

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: P196640

Luminaire Tested: **NAV-AF-02-D-UNV-SL4-7030-800-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196640
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-02-D-UNV-SL4-7030-800-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 70 CRI, 3000K, 800mA 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: 7754.1 lumens
Efficiency: N/A
Efficacy: 91.2 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B1 - U0 - G2

Input Watts (W): 85
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

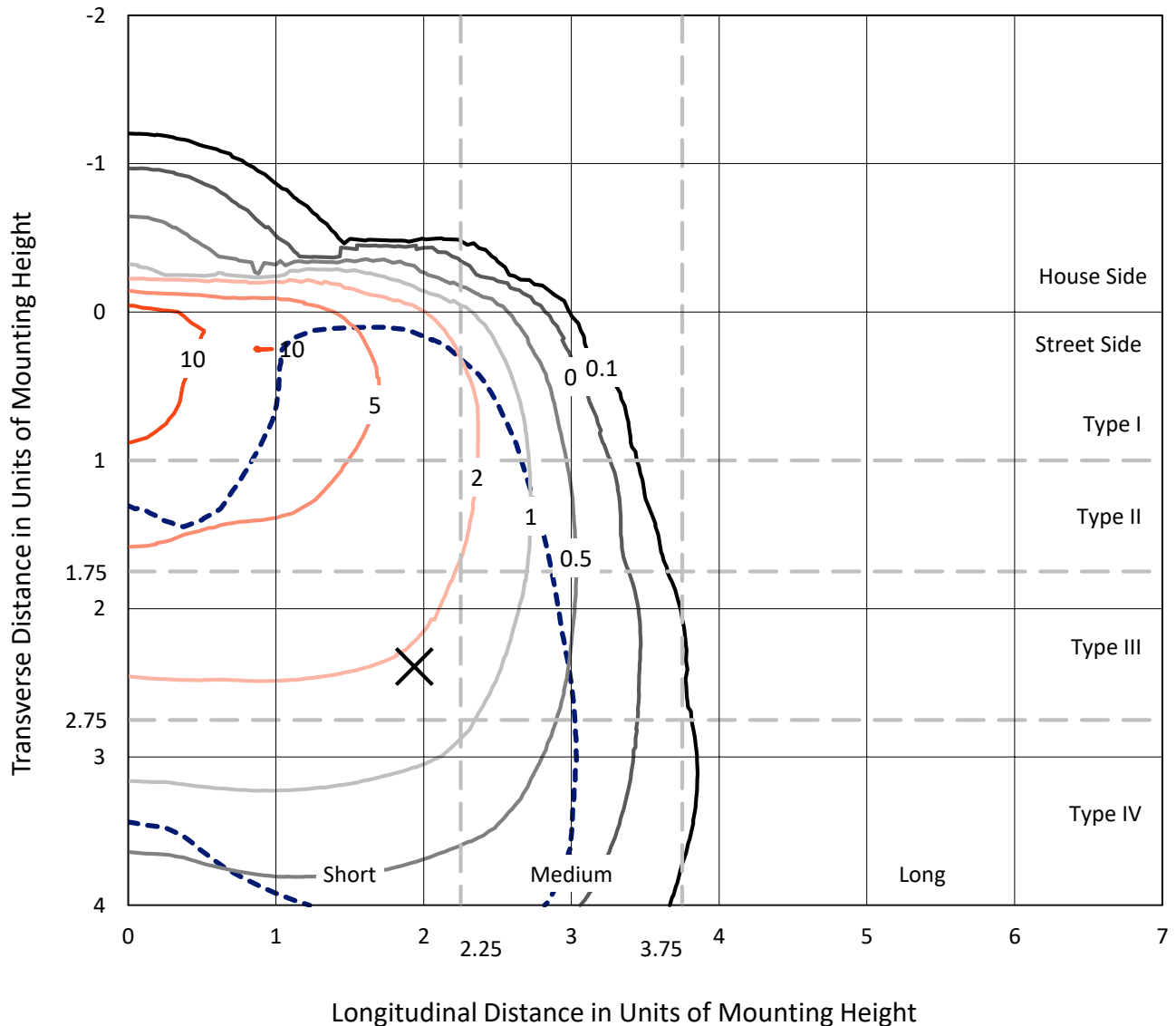


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Iso-Footcandle Lines of Horizontal Illumination

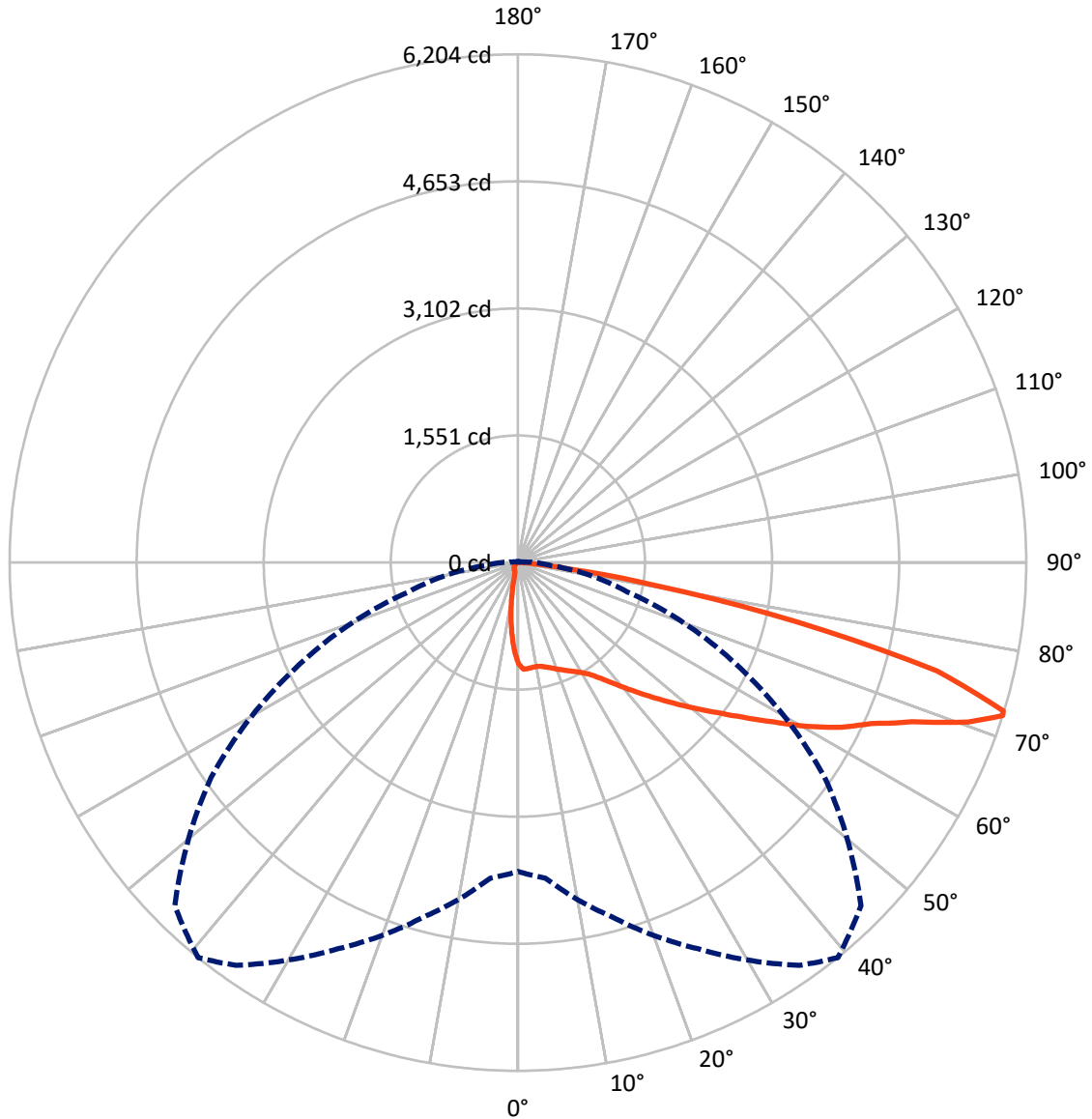
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 13 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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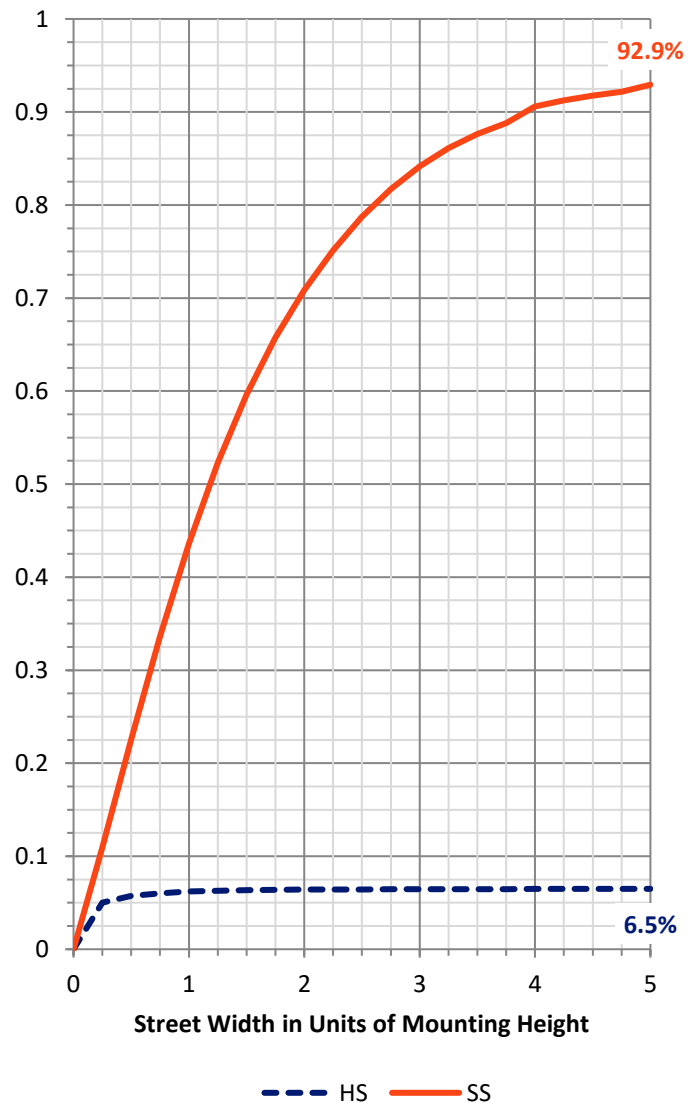
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	508.2	0.0	508.2
	% Fixture	6.6	0.0	6.6
Street Side	Lumens	7245.9	0.0	7245.9
	% Fixture	93.4	0.0	93.4
Total	Lumens	7754.1	0.0	7754.1
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	100.9	1.3
10°-20°	244.4	3.2
20°-30°	405.9	5.2
30°-40°	646.9	8.3
40°-50°	1067.8	13.8
50°-60°	1612.6	20.8
60°-70°	2100.7	27.1
70°-80°	1419.4	18.3
80°-90°	155.5	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°	7754.1	100.0
0°-180°	7754.1	100.0



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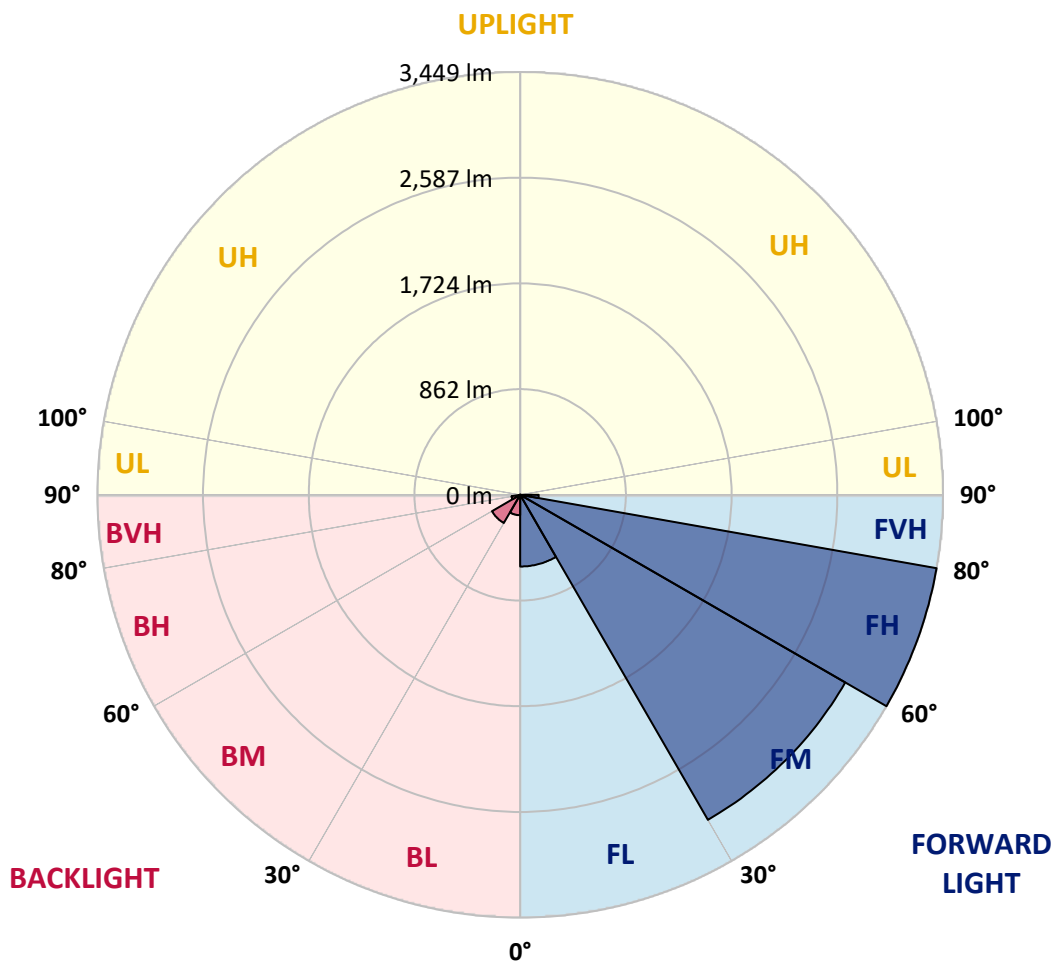
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	584.8	7.5			
FM	(30°-60°)	3061.4	39.5			
FH	(60°-80°)	3448.7	44.5			G2/5000
FVH	(80°-90°)	151.0	1.9			G2/225
BL	(0°-30°)	166.4	2.1	B1/500		
BM	(30°-60°)	265.9	3.4	B1/1000		
BH	(60°-80°)	71.4	0.9	B0/110		G0/110
BVH	(80°-90°)	4.5	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°	1241.0	1241.0	1241.0	1241.0	1241.0	1241.0	1241.0	1241.0	1241.0	1241.0	1241.0
2.5°	1321.6	1324.0	1321.0	1315.5	1307.5	1302.7	1296.0	1281.3	1263.0	1247.2	1228.9
5°	1332.0	1333.2	1329.4	1319.1	1307.0	1300.1	1291.7	1275.8	1256.9	1234.9	1202.1
7.5°	1334.9	1334.4	1330.1	1317.3	1298.4	1290.0	1275.3	1255.7	1236.3	1216.0	1178.9
10°	1333.7	1333.7	1330.7	1318.5	1297.1	1289.3	1272.8	1252.1	1227.6	1207.6	1168.0
12.5°	1329.4	1332.0	1330.1	1323.3	1307.5	1301.5	1286.8	1266.1	1243.0	1222.2	1180.1
15°	1334.9	1338.7	1342.2	1339.8	1330.7	1325.2	1311.7	1290.5	1271.6	1249.6	1204.5
17.5°	1356.9	1364.8	1373.4	1373.9	1364.2	1354.5	1339.2	1317.3	1299.0	1278.9	1230.1
20°	1398.4	1404.4	1420.3	1423.3	1403.9	1389.9	1368.5	1342.9	1324.7	1307.5	1253.9
22.5°	1459.9	1466.7	1479.5	1475.2	1442.2	1425.9	1398.9	1369.7	1350.8	1341.0	1281.3
25°	1553.2	1555.0	1558.0	1539.1	1485.0	1466.7	1433.7	1400.8	1385.5	1384.4	1320.4
27.5°	1662.9	1665.3	1652.0	1609.9	1532.5	1508.7	1471.5	1441.6	1434.3	1443.5	1369.7
30°	1788.5	1789.1	1752.0	1683.6	1587.3	1561.1	1522.7	1489.9	1496.6	1519.0	1433.2
32.5°	1917.2	1911.1	1859.8	1770.9	1662.3	1630.5	1597.7	1564.8	1584.3	1630.0	1525.8
35°	2034.7	2032.3	1972.0	1868.4	1759.8	1731.8	1708.0	1673.3	1705.0	1779.4	1652.0
37.5°	2152.4	2150.5	2081.7	1973.8	1880.0	1859.8	1842.1	1815.4	1867.1	1976.3	1820.8
40°	2282.2	2279.2	2194.5	2090.9	2019.5	2008.5	1998.3	1986.7	2075.1	2226.8	2031.1
42.5°	2442.6	2429.2	2314.0	2218.3	2173.1	2176.2	2176.8	2188.4	2326.7	2524.9	2279.2
45°	2626.7	2596.8	2434.1	2354.7	2342.0	2360.3	2378.6	2426.7	2619.9	2868.0	2553.5
47.5°	2805.2	2757.1	2572.4	2501.7	2527.9	2565.7	2609.5	2703.5	2949.1	3227.1	2802.2
50°	2958.8	2909.5	2709.5	2651.0	2734.5	2790.6	2868.7	3010.7	3296.6	3530.7	2958.8
52.5°	3079.6	3040.5	2854.6	2815.6	2963.7	3040.5	3163.0	3349.7	3624.5	3730.6	3068.6
55°	3168.6	3149.1	2993.6	2999.1	3218.6	3329.4	3481.9	3692.9	3901.3	3886.1	3150.9
57.5°	3269.1	3254.0	3139.3	3215.5	3525.1	3668.4	3844.7	4014.0	4102.4	4011.0	3231.4
60°	3372.2	3377.1	3316.1	3477.6	3904.4	4062.8	4216.5	4258.5	4275.0	4137.7	3316.1
62.5°	3450.2	3470.9	3476.4	3760.4	4293.3	4428.6	4495.0	4465.1	4461.5	4307.9	3309.4
65°	3539.8	3594.1	3684.3	4070.8	4646.8	4735.9	4783.4	4826.6	4735.2	4358.5	2983.9
67.5°	3694.6	3780.0	3982.9	4451.1	5055.2	5186.9	5321.6	5275.9	4776.0	3844.7	2273.1
70°	3903.1	4007.4	4365.8	4948.0	5609.4	5830.0	5942.7	5240.0	4054.9	2656.5	1199.0
72°	3771.4	3865.9	4484.0	5201.5	6001.9	6204.3	5922.1	4570.7	2939.4	1377.0	401.7
72.5°	3643.5	3740.9	4446.3	5198.4	6041.0	6195.8	5787.4	4306.7	2601.0	1071.7	276.8
75°	2527.9	2651.0	3811.7	4673.0	5455.1	5285.0	4427.9	2607.8	942.4	184.1	91.4
77.5°	1307.0	1402.1	2312.2	3302.1	3801.9	3481.9	2616.9	1131.4	260.9	97.6	60.3
80°	810.1	857.0	1081.3	1627.0	1975.1	1727.5	1154.6	457.1	167.0	57.9	48.2
82.5°	419.3	455.4	680.9	656.5	729.7	606.5	426.1	382.9	103.0	35.9	49.3
85°	137.7	146.3	418.1	436.5	312.2	209.7	189.0	365.2	29.8	23.2	42.1
87.5°	18.2	21.3	147.0	249.8	153.6	95.0	113.4	128.6	10.4	12.8	11.6
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°	1241.0	1241.0	1241.0	1241.0	1241.0	1241.0	1241.0	1241.0	1241.0	1241.0	1241.0
2.5°	1216.7	1208.9	1183.9	1158.8	1130.2	1103.9	1083.2	1069.7	1075.8	1055.8	1058.8
5°	1181.9	1161.9	1107.1	1047.9	983.9	924.2	876.6	841.2	834.5	804.0	805.2
7.5°	1148.5	1115.5	1026.5	929.0	822.9	737.0	659.0	590.6	566.3	541.3	526.6
10°	1130.2	1085.1	958.9	816.8	667.5	541.3	431.6	345.6	309.6	283.4	270.6
12.5°	1135.6	1075.8	908.3	715.0	518.8	358.5	243.8	181.1	159.1	147.0	142.7
15°	1153.9	1077.8	862.6	615.6	377.4	217.0	143.2	122.5	120.7	120.0	119.5
17.5°	1171.0	1079.6	814.4	512.1	252.4	138.3	115.2	113.4	113.4	113.4	113.4
20°	1188.6	1080.1	761.3	403.5	165.8	113.4	108.5	107.3	108.5	108.5	108.5
22.5°	1209.4	1084.4	710.1	298.1	122.5	106.6	103.6	103.0	103.6	103.6	103.0
25°	1234.9	1093.5	654.7	213.4	110.9	102.3	99.3	98.8	99.3	98.8	98.8
27.5°	1269.1	1105.8	590.1	153.0	106.1	98.2	95.0	95.0	95.0	94.5	94.5
30°	1313.1	1120.5	503.4	120.7	101.2	93.9	91.4	91.4	90.8	90.2	90.2
32.5°	1375.8	1144.2	409.0	109.2	95.7	88.4	86.0	86.6	86.0	85.3	84.7
35°	1464.8	1181.3	315.8	103.0	90.2	82.9	80.5	80.5	80.5	79.2	79.2
37.5°	1591.1	1238.0	236.5	96.9	84.7	77.5	74.4	74.4	73.8	72.5	73.2
40°	1747.0	1309.4	171.3	91.4	79.2	71.3	68.9	67.6	66.4	65.2	65.2
42.5°	1934.8	1378.9	128.6	86.0	73.8	66.4	63.4	62.2	59.8	58.6	57.9
45°	2145.1	1452.6	106.6	79.2	67.6	60.9	58.6	56.0	53.0	51.3	50.6
47.5°	2322.6	1497.7	95.0	72.5	61.5	55.5	53.0	49.3	45.7	44.5	44.5
50°	2429.2	1478.9	85.3	65.9	55.5	49.9	47.0	42.1	39.7	38.4	37.8
52.5°	2488.9	1422.8	77.5	60.3	49.9	43.9	39.7	35.4	34.1	32.9	32.9
55°	2529.8	1341.7	68.9	54.8	45.2	38.4	33.6	30.5	29.3	28.6	28.1
57.5°	2568.8	1243.0	60.9	49.9	40.2	34.1	28.6	27.5	25.0	24.4	24.4
60°	2580.3	1107.1	53.6	44.5	35.9	29.8	25.0	23.2	20.8	20.1	20.1
62.5°	2432.8	880.8	47.5	37.8	31.6	25.5	22.0	19.5	17.1	17.1	17.1
65°	2033.0	597.9	40.9	32.9	28.1	22.0	18.9	15.9	14.6	14.6	14.6
67.5°	1416.0	333.5	34.8	28.1	23.8	18.2	15.9	13.4	12.8	13.4	13.4
70°	638.2	132.3	29.3	23.2	19.5	15.2	13.4	11.6	12.8	12.8	12.8
72°	191.4	70.7	24.4	18.9	15.9	13.4	11.6	10.9	12.2	12.8	12.8
72.5°	142.0	63.4	23.2	18.2	15.9	12.8	10.9	10.9	12.2	12.8	12.8
75°	73.2	43.2	17.7	13.4	11.6	10.4	9.2	10.4	12.2	12.2	12.2
77.5°	57.3	35.4	14.6	10.4	9.8	9.2	8.5	9.8	10.9	10.9	10.9
80°	53.6	23.2	11.6	9.8	8.5	7.9	7.9	8.5	9.8	10.4	10.4
82.5°	54.3	18.9	10.4	9.2	7.9	7.3	7.3	7.9	9.2	9.8	9.8
85°	34.8	12.8	9.2	7.9	7.3	6.7	6.7	7.3	8.5	9.2	9.2
87.5°	11.6	9.8	7.9	7.3	6.1	6.1	6.1	6.1	7.3	7.9	8.5
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)