

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: P195220

Luminaire Tested: **NAV-AF-04-D-UNV-SL4-7060-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195220
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24284)
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-SL4-7060-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 5700K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV SPILL
LIGHT ELIMINATOR OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 15335 lumens
Efficiency: N/A
Efficacy: 118.9 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B1 - U0 - G3

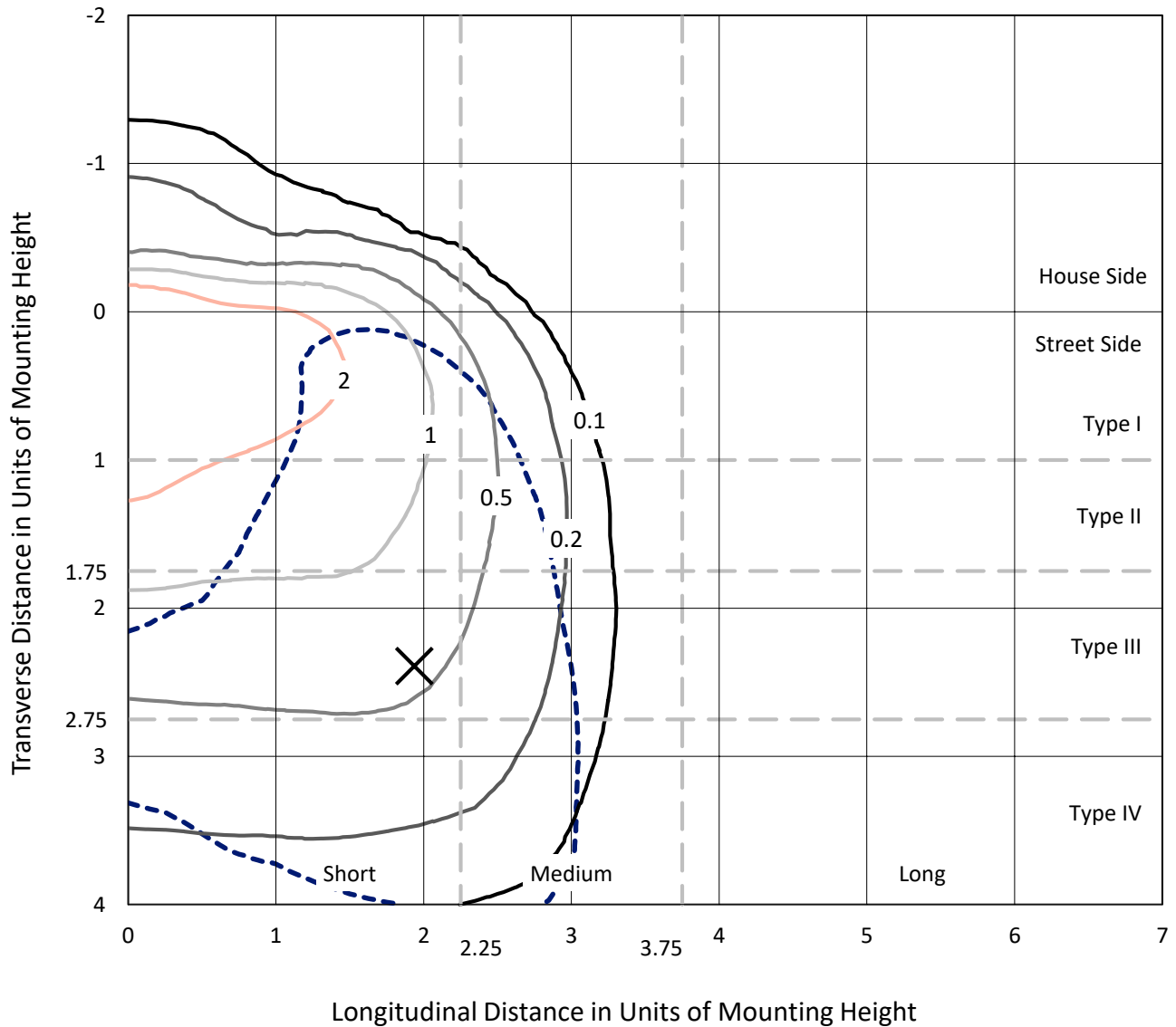
Input Watts (W): 129
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

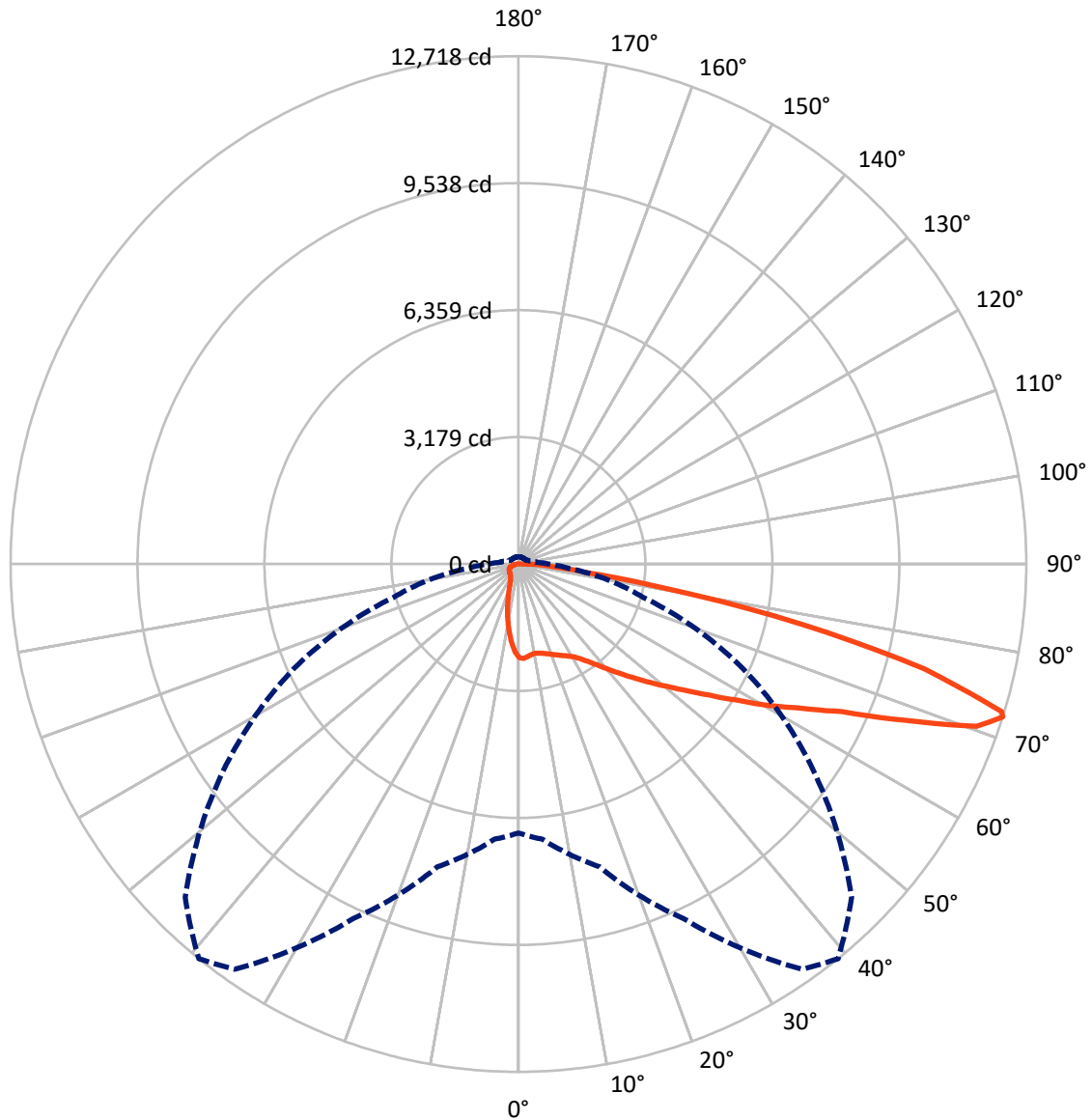
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.7 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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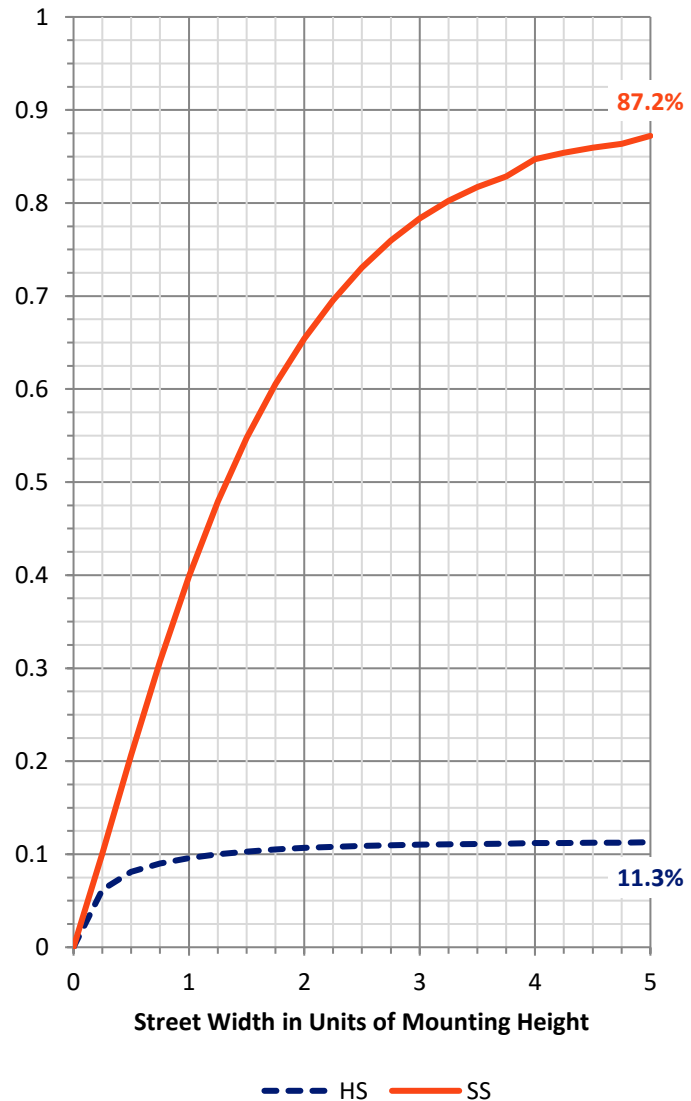
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1758.4	0.0	1758.4
	% Fixture	11.5	0.0	11.5
Street Side	Lumens	13576.6	0.0	13576.6
	% Fixture	88.5	0.0	88.5
Total	Lumens	15335.0	0.0	15335.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	201.3	1.3
10°-20°	505.7	3.3
20°-30°	788.1	5.1
30°-40°	1213.4	7.9
40°-50°	1978.2	12.9
50°-60°	3073.8	20.0
60°-70°	4114.2	26.8
70°-80°	2958.7	19.3
80°-90°	501.6	3.3
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°	15335.0	100.0
0°-180°	15335.0	100.0

Coefficient of Utilization



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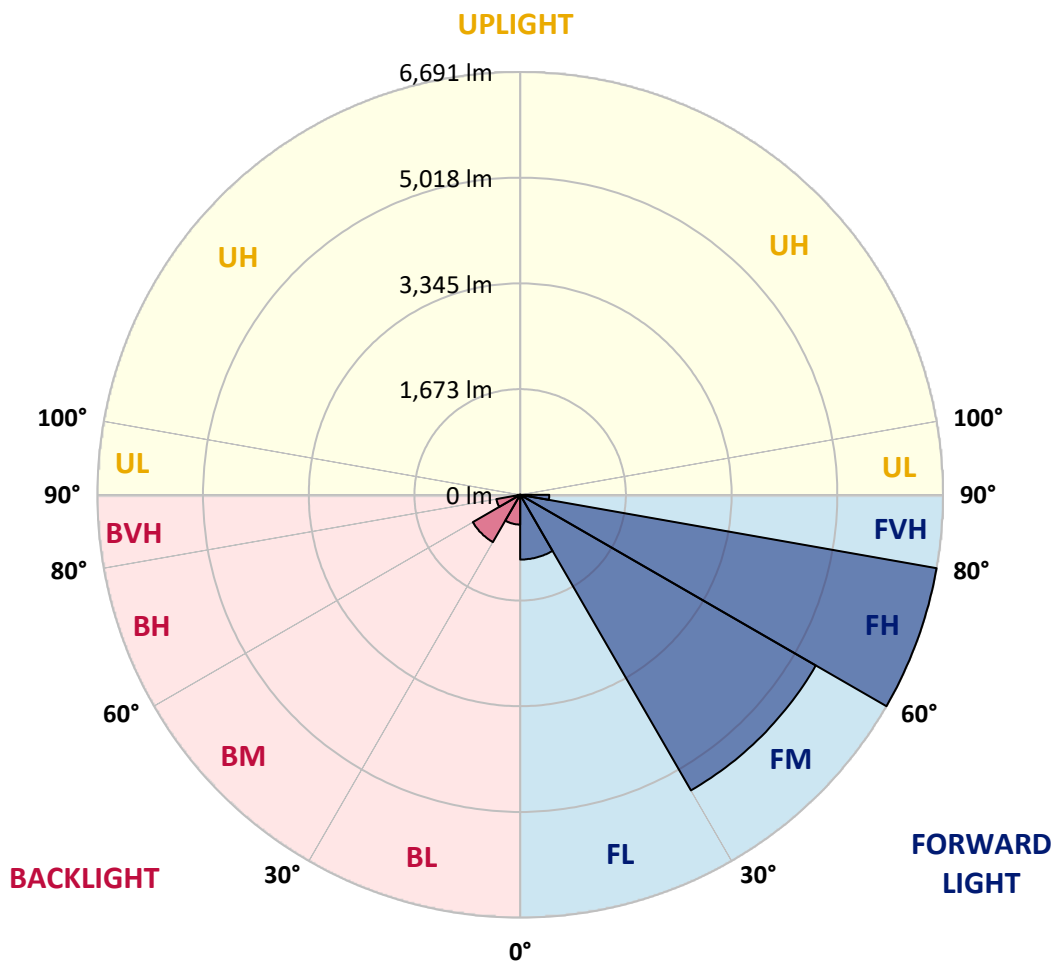
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1024.3	6.7			
FM	(30°-60°)	5401.3	35.2			
FH	(60°-80°)	6690.9	43.6			G3/7500
FVH	(80°-90°)	460.1	3.0			G3/500
BL	(0°-30°)	470.7	3.1	B1/500		
BM	(30°-60°)	864.1	5.6	B1/1000		
BH	(60°-80°)	382.0	2.5	B1/500		G1/500
BVH	(80°-90°)	41.5	0.3			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G3

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	39°	45°	55°	65°	75°	85°
0°	2341.9	2341.9	2341.9	2341.9	2341.9	2341.9	2341.9	2341.9	2341.9	2341.9	2341.9
2.5°	2392.4	2393.4	2390.3	2381.0	2372.8	2368.7	2361.5	2349.1	2332.7	2321.3	2312.1
5°	2369.7	2372.8	2370.8	2355.3	2340.9	2332.7	2321.3	2303.8	2282.2	2273.0	2251.3
7.5°	2352.2	2354.3	2348.1	2330.6	2302.8	2292.5	2271.9	2249.3	2229.7	2216.3	2190.6
10°	2339.9	2341.9	2336.8	2319.3	2288.4	2276.0	2251.3	2226.6	2200.9	2184.4	2155.6
12.5°	2322.4	2326.5	2326.5	2318.3	2297.7	2289.4	2264.7	2238.0	2214.3	2196.8	2160.8
15°	2319.3	2324.4	2333.7	2332.7	2326.5	2320.3	2300.8	2274.0	2253.4	2232.8	2188.5
17.5°	2345.0	2356.3	2374.9	2381.0	2376.9	2363.5	2340.9	2316.2	2293.5	2274.0	2219.4
20°	2409.9	2416.0	2443.8	2456.2	2435.6	2416.0	2386.2	2354.3	2333.7	2318.3	2248.3
22.5°	2507.7	2515.9	2538.5	2539.6	2496.3	2472.7	2434.6	2395.5	2375.9	2369.7	2287.4
25°	2664.1	2662.1	2668.3	2642.5	2564.3	2536.5	2490.2	2444.9	2431.5	2443.8	2345.0
27.5°	2851.5	2846.3	2826.8	2759.9	2641.5	2605.5	2549.9	2509.7	2509.7	2538.5	2423.3
30°	3067.7	3062.5	2998.7	2886.5	2733.1	2691.9	2633.3	2591.0	2612.7	2668.3	2529.3
32.5°	3296.2	3277.7	3188.1	3037.8	2863.8	2818.6	2761.9	2718.7	2759.9	2854.6	2681.6
35°	3511.4	3501.1	3390.9	3212.8	3032.7	2994.6	2955.5	2901.9	2967.8	3115.0	2896.8
37.5°	3733.7	3725.5	3590.6	3401.2	3238.6	3212.8	3179.9	3142.8	3248.8	3442.4	3188.1
40°	3981.8	3965.3	3795.5	3606.1	3478.4	3466.1	3448.6	3438.3	3609.1	3897.4	3556.6
42.5°	4262.8	4230.9	4011.6	3831.5	3739.9	3750.2	3740.9	3782.1	4043.6	4422.4	3995.2
45°	4584.0	4520.2	4226.8	4071.4	4029.1	4070.3	4089.9	4194.9	4557.2	5028.7	4485.2
47.5°	4884.6	4802.2	4462.5	4331.8	4355.5	4426.5	4482.1	4667.4	5120.3	5627.8	4985.5
50°	5161.5	5068.9	4714.7	4601.5	4716.8	4817.7	4933.0	5194.5	5719.5	6244.5	5444.6
52.5°	5366.4	5299.5	4967.0	4895.9	5131.7	5265.5	5449.7	5780.2	6324.8	6832.3	5854.3
55°	5524.9	5488.9	5213.0	5233.6	5601.1	5792.5	6015.9	6395.8	6965.1	7359.3	6183.7
57.5°	5708.1	5681.4	5494.0	5641.2	6183.7	6424.6	6688.1	7110.2	7574.5	7823.6	6442.1
60°	5901.7	5901.7	5807.0	6132.3	6912.6	7188.4	7450.9	7779.3	8181.8	8241.5	6547.1
62.5°	6047.8	6085.9	6119.9	6655.2	7604.3	7947.1	8235.4	8550.4	8810.8	8447.4	6300.0
65°	6259.9	6341.2	6532.7	7259.5	8460.8	8909.6	9298.7	9563.3	9320.4	8283.7	5494.0
67.5°	6624.3	6744.8	7152.4	8159.2	9772.3	10444.5	10822.3	10365.2	9220.5	7253.3	4208.3
70°	6952.7	7122.6	7819.5	9300.8	11477.0	12174.9	12001.0	10178.9	8030.5	5317.0	2589.0
72°	6734.5	6919.8	7850.4	9798.0	12388.0	12717.5	11800.2	9020.8	6205.3	3244.7	1276.5
72.5°	6591.4	6783.9	7750.5	9785.7	12412.7	12648.5	11521.3	8560.7	5633.0	2839.1	1032.5
75°	5506.4	5671.1	6664.5	8672.9	10938.6	10506.3	8991.0	5540.3	2589.0	917.2	531.2
77.5°	3595.8	3721.4	4595.3	6008.7	7662.0	7246.1	5472.4	2594.1	970.7	556.9	399.4
80°	1806.6	1896.2	2459.3	3159.3	4135.2	3804.7	2526.2	1254.9	649.6	402.5	314.0
82.5°	1256.9	1339.3	1693.4	1613.1	1728.4	1672.8	1188.0	1046.9	485.9	254.3	164.7
85°	1054.1	1139.6	1401.0	1149.9	940.9	857.5	851.3	989.3	321.2	125.6	139.0
87.5°	919.3	1049.0	1156.0	840.0	645.4	569.3	626.9	906.9	101.9	69.0	42.2
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°	2341.9	2341.9	2341.9	2341.9	2341.9	2341.9	2341.9	2341.9	2341.9	2341.9	2341.9
2.5°	2296.6	2293.5	2278.1	2254.4	2236.9	2225.6	2204.0	2203.0	2205.0	2186.5	2193.7
5°	2231.8	2219.4	2179.3	2124.7	2080.5	2038.3	1991.9	1976.5	1963.1	1935.3	1938.4
7.5°	2163.8	2142.2	2072.2	1982.7	1897.2	1819.0	1741.8	1703.7	1674.9	1638.8	1638.8
10°	2123.7	2089.7	1982.7	1851.9	1716.0	1601.8	1486.5	1417.5	1367.1	1320.7	1317.7
12.5°	2121.6	2070.2	1920.9	1740.7	1554.4	1393.8	1236.3	1130.3	1055.2	1000.6	995.4
15°	2138.1	2066.0	1869.4	1636.8	1402.1	1193.1	998.5	863.7	767.9	707.2	701.0
17.5°	2152.5	2060.9	1813.8	1527.7	1253.8	999.6	783.4	643.4	552.8	503.4	498.2
20°	2165.9	2049.6	1742.8	1412.4	1090.2	818.4	612.5	499.3	439.6	411.8	408.7
22.5°	2185.5	2039.3	1668.7	1282.7	929.6	666.0	505.4	424.1	392.2	378.8	376.8
25°	2217.4	2040.3	1596.6	1149.9	782.4	554.9	437.5	387.1	369.6	360.3	360.3
27.5°	2263.7	2052.7	1525.6	1015.0	657.8	478.7	397.4	367.5	356.2	349.0	346.9
30°	2331.6	2075.3	1450.5	887.4	559.0	426.2	373.7	355.1	345.9	339.7	338.7
32.5°	2430.5	2115.5	1371.2	771.0	483.8	389.1	356.2	344.9	337.6	332.5	331.5
35°	2577.7	2186.5	1294.0	672.2	430.3	362.4	341.8	332.5	328.4	326.3	325.3
37.5°	2793.8	2300.8	1220.9	595.0	395.3	344.9	327.4	322.2	320.1	320.1	320.1
40°	3065.6	2451.0	1155.0	540.4	375.7	331.5	317.1	312.9	312.9	314.0	314.0
42.5°	3396.1	2639.4	1098.4	503.4	364.4	322.2	309.9	307.8	306.8	306.8	307.8
45°	3780.0	2861.8	1063.4	474.6	356.2	317.1	304.7	303.7	299.6	297.5	297.5
47.5°	4166.1	3099.6	1061.3	458.1	345.9	310.9	299.6	299.6	291.3	287.2	288.2
50°	4526.4	3312.7	1084.0	454.0	339.7	301.6	294.4	295.4	284.1	279.0	277.9
52.5°	4816.7	3475.3	1111.8	459.1	339.7	293.4	285.1	290.3	277.9	271.8	270.7
55°	5041.1	3588.6	1122.1	470.4	343.8	286.2	276.9	285.1	275.9	267.6	267.6
57.5°	5201.7	3624.6	1077.8	475.6	350.0	285.1	268.7	284.1	279.0	268.7	268.7
60°	5143.0	3415.6	913.1	456.0	349.0	283.1	262.5	286.2	289.3	277.9	277.9
62.5°	4684.9	2857.7	732.9	411.8	331.5	275.9	255.3	284.1	296.5	292.4	290.3
65°	3814.0	2095.9	568.2	359.3	301.6	260.4	239.9	265.6	280.0	284.1	285.1
67.5°	2687.8	1326.9	441.6	305.7	264.6	237.8	222.4	234.7	239.9	241.9	246.0
70°	1470.0	718.5	351.0	257.4	226.5	215.1	203.8	204.9	202.8	200.7	202.8
72°	738.1	469.4	296.5	223.4	200.7	193.5	188.4	185.3	185.3	182.2	183.2
72.5°	635.2	436.5	286.2	215.1	194.6	188.4	184.3	181.2	180.1	178.1	179.1
75°	423.1	345.9	238.8	180.1	165.7	161.6	163.7	160.6	161.6	159.6	160.6
77.5°	341.8	297.5	202.8	152.4	142.1	135.9	140.0	141.0	143.1	141.0	140.0
80°	286.2	253.2	169.9	125.6	118.4	113.2	115.3	122.5	123.5	117.4	116.3
82.5°	185.3	203.8	133.8	97.8	90.6	88.5	93.7	100.9	102.9	94.7	92.6
85°	155.4	163.7	96.8	66.9	59.7	57.6	67.9	75.1	80.3	72.1	70.0
87.5°	43.2	80.3	47.4	31.9	26.8	26.8	32.9	39.1	46.3	47.4	47.4
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)