

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: P270365

Luminaire Tested: **NAV-AF-02-D-UNV-SL4-7027-800-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P270365
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-SL4-7027-800-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 70 CRI, 2700K, 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: 6965.6 lumens
Efficiency: N/A
Efficacy: 81.9 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

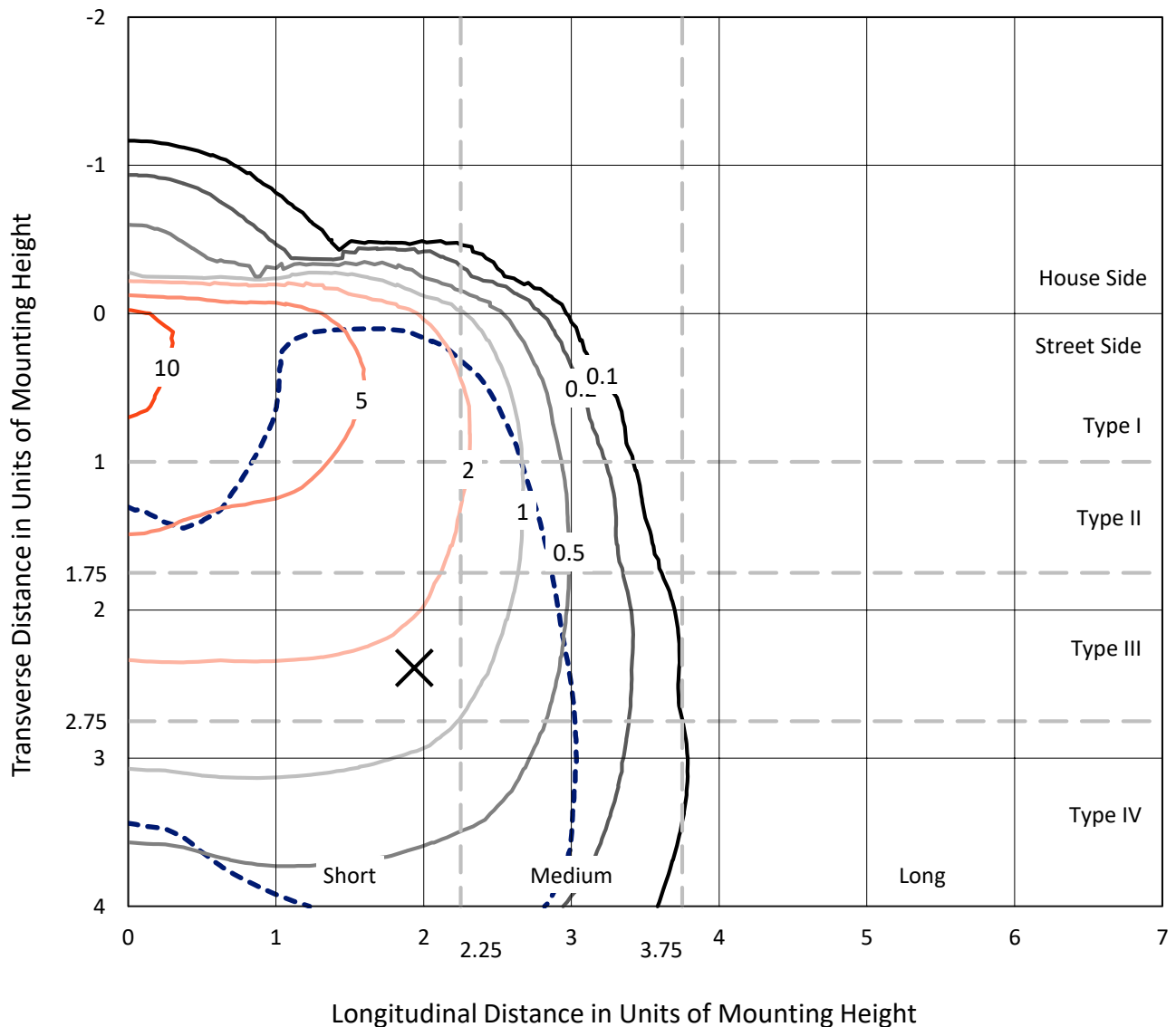
Input Watts (W): 85
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

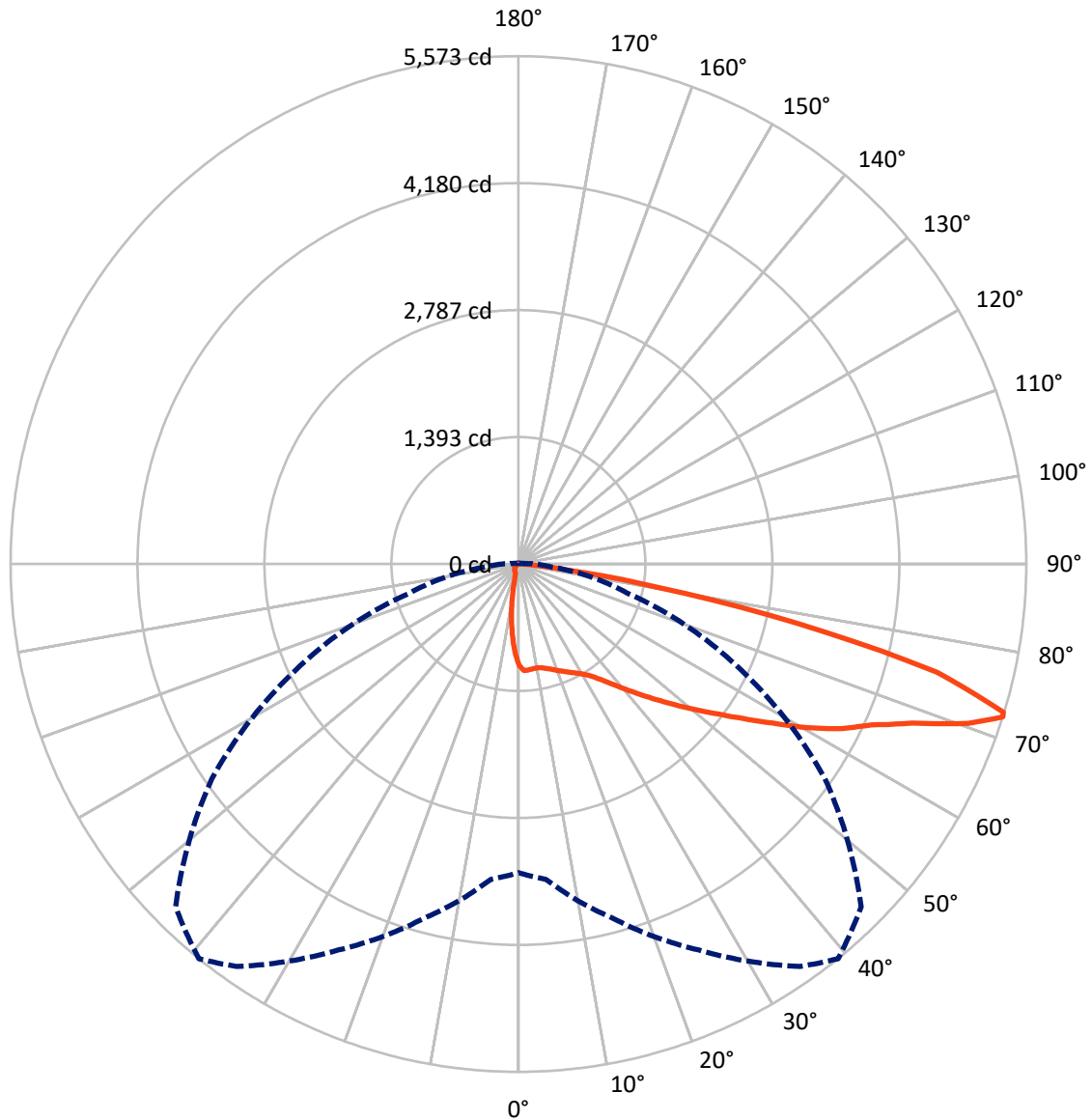
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 11.7 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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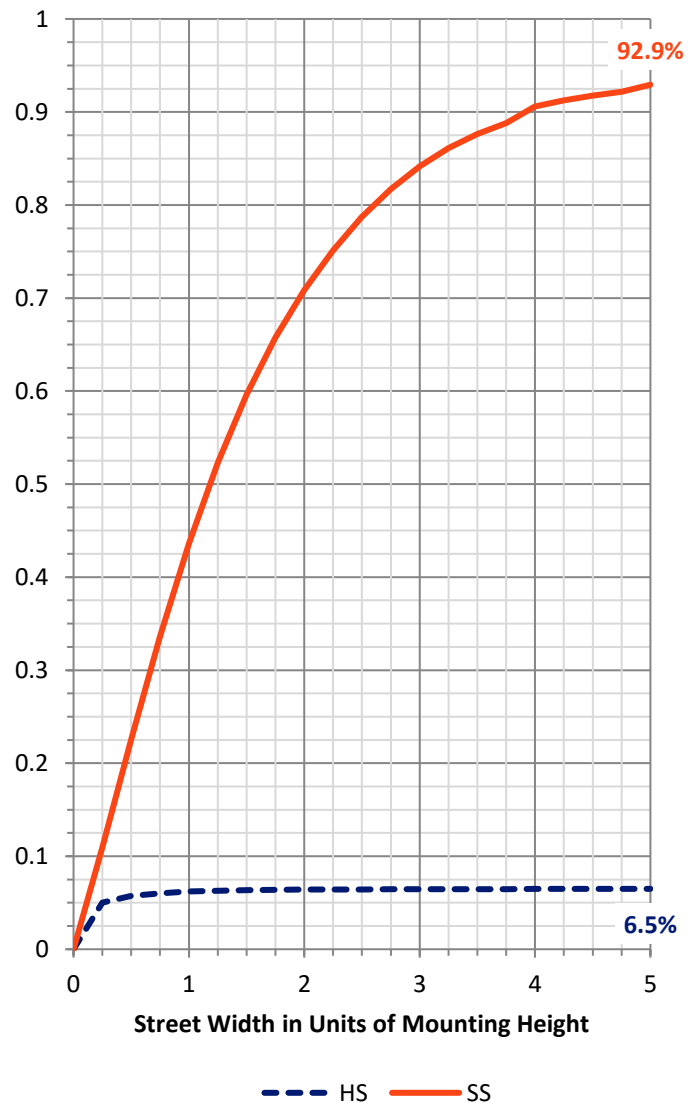
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	456.5	0.0	456.5
	% Fixture	6.6	0.0	6.6
Street Side	Lumens	6509.1	0.0	6509.1
	% Fixture	93.4	0.0	93.4
Total	Lumens	6965.6	0.0	6965.6
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	90.7	1.3
10°-20°	219.5	3.2
20°-30°	364.6	5.2
30°-40°	581.1	8.3
40°-50°	959.2	13.8
50°-60°	1448.6	20.8
60°-70°	1887.0	27.1
70°-80°	1275.1	18.3
80°-90°	139.7	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°	6965.6	100.0
0°-180°	6965.6	100.0

Coefficient of Utilization



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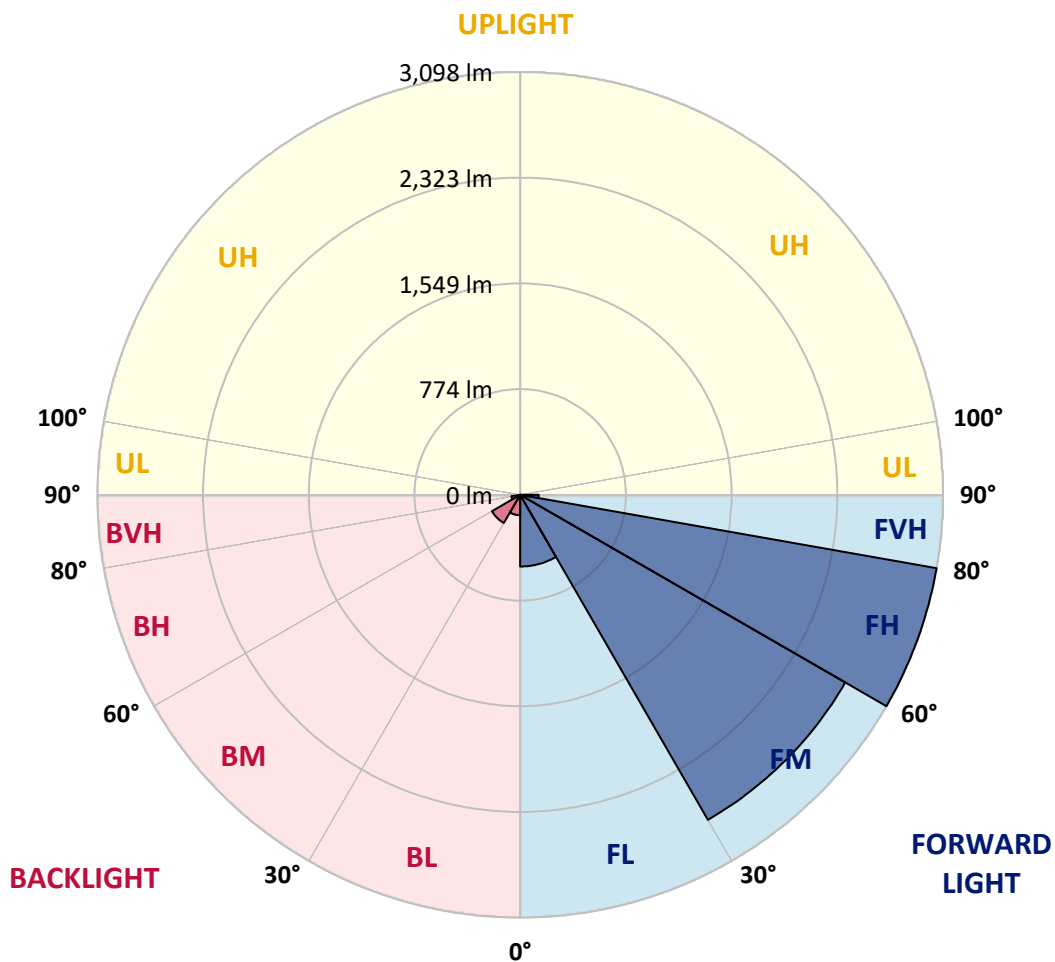
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	525.4	7.5			
FM	(30°-60°)	2750.1	39.5			
FH	(60°-80°)	3098.0	44.5			G2/5000
FVH	(80°-90°)	135.6	1.9			G2/225
BL	(0°-30°)	149.5	2.1	B1/500		
BM	(30°-60°)	238.8	3.4	B1/1000		
BH	(60°-80°)	64.2	0.9	B0/110		G0/110
BVH	(80°-90°)	4.0	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°	1114.8	1114.8	1114.8	1114.8	1114.8	1114.8	1114.8	1114.8	1114.8	1114.8	1114.8
2.5°	1187.2	1189.4	1186.7	1181.7	1174.5	1170.2	1164.2	1151.0	1134.6	1120.4	1103.9
5°	1196.5	1197.6	1194.2	1185.0	1174.1	1167.9	1160.3	1146.1	1129.1	1109.3	1079.9
7.5°	1199.1	1198.7	1194.8	1183.3	1166.4	1158.8	1145.6	1128.0	1110.6	1092.3	1059.0
10°	1198.1	1198.1	1195.4	1184.4	1165.2	1158.2	1143.4	1124.8	1102.8	1084.8	1049.2
12.5°	1194.2	1196.5	1194.8	1188.7	1174.5	1169.1	1155.9	1137.3	1116.6	1097.9	1060.1
15°	1199.1	1202.6	1205.7	1203.5	1195.4	1190.4	1178.3	1159.3	1142.3	1122.5	1082.0
17.5°	1218.9	1226.0	1233.7	1234.2	1225.5	1216.8	1203.0	1183.3	1166.9	1148.8	1105.0
20°	1256.2	1261.6	1275.9	1278.6	1261.1	1248.6	1229.3	1206.3	1190.0	1174.5	1126.4
22.5°	1311.4	1317.5	1329.0	1325.2	1295.5	1280.9	1256.6	1230.4	1213.4	1204.6	1151.0
25°	1395.2	1396.9	1399.6	1382.6	1334.0	1317.5	1287.9	1258.3	1244.6	1243.6	1186.1
27.5°	1493.8	1495.9	1484.0	1446.2	1376.7	1355.3	1321.9	1295.0	1288.4	1296.7	1230.4
30°	1606.6	1607.2	1573.8	1512.4	1425.9	1402.3	1367.8	1338.4	1344.4	1364.5	1287.5
32.5°	1722.2	1716.8	1670.7	1590.8	1493.3	1464.7	1435.2	1405.7	1423.2	1464.2	1370.6
35°	1827.8	1825.6	1771.5	1678.4	1580.8	1555.7	1534.3	1503.1	1531.6	1598.4	1484.0
37.5°	1933.5	1931.8	1870.0	1773.1	1688.8	1670.7	1654.8	1630.8	1677.2	1775.3	1635.6
40°	2050.1	2047.4	1971.3	1878.3	1814.1	1804.2	1795.1	1784.7	1864.1	2000.3	1824.5
42.5°	2194.2	2182.2	2078.7	1992.7	1952.1	1954.9	1955.4	1965.9	2090.1	2268.1	2047.4
45°	2359.6	2332.7	2186.6	2115.2	2103.8	2120.3	2136.7	2179.9	2353.5	2576.3	2293.8
47.5°	2519.9	2476.7	2310.8	2247.3	2270.8	2304.8	2344.1	2428.6	2649.2	2898.9	2517.2
50°	2657.9	2613.6	2434.0	2381.4	2456.4	2506.8	2577.0	2704.5	2961.4	3171.6	2657.9
52.5°	2766.4	2731.3	2564.3	2529.3	2662.3	2731.3	2841.3	3009.1	3255.9	3351.2	2756.5
55°	2846.4	2828.9	2689.2	2694.1	2891.3	2990.8	3127.8	3317.4	3504.6	3490.9	2830.5
57.5°	2936.6	2923.1	2820.0	2888.5	3166.6	3295.3	3453.7	3605.8	3685.2	3603.1	2902.8
60°	3029.3	3033.7	2978.9	3123.9	3507.3	3649.6	3787.7	3825.4	3840.3	3716.9	2978.9
62.5°	3099.3	3117.9	3122.9	3378.0	3856.7	3978.2	4037.9	4011.0	4007.8	3869.8	2972.9
65°	3179.8	3228.6	3309.6	3656.8	4174.2	4254.3	4297.0	4335.8	4253.7	3915.3	2680.5
67.5°	3318.9	3395.6	3577.9	3998.4	4541.1	4659.4	4780.4	4739.4	4290.3	3453.7	2041.9
70°	3506.2	3599.9	3921.8	4444.8	5039.0	5237.1	5338.4	4707.1	3642.5	2386.3	1077.1
72°	3387.9	3472.8	4028.0	4672.5	5391.5	5573.4	5319.9	4105.9	2640.5	1237.0	360.8
72.5°	3273.0	3360.5	3994.1	4669.7	5426.7	5565.7	5198.9	3868.7	2336.5	962.7	248.7
75°	2270.8	2381.4	3424.1	4197.8	4900.3	4747.5	3977.6	2342.6	846.6	165.4	82.1
77.5°	1174.1	1259.5	2077.1	2966.3	3415.3	3127.8	2350.8	1016.3	234.4	87.7	54.2
80°	727.7	769.8	971.3	1461.5	1774.2	1551.8	1037.2	410.6	150.0	52.0	43.3
82.5°	376.7	409.1	611.7	589.7	655.5	544.8	382.8	344.0	92.5	32.2	44.3
85°	123.7	131.4	375.6	392.1	280.5	188.4	169.8	328.1	26.8	20.8	37.8
87.5°	16.3	19.1	132.1	224.4	138.0	85.3	101.9	115.5	9.3	11.5	10.4
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°	1114.8	1114.8	1114.8	1114.8	1114.8	1114.8	1114.8	1114.8	1114.8	1114.8	1114.8
2.5°	1093.0	1086.0	1063.5	1041.0	1015.3	991.6	973.0	960.9	966.4	948.4	951.1
5°	1061.7	1043.7	994.5	941.3	883.8	830.2	787.5	755.7	749.6	722.2	723.3
7.5°	1031.7	1002.1	922.1	834.5	739.2	662.1	592.0	530.5	508.7	486.3	473.0
10°	1015.3	974.8	861.4	733.7	599.6	486.3	387.7	310.5	278.1	254.6	243.1
12.5°	1020.1	966.4	815.9	642.3	466.0	322.0	219.0	162.7	142.9	132.1	128.2
15°	1036.6	968.2	774.9	553.0	339.0	194.9	128.6	110.0	108.4	107.8	107.3
17.5°	1051.9	969.8	731.6	460.0	226.7	124.2	103.5	101.9	101.9	101.9	101.9
20°	1067.7	970.3	683.9	362.5	148.9	101.9	97.5	96.4	97.5	97.5	97.5
22.5°	1086.4	974.1	637.9	267.8	110.0	95.8	93.1	92.5	93.1	93.1	92.5
25°	1109.3	982.3	588.1	191.7	99.6	91.9	89.2	88.8	89.2	88.8	88.8
27.5°	1140.0	993.3	530.1	137.4	95.3	88.2	85.3	85.3	85.3	84.9	84.9
30°	1179.6	1006.6	452.2	108.4	90.9	84.4	82.1	82.1	81.6	81.0	81.0
32.5°	1235.9	1027.8	367.4	98.1	86.0	79.4	77.3	77.8	77.3	76.6	76.1
35°	1315.8	1061.2	283.7	92.5	81.0	74.5	72.3	72.3	72.3	71.1	71.1
37.5°	1429.3	1112.1	212.4	87.0	76.1	69.6	66.8	66.8	66.3	65.1	65.8
40°	1569.3	1176.2	153.9	82.1	71.1	64.0	61.9	60.7	59.6	58.6	58.6
42.5°	1738.0	1238.7	115.5	77.3	66.3	59.6	57.0	55.9	53.7	52.6	52.0
45°	1927.0	1304.9	95.8	71.1	60.7	54.7	52.6	50.3	47.6	46.1	45.5
47.5°	2086.4	1345.4	85.3	65.1	55.2	49.9	47.6	44.3	41.1	40.0	40.0
50°	2182.2	1328.5	76.6	59.2	49.9	44.8	42.2	37.8	35.7	34.5	34.0
52.5°	2235.8	1278.1	69.6	54.2	44.8	39.4	35.7	31.8	30.6	29.6	29.6
55°	2272.5	1205.3	61.9	49.2	40.6	34.5	30.2	27.4	26.3	25.7	25.2
57.5°	2307.6	1116.6	54.7	44.8	36.1	30.6	25.7	24.7	22.5	21.9	21.9
60°	2317.9	994.5	48.1	40.0	32.2	26.8	22.5	20.8	18.7	18.1	18.1
62.5°	2185.4	791.2	42.7	34.0	28.4	22.9	19.8	17.5	15.4	15.4	15.4
65°	1826.3	537.1	36.7	29.6	25.2	19.8	17.0	14.3	13.1	13.1	13.1
67.5°	1272.0	299.6	31.3	25.2	21.4	16.3	14.3	12.0	11.5	12.0	12.0
70°	573.3	118.8	26.3	20.8	17.5	13.7	12.0	10.4	11.5	11.5	11.5
72°	171.9	63.5	21.9	17.0	14.3	12.0	10.4	9.8	11.0	11.5	11.5
72.5°	127.6	57.0	20.8	16.3	14.3	11.5	9.8	9.8	11.0	11.5	11.5
75°	65.8	38.8	15.9	12.0	10.4	9.3	8.3	9.3	11.0	11.0	11.0
77.5°	51.5	31.8	13.1	9.3	8.8	8.3	7.6	8.8	9.8	9.8	9.8
80°	48.1	20.8	10.4	8.8	7.6	7.1	7.1	7.6	8.8	9.3	9.3
82.5°	48.8	17.0	9.3	8.3	7.1	6.6	6.6	7.1	8.3	8.8	8.8
85°	31.3	11.5	8.3	7.1	6.6	6.0	6.0	6.6	7.6	8.3	8.3
87.5°	10.4	8.8	7.1	6.6	5.5	5.5	5.5	5.5	6.6	7.1	7.6
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)