	82.3	81.1	81.1
37.5°	1627.7	1266.6	242.0	99.2	86.7	79.2	76.1	76.1	75.5	74.2	74.8
40°	1787.3	1339.6	175.2	93.5	81.1	73.0	70.5	69.2	68.0	66.7	66.7
42.5°	1979.4	1410.7	131.6	87.9	75.5	68.0	64.9	63.6	61.1	59.9	59.2
45°	2194.6	1486.1	109.1	81.1	69.2	62.4	59.9	57.4	54.3	52.4	51.8
47.5°	2376.1	1532.3	97.3	74.2	63.0	56.8	54.3	50.5	46.8	45.5	45.5
50°	2485.2	1512.9	87.3	67.4	56.8	51.1	48.0	43.0	40.5	39.3	38.7
52.5°	2546.3	1455.6	79.2	61.7	51.1	44.9	40.5	36.2	34.9	33.7	33.7
55°	2588.1	1372.6	70.5	56.1	46.1	39.3	34.3	31.2	29.9	29.3	28.7
57.5°	2628.0	1271.6	62.4	51.1	41.2	34.9	29.3	28.1	25.6	24.9	24.9
60°	2639.9	1132.5	54.9	45.5	36.8	30.6	25.6	23.7	21.2	20.6	20.6
62.5°	2488.9	901.2	48.6	38.7	32.4	26.2	22.5	20.0	17.5	17.5	17.5
65°	2079.8	611.8	41.8	33.7	28.7	22.5	19.3	16.2	15.0	15.0	15.0
67.5°	1448.7	341.1	35.5	28.7	24.3	18.7	16.2	13.7	13.1	13.7	13.7
70°	652.9	135.3	29.9	23.7	20.0	15.6	13.7	11.8	13.1	13.1	13.1
72°	195.8	72.3	24.9	19.3	16.2	13.7	11.8	11.2	12.5	13.1	13.1
72.5°	145.3	64.9	23.7	18.7	16.2	13.1	11.2	11.2	12.5	13.1	13.1
75°	74.8	44.3	18.1	13.7	11.8	10.6	9.4	10.6	12.5	12.5	12.5
77.5°	58.6	36.2	15.0	10.6	10.0	9.4	8.7	10.0	11.2	11.2	11.2
80°	54.9	23.7	11.8	10.0	8.7	8.1	8.1	8.7	10.0	10.6	10.6
82.5°	55.5	19.3	10.6	9.4	8.1	7.5	7.5	8.1	9.4	10.0	10.0
85°	35.5	13.1	9.4	8.1	7.5	6.9	6.9	7.5	8.7	9.4	9.4
87.5°	11.8	10.0	8.1	7.5	6.2	6.2	6.2	6.2	7.5	8.1	8.7
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)