

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: P197110

Luminaire Tested: **NAV-AF-04-D-UNV-SL3-8030-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P197110
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24262)
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-SL3-8030-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 80 CRI, 3000K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III
SPILL LIGHT ELIMINATOR OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 21810 lumens
Efficiency: N/A
Efficacy: 84.5 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type III - Medium - Non-Cutoff
BUG Rating: B3 - U0 - G4

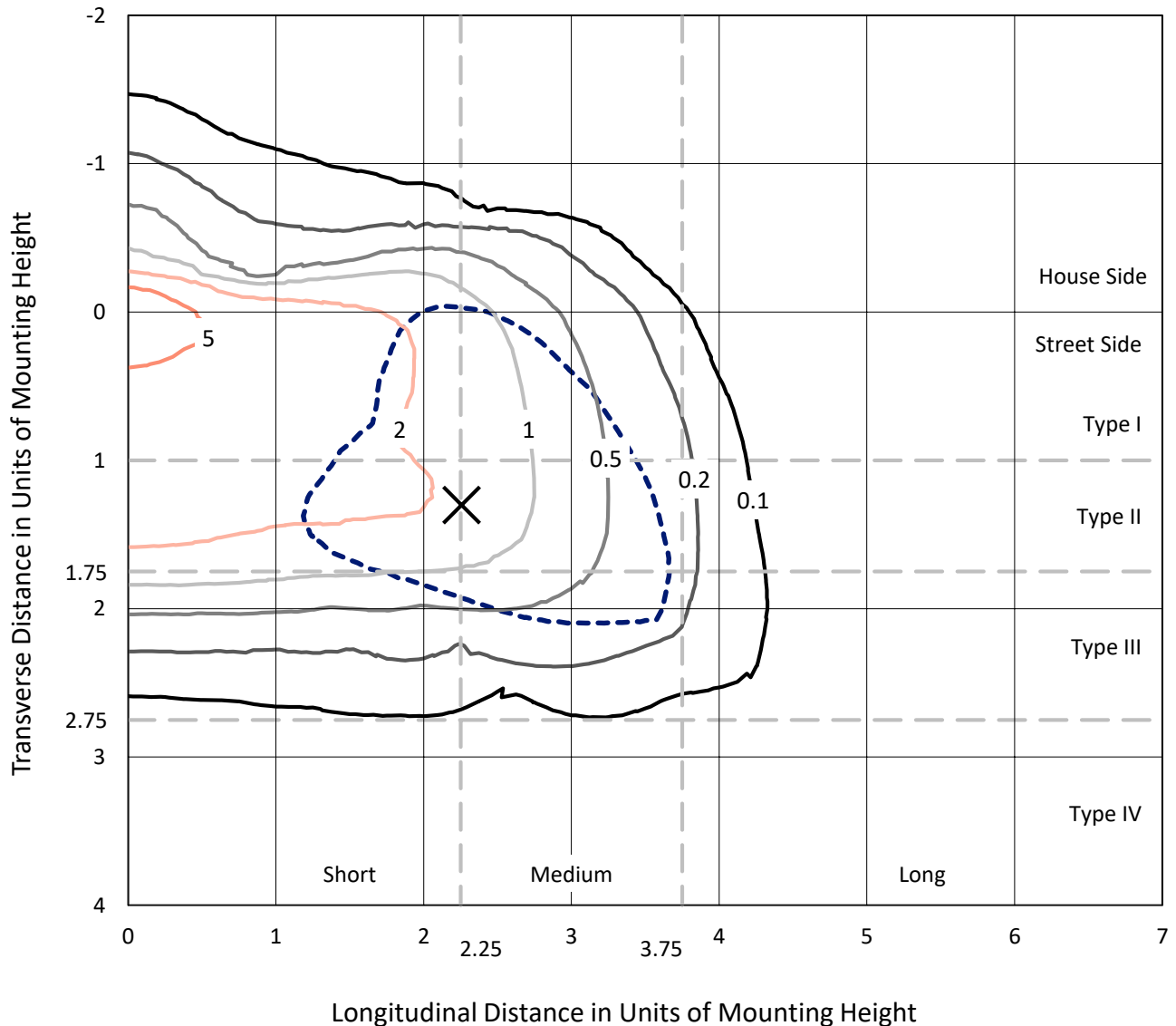
Input Watts (W): 258
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

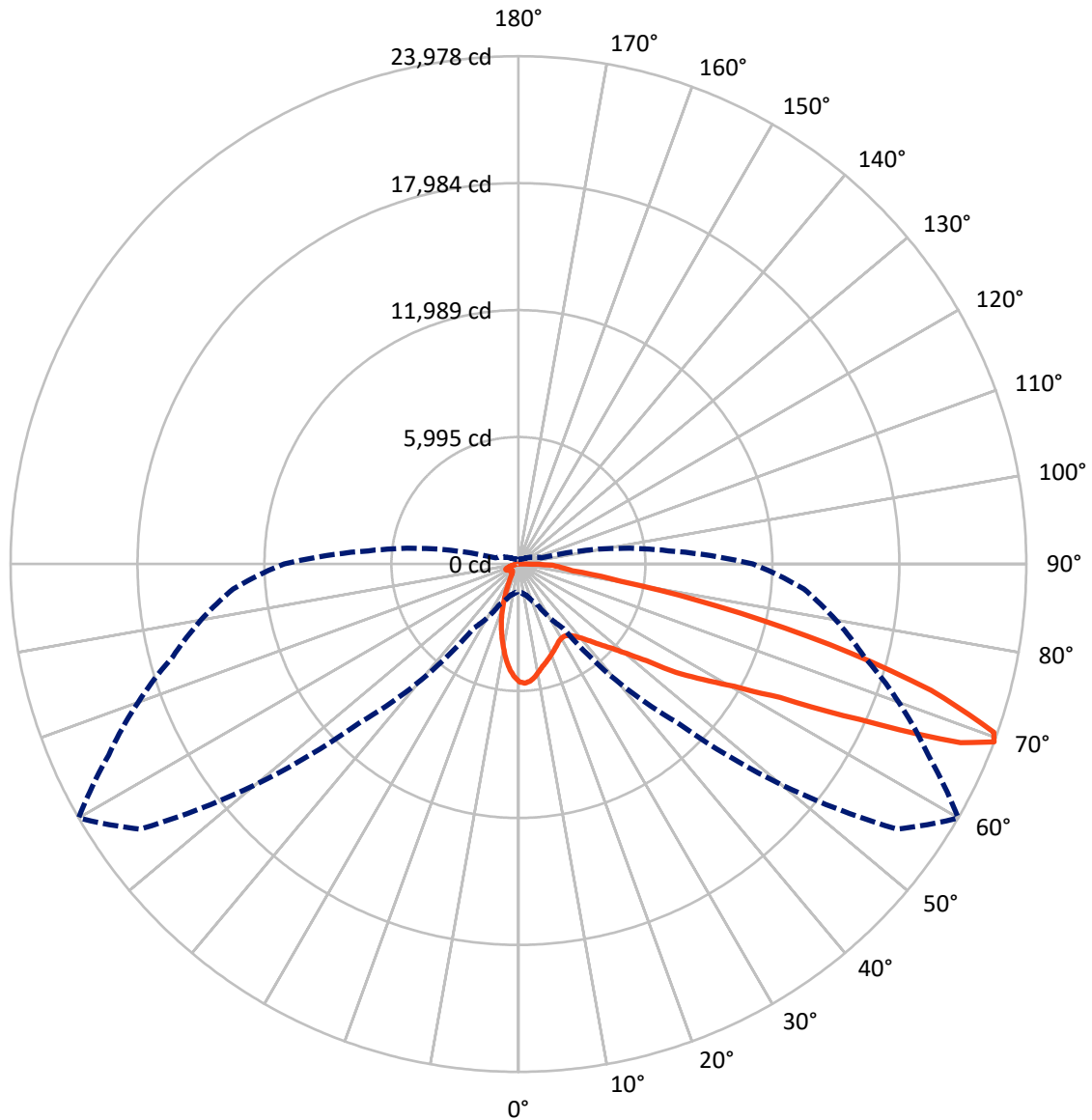
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 8.9 fc
 Type III - Medium - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 60-Deg Lateral - - - Horizontal Cone Through 69-Deg Vertical

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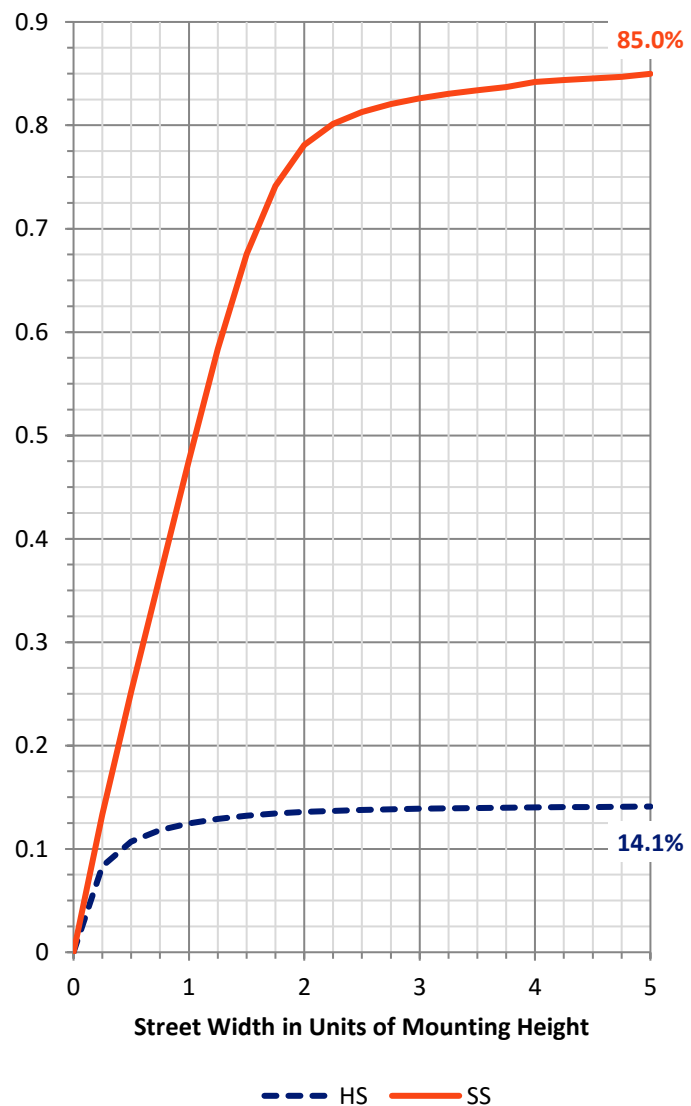
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	3110.8	0.0	3110.8
	% Fixture	14.3	0.0	14.3
Street Side	Lumens	18699.2	0.0	18699.2
	% Fixture	85.7	0.0	85.7
Total	Lumens	21810.0	0.0	21810.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	472.1	2.2
10°-20°	1010.8	4.6
20°-30°	1289.5	5.9
30°-40°	1774.4	8.1
40°-50°	2874.2	13.2
50°-60°	4511.0	20.7
60°-70°	6014.0	27.6
70°-80°	3345.2	15.3
80°-90°	518.8	2.4
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°	21810.0	100.0
0°-180°	21810.0	100.0

Coefficient of Utilization



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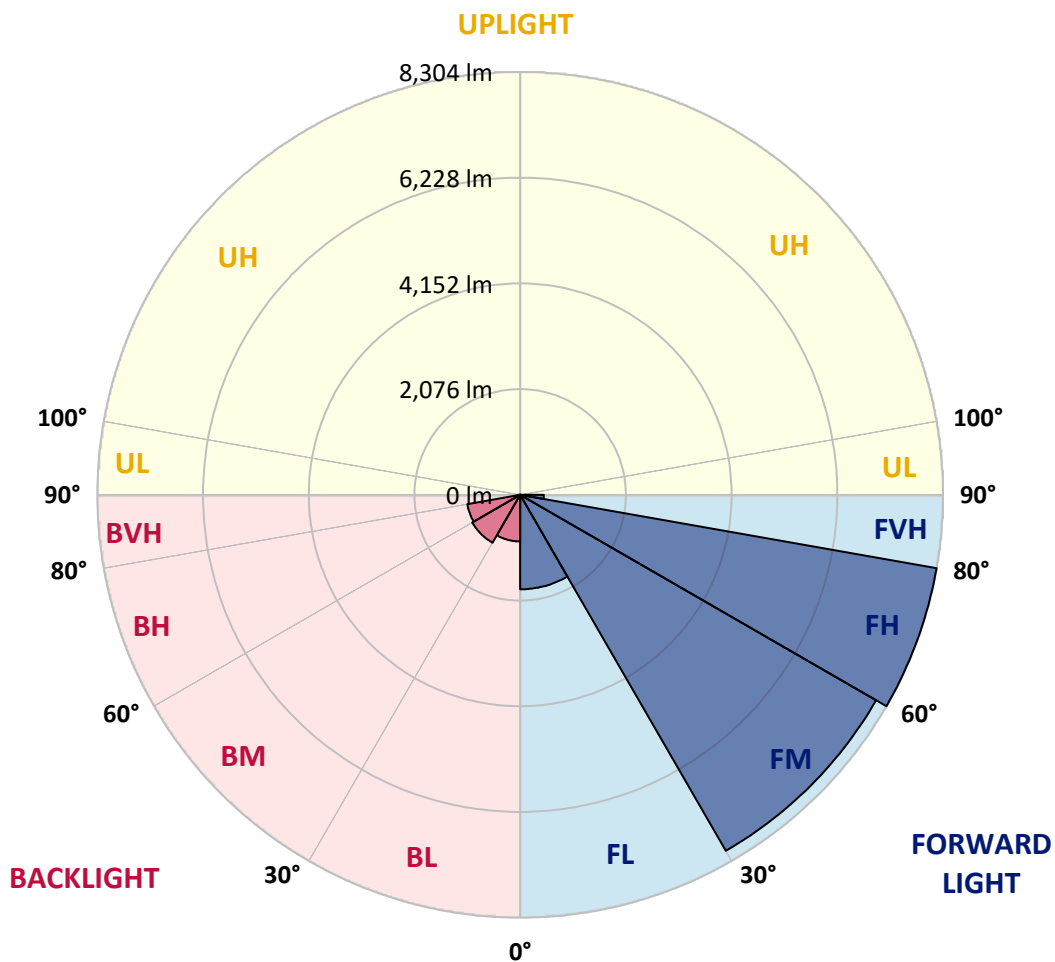
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1855.6	8.5			
FM	(30°-60°)	8072.9	37.0			
FH	(60°-80°)	8304.4	38.1			G4/12000
FVH	(80°-90°)	466.2	2.1			G3/500
BL	(0°-30°)	916.8	4.2	B2/1000		
BM	(30°-60°)	1086.7	5.0	B2/2500		
BH	(60°-80°)	1054.7	4.8	B3/2500		G3/2500
BVH	(80°-90°)	52.6	0.2			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G4

Type III Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	60°	65°	75°	85°
0°	5564.9	5564.9	5564.9	5564.9	5564.9	5564.9	5564.9	5564.9	5564.9	5564.9	5564.9
2.5°	5713.1	5728.5	5728.5	5715.9	5708.9	5668.4	5644.6	5627.8	5598.5	5543.9	5495.0
5°	5508.9	5538.3	5550.9	5556.5	5592.9	5580.3	5581.7	5570.5	5545.3	5486.6	5406.9
7.5°	5134.1	5139.7	5162.1	5199.9	5288.0	5349.5	5399.9	5409.6	5404.1	5360.7	5248.8
10°	4764.9	4774.7	4801.3	4865.6	4949.5	5037.6	5146.7	5191.5	5225.0	5211.1	5069.8
12.5°	4458.6	4460.0	4489.4	4563.5	4657.2	4767.7	4916.0	4985.9	5065.6	5097.8	4939.7
15°	4163.5	4183.1	4211.1	4300.6	4416.7	4556.5	4727.2	4823.7	4928.5	5020.8	4839.0
17.5°	3939.8	3955.1	3971.9	4046.0	4180.3	4355.1	4566.3	4669.8	4808.3	4949.5	4735.5
20°	3816.7	3822.3	3809.7	3846.1	3959.3	4148.1	4392.9	4517.4	4682.4	4881.0	4629.3
22.5°	3791.5	3791.5	3745.4	3738.4	3788.7	3948.1	4213.9	4366.3	4567.7	4833.4	4534.1
25°	3909.0	3900.6	3813.9	3734.2	3716.0	3797.1	4043.3	4230.7	4469.8	4832.0	4462.8
27.5°	4131.4	4120.2	4012.5	3878.2	3762.1	3727.2	3911.8	4103.4	4392.9	4879.6	4426.5
30°	4408.3	4404.1	4295.0	4127.2	3935.6	3755.1	3860.0	4037.7	4341.1	4967.7	4425.1
32.5°	4711.8	4692.2	4625.1	4457.2	4208.3	3910.4	3890.8	4040.5	4327.2	5096.4	4457.2
35°	5034.8	5020.8	5004.1	4834.8	4555.1	4184.5	4026.5	4137.0	4395.7	5275.4	4548.1
37.5°	5446.0	5430.6	5458.6	5274.0	4967.7	4543.9	4255.8	4330.0	4535.5	5535.5	4717.4
40°	6177.5	6132.7	6054.4	5770.5	5448.8	4984.5	4587.3	4598.5	4774.7	5883.8	4988.7
42.5°	7378.8	7234.8	6847.4	6325.7	5956.5	5496.4	5019.5	4966.3	5104.8	6343.9	5383.1
45°	8583.0	8420.8	7766.2	6931.3	6482.3	6046.0	5553.7	5426.4	5515.9	6879.5	5890.8
47.5°	9360.6	9280.9	8542.4	7536.9	7033.4	6644.6	6164.9	5955.1	6019.4	7486.5	6517.3
50°	9588.6	9520.0	8939.6	8011.0	7553.7	7367.6	6921.5	6643.2	6654.4	8195.6	7268.3
52.5°	9417.9	9390.0	9005.4	8304.7	8032.0	8129.9	7969.0	7581.6	7489.3	8973.2	8082.3
55°	9190.0	9199.8	9051.5	8599.8	8518.7	8840.3	9339.6	9027.7	8636.1	9783.0	8929.8
57.5°	8472.5	8479.5	8868.3	9162.0	9447.3	9836.1	10406.7	10275.3	9819.3	10657.1	9879.5
60°	6822.2	6876.7	7742.5	9045.9	10508.8	11798.3	11938.2	11711.6	11078.0	11664.0	11114.4
62.5°	4874.0	4922.9	5925.7	7852.9	10384.3	14019.2	14766.1	13865.4	12785.7	13170.3	12851.4
65°	2560.8	2552.4	3328.6	5426.4	8746.6	14533.9	19221.9	17689.1	15662.5	15241.6	14529.7
67.5°	1430.7	1476.9	1777.6	2737.0	5700.6	12791.3	22068.0	22519.7	19662.4	16884.9	14457.0
69°	1323.0	1338.4	1539.8	2116.0	3716.0	10553.6	21823.2	23978.4	21349.1	16891.9	13525.5
70°	1285.3	1302.1	1485.3	1949.6	3121.6	8647.3	20932.3	23807.8	21758.9	16517.1	12678.0
72.5°	1152.4	1174.8	1352.4	1752.4	2630.7	4457.2	16861.1	20377.1	19710.0	14436.0	9830.5
75°	983.2	1021.0	1289.5	1739.8	2492.2	2833.5	11244.5	15181.4	14669.5	10324.2	5577.5
77.5°	407.0	411.2	563.6	1274.1	2615.3	2711.8	6043.2	9616.5	8513.1	4527.2	1679.7
80°	283.9	278.3	281.1	372.0	2110.4	2730.0	3100.6	4890.8	3801.3	1194.4	786.0
82.5°	239.2	236.4	247.5	233.6	714.7	3097.8	2592.9	2549.6	1790.2	643.3	374.8
85°	158.0	153.8	202.8	212.6	339.9	2460.1	2788.7	2004.1	1334.2	344.0	159.4
87.5°	76.9	78.3	116.1	144.1	180.4	779.0	2671.3	1584.6	1030.7	149.6	64.3
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°	5564.9	5564.9	5564.9	5564.9	5564.9	5564.9	5564.9	5564.9	5564.9	5564.9	5564.9
2.5°	5475.4	5433.4	5395.7	5348.1	5311.8	5281.0	5239.0	5237.6	5230.6	5240.4	5243.2
5°	5353.7	5283.8	5177.5	5058.6	4974.7	4864.2	4756.5	4720.2	4679.6	4675.4	4688.0
7.5°	5170.5	5061.4	4879.6	4697.8	4516.0	4330.0	4153.7	4064.2	3977.5	3950.9	3963.5
10°	4966.3	4827.8	4549.5	4253.0	3997.1	3720.2	3451.7	3278.2	3120.2	3053.1	3069.9
12.5°	4806.9	4630.6	4239.1	3854.4	3471.2	3074.0	2720.2	2377.6	2118.8	2002.7	2009.7
15°	4669.8	4444.6	3948.1	3436.3	2956.6	2412.5	1921.6	1524.4	1297.9	1214.0	1211.2
17.5°	4521.6	4248.8	3644.7	3047.5	2425.1	1752.4	1286.7	1051.7	962.2	934.2	934.2
20°	4363.5	4047.4	3327.2	2623.7	1865.7	1223.7	967.8	876.9	843.3	834.9	833.5
22.5°	4216.7	3850.2	3008.3	2172.0	1349.6	928.6	823.8	788.8	783.2	790.2	790.2
25°	4100.6	3676.8	2685.2	1696.5	981.8	777.6	732.8	728.7	749.6	774.8	779.0
27.5°	4013.9	3521.6	2366.4	1239.1	772.0	676.9	661.5	679.7	728.7	779.0	788.8
30°	3953.7	3388.7	1984.6	890.9	643.3	593.0	600.0	632.2	706.3	783.2	804.2
32.5°	3927.2	3281.0	1600.0	683.9	549.6	521.7	539.8	581.8	658.7	735.6	760.8
35°	3952.3	3202.7	1244.7	567.8	481.1	460.1	481.1	524.5	574.8	612.6	628.0
37.5°	4043.3	3174.7	937.0	503.5	436.4	415.4	432.2	461.5	483.9	497.9	504.9
40°	4234.9	3204.1	734.2	469.9	411.2	387.4	391.6	405.6	421.0	432.2	433.6
42.5°	4539.7	3300.6	653.1	457.3	395.8	365.0	358.0	367.8	384.6	400.0	402.8
45°	4945.3	3461.4	644.7	461.5	388.8	346.8	332.9	342.6	365.0	390.2	394.4
47.5°	5469.8	3716.0	683.9	483.9	393.0	337.1	316.1	325.9	355.2	388.8	394.4
50°	6090.8	4068.4	756.6	517.5	412.6	337.1	309.1	317.5	348.2	386.0	391.6
52.5°	6822.2	4559.3	832.1	551.0	440.5	349.6	311.9	310.5	338.5	373.4	380.4
55°	7629.2	5169.1	904.9	580.4	455.9	366.4	318.9	302.1	324.5	352.4	358.0
57.5°	8578.8	6004.0	1032.1	608.4	464.3	379.0	327.3	293.7	306.3	325.9	330.1
60°	9866.9	7230.6	1279.7	655.9	479.7	384.6	328.7	285.3	283.9	297.9	299.3
62.5°	11546.6	8666.9	1516.0	711.9	510.5	386.0	323.1	279.7	265.7	269.9	269.9
65°	12740.9	9195.6	1447.5	759.4	538.4	384.6	317.5	275.5	251.7	244.7	244.7
67.5°	12061.2	8122.9	1229.3	772.0	541.2	369.2	304.9	265.7	239.2	222.4	222.4
69°	11062.7	7120.1	1128.6	749.6	518.9	351.0	290.9	255.9	230.8	211.2	211.2
70°	10248.7	6360.7	1067.1	723.1	492.3	335.7	278.3	246.1	222.4	205.6	204.2
72.5°	7651.5	4244.6	911.9	623.8	404.2	283.9	243.4	219.6	200.0	188.8	188.8
75°	4037.7	2127.2	746.8	509.1	311.9	226.6	200.0	184.6	173.4	172.0	170.6
77.5°	1323.0	962.2	537.0	383.2	229.4	176.2	159.4	149.6	148.2	153.8	153.8
80°	714.7	574.8	345.4	258.7	159.4	131.5	123.1	121.7	125.9	134.3	134.3
82.5°	346.8	283.9	205.6	159.4	109.1	96.5	96.5	97.9	103.5	113.3	113.3
85°	149.6	134.3	118.9	89.5	67.1	60.1	68.5	75.5	79.7	86.7	89.5
87.5°	71.3	62.9	54.5	35.0	29.4	30.8	36.4	44.8	53.1	58.7	60.1
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)