

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: P195200

Luminaire Tested: **NAV-AF-02-D-UNV-SL4-7060-800-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195200
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-SL4-7060-800-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 70 CRI, 5700K, 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: 8017 lumens
Efficiency: N/A
Efficacy: 94.3 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

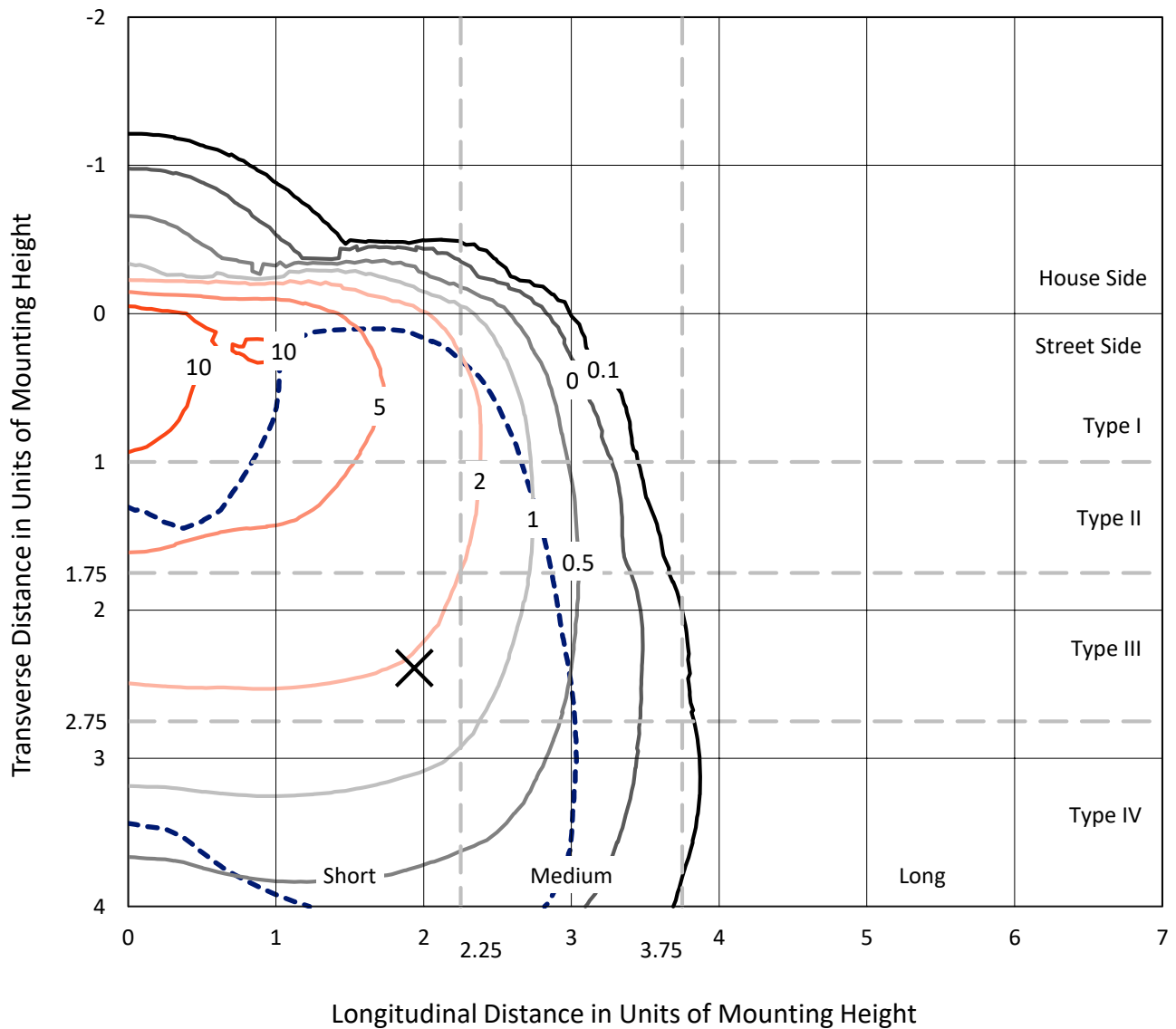


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

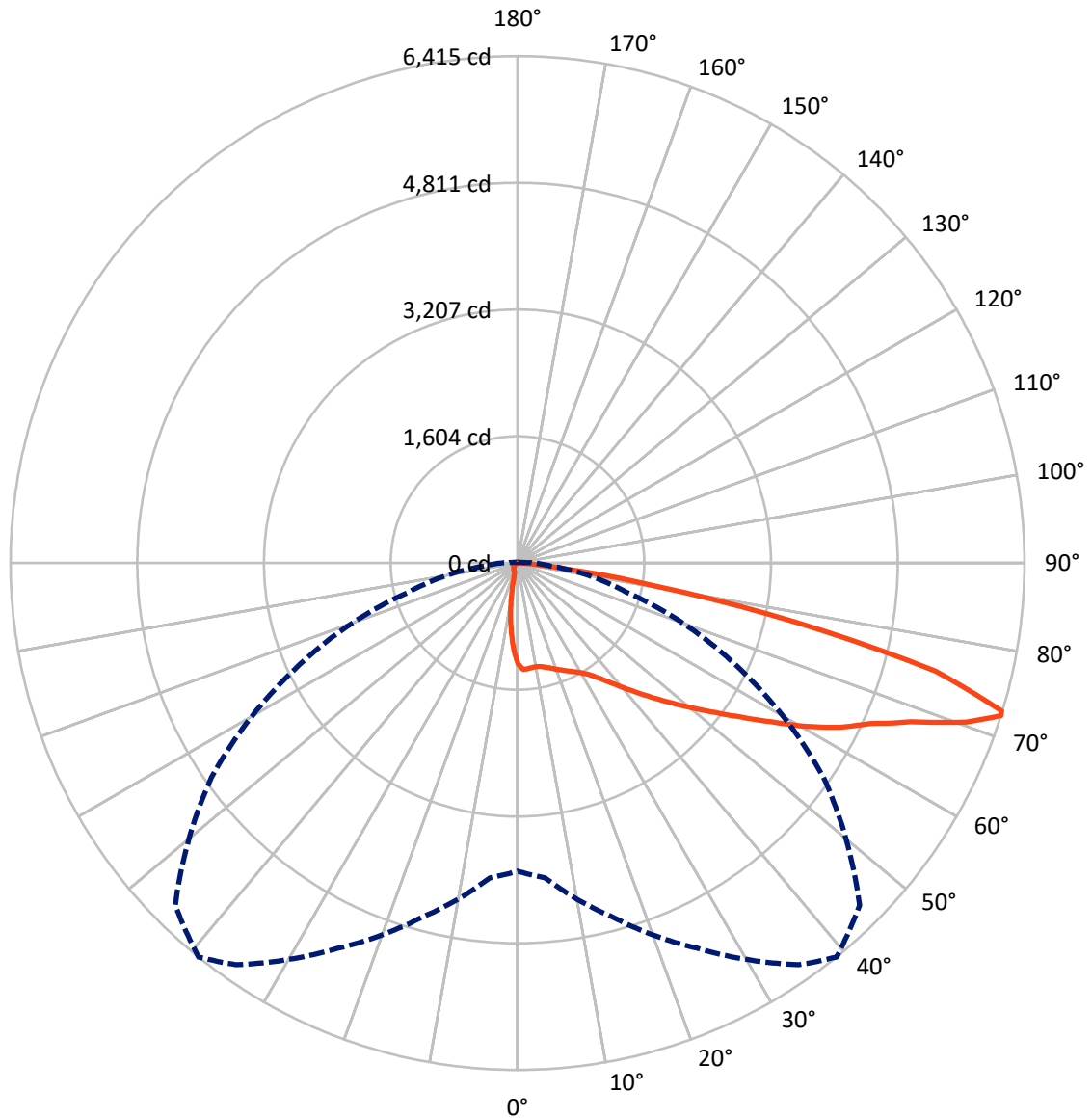


Based on 10 foot mounting height. Maximum calculated value = 13.5 fc
 Type IV - Short - Non-Cutoff

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Luminous Intensity Polar Plot



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

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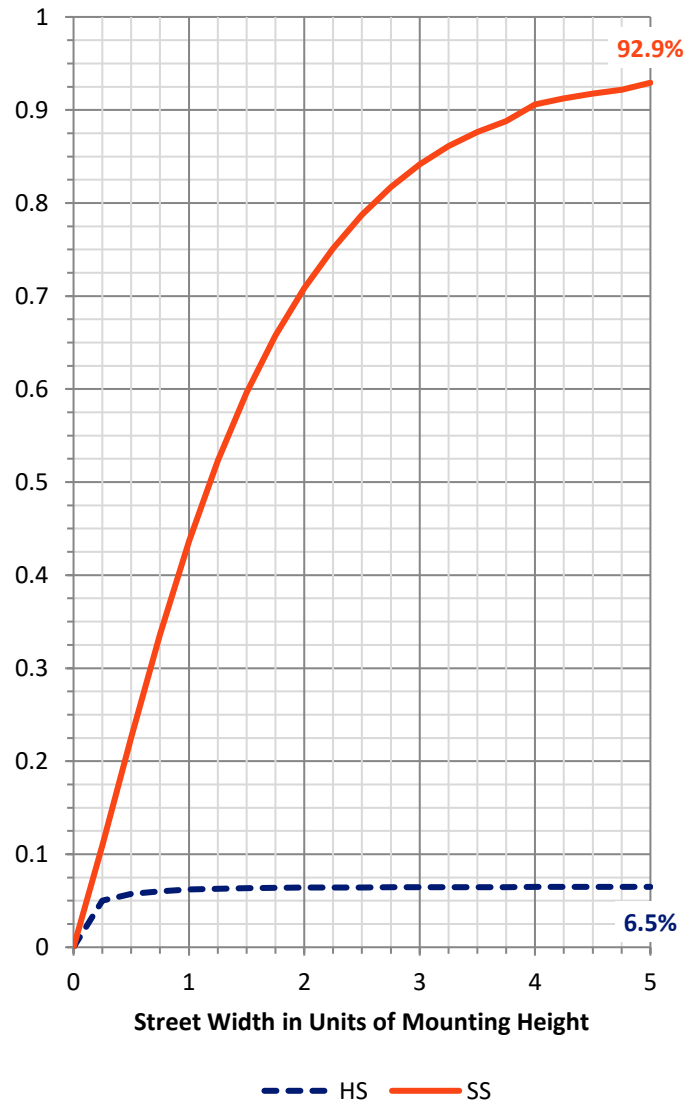
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	525.4	0.0	525.4
	% Fixture	6.6	0.0	6.6
Street Side	Lumens	7491.6	0.0	7491.6
	% Fixture	93.4	0.0	93.4
Total	Lumens	8017.0	0.0	8017.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	104.4	1.3
10°-20°	252.7	3.2
20°-30°	419.7	5.2
30°-40°	668.8	8.3
40°-50°	1104.0	13.8
50°-60°	1667.3	20.8
60°-70°	2171.9	27.1
70°-80°	1467.6	18.3
80°-90°	160.7	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°	8017.0	100.0
0°-180°	8017.0	100.0



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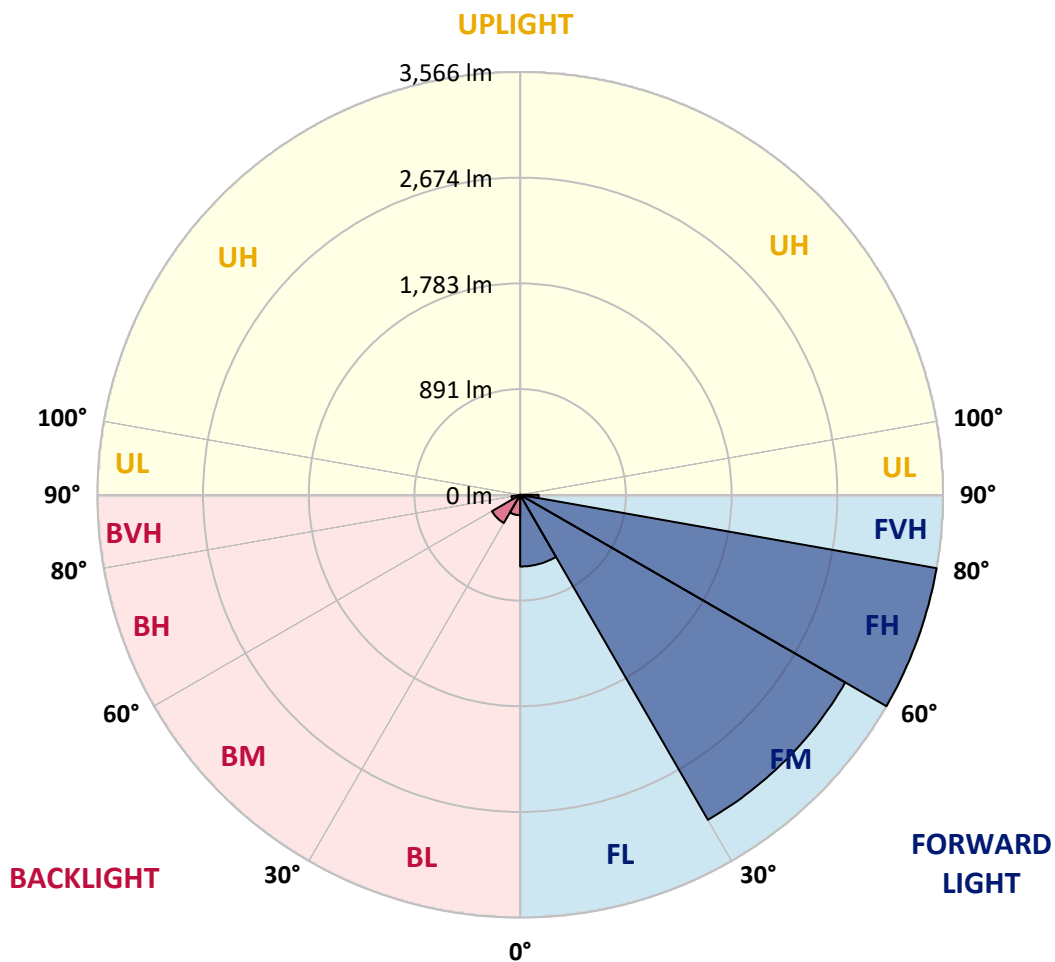
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	604.7	7.5			
FM	(30°-60°)	3165.2	39.5			
FH	(60°-80°)	3565.6	44.5			G2/5000
FVH	(80°-90°)	156.1	1.9			G2/225
BL	(0°-30°)	172.0	2.1	B1/500		
BM	(30°-60°)	274.9	3.4	B1/1000		
BH	(60°-80°)	73.8	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°	1283.2	1283.2	1283.2	1283.2	1283.2	1283.2	1283.2	1283.2	1283.2	1283.2	1283.2
2.5°	1366.4	1368.9	1365.7	1360.1	1351.9	1346.8	1339.9	1324.8	1305.9	1289.5	1270.6
5°	1377.1	1378.3	1374.6	1363.8	1351.2	1344.3	1335.5	1319.1	1299.6	1276.9	1242.8
7.5°	1380.2	1379.6	1375.2	1362.0	1342.4	1333.6	1318.5	1298.3	1278.1	1257.3	1218.9
10°	1379.0	1379.0	1375.8	1363.2	1341.2	1333.0	1315.9	1294.5	1269.3	1248.5	1207.5
12.5°	1374.6	1377.1	1375.2	1368.3	1351.9	1345.6	1330.4	1309.0	1285.1	1263.6	1220.1
15°	1380.2	1384.0	1387.8	1385.3	1375.8	1370.1	1356.3	1334.2	1314.7	1292.0	1245.4
17.5°	1402.9	1411.1	1419.9	1420.6	1410.5	1400.4	1384.6	1362.0	1343.0	1322.2	1271.8
20°	1445.8	1452.1	1468.5	1471.6	1451.4	1437.0	1414.9	1388.4	1369.5	1351.9	1296.4
22.5°	1509.4	1516.4	1529.6	1525.2	1491.2	1474.1	1446.4	1416.2	1396.6	1386.5	1324.8
25°	1605.9	1607.7	1610.9	1591.4	1535.3	1516.4	1482.3	1448.3	1432.5	1431.3	1365.1
27.5°	1719.3	1721.8	1708.0	1664.5	1584.4	1559.8	1521.4	1490.5	1483.0	1492.4	1416.2
30°	1849.1	1849.8	1811.3	1740.7	1641.2	1614.0	1574.3	1540.3	1547.2	1570.6	1481.7
32.5°	1982.1	1975.8	1922.9	1830.9	1718.7	1685.9	1651.9	1617.8	1638.0	1685.3	1577.5
35°	2103.7	2101.2	2038.8	1931.7	1819.5	1790.5	1765.9	1730.0	1762.8	1839.7	1708.0
37.5°	2225.4	2223.5	2152.3	2040.7	1943.7	1922.9	1904.6	1876.9	1930.4	2043.2	1882.5
40°	2359.6	2356.5	2268.9	2161.7	2088.0	2076.6	2065.9	2054.0	2145.3	2302.3	2100.0
42.5°	2525.4	2511.5	2392.4	2293.5	2246.8	2250.0	2250.6	2262.6	2405.6	2610.5	2356.5
45°	2715.7	2684.8	2516.6	2434.6	2421.4	2440.3	2459.2	2509.0	2708.8	2965.3	2640.1
47.5°	2900.4	2850.6	2659.6	2586.5	2613.6	2652.7	2698.1	2795.1	3049.1	3336.5	2897.2
50°	3059.2	3008.1	2801.4	2740.9	2827.3	2885.2	2965.9	3112.8	3408.3	3650.4	3059.2
52.5°	3184.0	3143.6	2951.4	2911.1	3064.2	3143.6	3270.3	3463.2	3747.4	3857.1	3172.6
55°	3276.0	3255.8	3095.1	3100.8	3327.7	3442.4	3599.9	3818.0	4033.5	4017.8	3257.7
57.5°	3380.0	3364.2	3245.7	3324.5	3644.7	3792.8	3974.9	4150.1	4241.5	4147.0	3340.9
60°	3486.5	3491.5	3428.5	3595.5	4036.7	4200.6	4359.4	4402.9	4419.9	4278.1	3428.5
62.5°	3567.2	3588.6	3594.3	3888.0	4438.8	4578.7	4647.4	4616.5	4612.7	4453.9	3421.6
65°	3659.8	3715.9	3809.2	4208.8	4804.3	4896.4	4945.5	4990.3	4895.7	4506.2	3085.0
67.5°	3819.9	3908.1	4118.0	4602.0	5226.6	5362.7	5502.0	5454.7	4937.9	3974.9	2350.2
70°	4035.4	4143.2	4513.8	5115.7	5799.5	6027.6	6144.2	5417.6	4192.4	2746.6	1239.7
72°	3899.3	3997.0	4636.1	5377.9	6205.4	6414.6	6122.8	4725.6	3039.0	1423.7	415.3
72.5°	3767.0	3867.8	4597.0	5374.7	6245.7	6405.8	5983.5	4452.7	2689.2	1108.0	286.1
75°	2613.6	2740.9	3940.9	4831.4	5640.0	5464.2	4578.1	2696.2	974.4	190.3	94.5
77.5°	1351.2	1449.6	2390.5	3414.0	3930.8	3599.9	2705.6	1169.7	269.7	100.8	62.4
80°	837.6	886.1	1118.0	1682.1	2042.0	1786.1	1193.7	472.7	172.7	59.9	49.8
82.5°	433.6	470.8	704.0	678.8	754.4	627.1	440.5	395.8	106.5	37.2	51.0
85°	142.4	151.3	432.3	451.3	322.7	216.8	195.4	377.5	30.9	23.9	43.5
87.5°	18.9	22.1	151.9	258.4	158.8	98.3	117.2	133.0	10.7	13.2	12.0
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°	1283.2	1283.2	1283.2	1283.2	1283.2	1283.2	1283.2	1283.2	1283.2	1283.2	1283.2
2.5°	1258.0	1249.8	1223.9	1198.1	1168.5	1141.4	1119.9	1106.1	1112.4	1091.6	1094.7
5°	1222.0	1201.2	1144.5	1083.4	1017.2	955.4	906.3	869.7	862.8	831.3	832.5
7.5°	1187.4	1153.3	1061.3	960.5	850.8	762.0	681.3	610.7	585.5	559.7	544.5
10°	1168.5	1121.8	991.4	844.5	690.1	559.7	446.2	357.3	320.2	293.1	279.8
12.5°	1174.1	1112.4	939.1	739.3	536.3	370.6	252.1	187.2	164.5	151.9	147.5
15°	1193.0	1114.3	891.8	636.5	390.1	224.4	148.1	126.7	124.8	124.2	123.5
17.5°	1210.7	1116.2	842.0	529.4	260.9	143.1	119.1	117.2	117.2	117.2	117.2
20°	1229.0	1116.8	787.2	417.2	171.4	117.2	112.2	110.9	112.2	112.2	112.2
22.5°	1250.4	1121.2	734.2	308.2	126.7	110.3	107.1	106.5	107.1	107.1	106.5
25°	1276.9	1130.7	676.9	220.6	114.7	105.9	102.7	102.1	102.7	102.1	102.1
27.5°	1312.2	1143.3	610.1	158.2	109.7	101.5	98.3	98.3	98.3	97.7	97.7
30°	1357.5	1158.4	520.6	124.8	104.6	97.1	94.5	94.5	93.9	93.3	93.3
32.5°	1422.5	1183.0	422.9	112.8	98.9	91.4	88.9	89.5	88.9	88.2	87.6
35°	1514.5	1221.4	326.5	106.5	93.3	85.7	83.2	83.2	83.2	81.9	81.9
37.5°	1644.9	1280.0	244.5	100.2	87.6	80.0	76.9	76.9	76.3	75.0	75.6
40°	1806.3	1353.8	177.1	94.5	81.9	73.7	71.2	70.0	68.7	67.4	67.4
42.5°	2000.4	1425.6	133.0	88.9	76.3	68.7	65.5	64.3	61.8	60.5	59.9
45°	2217.8	1501.9	110.3	81.9	70.0	63.0	60.5	58.0	54.8	52.9	52.3
47.5°	2401.2	1548.5	98.3	75.0	63.7	57.4	54.8	51.0	47.3	46.0	46.0
50°	2511.5	1529.0	88.2	68.1	57.4	51.7	48.5	43.5	41.0	39.7	39.1
52.5°	2573.3	1471.0	80.0	62.4	51.7	45.4	41.0	36.6	35.3	34.0	34.0
55°	2615.5	1387.2	71.2	56.7	46.6	39.7	34.7	31.5	30.3	29.6	29.0
57.5°	2655.8	1285.1	63.0	51.7	41.6	35.3	29.6	28.4	25.8	25.2	25.2
60°	2667.8	1144.5	55.5	46.0	37.2	30.9	25.8	23.9	21.4	20.8	20.8
62.5°	2515.3	910.7	49.2	39.1	32.8	26.5	22.7	20.2	17.6	17.6	17.6
65°	2101.9	618.3	42.2	34.0	29.0	22.7	19.5	16.4	15.1	15.1	15.1
67.5°	1464.1	344.7	35.9	29.0	24.6	18.9	16.4	13.9	13.2	13.9	13.9
70°	659.9	136.8	30.3	23.9	20.2	15.8	13.9	12.0	13.2	13.2	13.2
72°	197.9	73.1	25.2	19.5	16.4	13.9	12.0	11.3	12.6	13.2	13.2
72.5°	146.8	65.5	23.9	18.9	16.4	13.2	11.3	11.3	12.6	13.2	13.2
75°	75.6	44.7	18.3	13.9	12.0	10.7	9.5	10.7	12.6	12.6	12.6
77.5°	59.2	36.6	15.1	10.7	10.1	9.5	8.8	10.1	11.3	11.3	11.3
80°	55.5	23.9	12.0	10.1	8.8	8.2	8.2	8.8	10.1	10.7	10.7
82.5°	56.1	19.5	10.7	9.5	8.2	7.6	7.6	8.2	9.5	10.1	10.1
85°	35.9	13.2	9.5	8.2	7.6	6.9	6.9	7.6	8.8	9.5	9.5
87.5°	12.0	10.1	8.2	7.6	6.3	6.3	6.3	6.3	7.6	8.2	8.8
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)