

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: P197141

Luminaire Tested: **NAV-AF-05-D-UNV-SL4-8030-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P197141
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-05-D-UNV-SL4-8030-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 80 CRI, 3000K, 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: 15422 lumens
Efficiency: N/A
Efficacy: 95.2 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B1 - U0 - G3

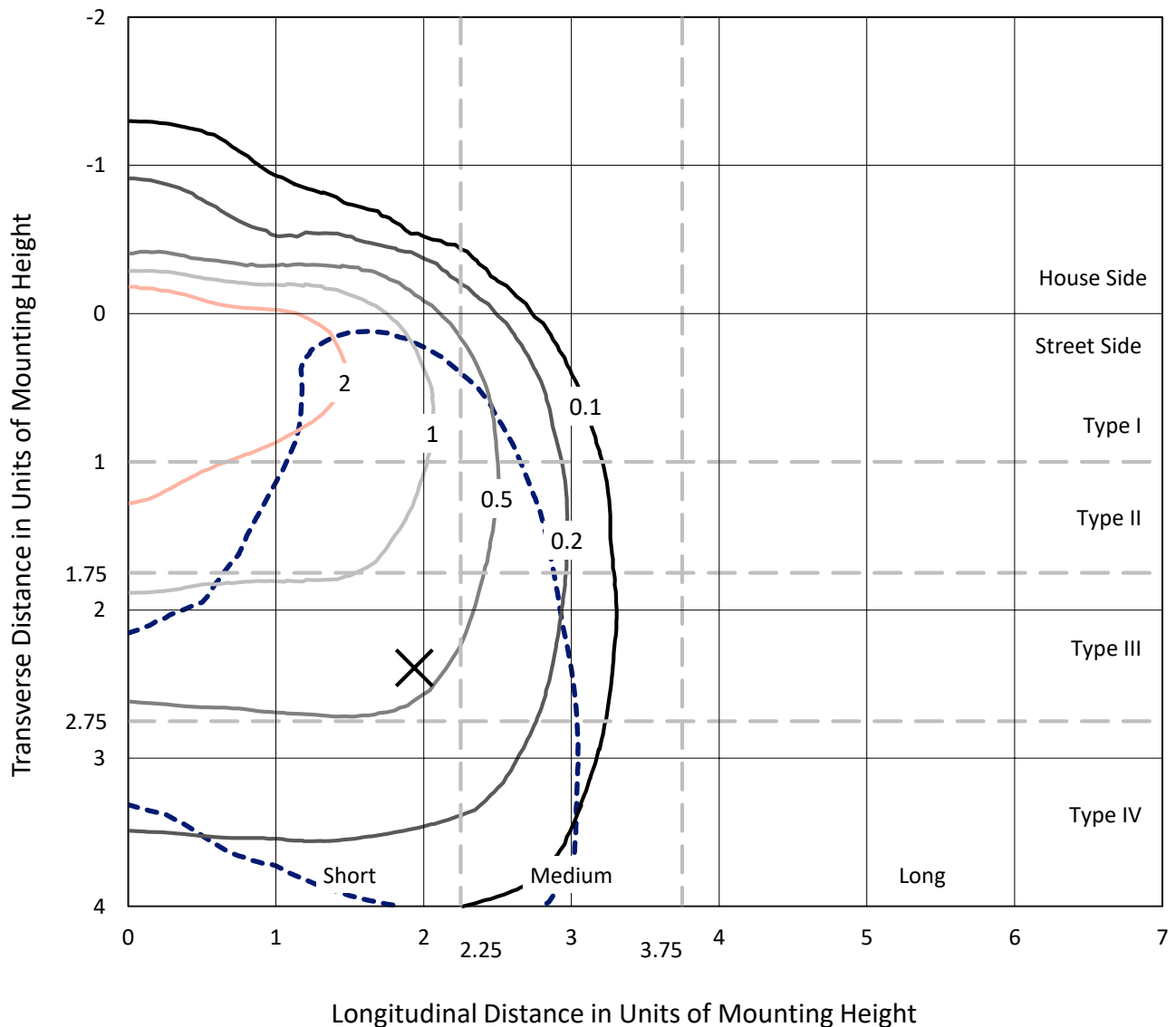
Input Watts (W): 162
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

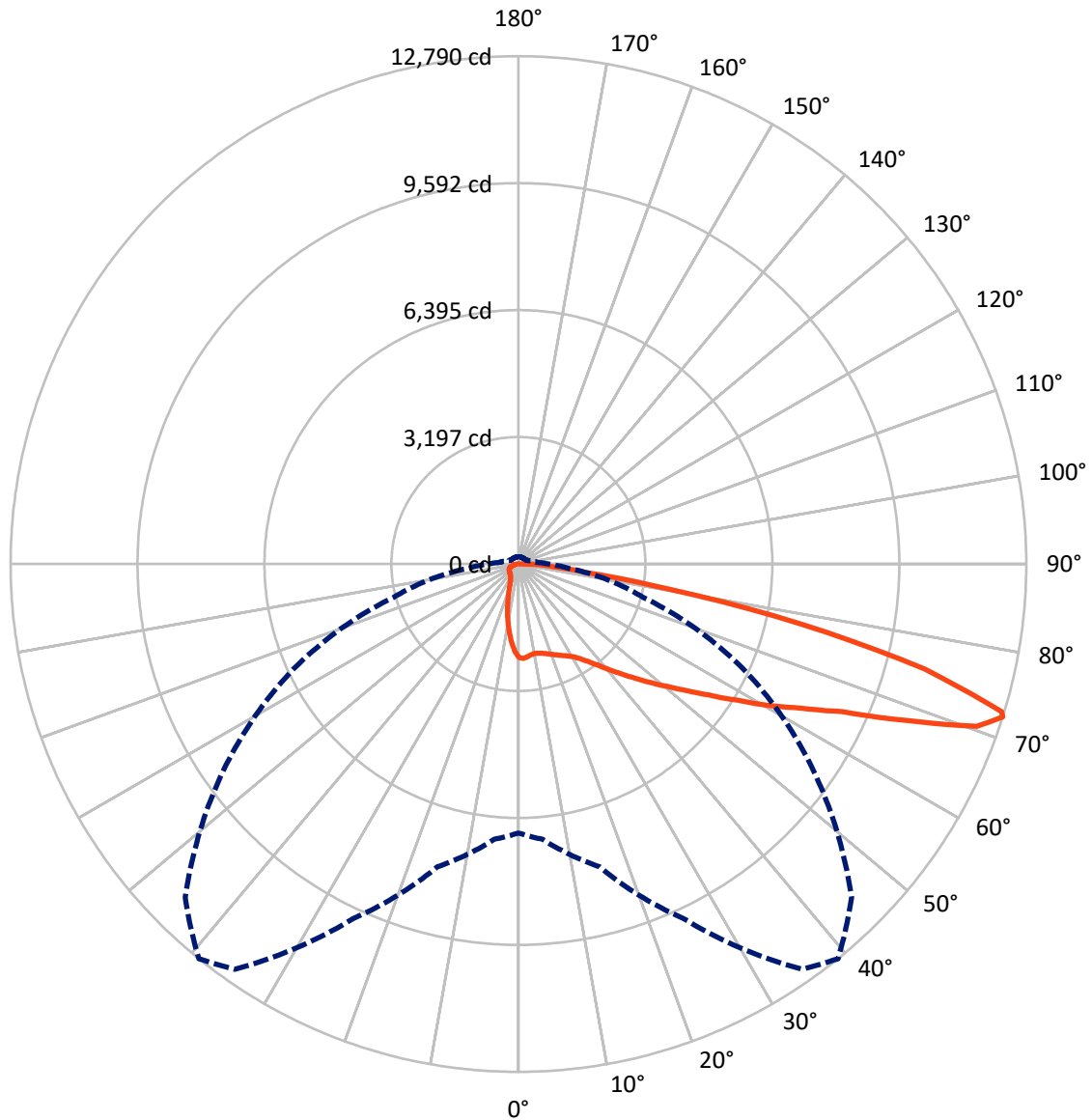
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.8 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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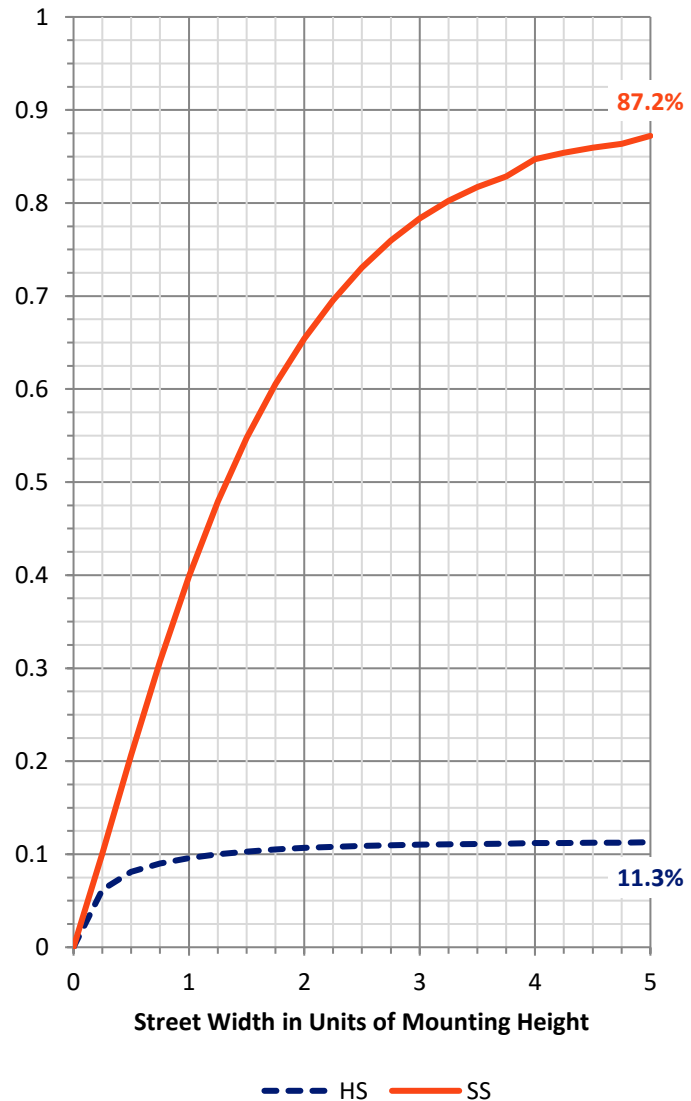
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1768.3	0.0	1768.3
	% Fixture	11.5	0.0	11.5
Street Side	Lumens	13653.7	0.0	13653.7
	% Fixture	88.5	0.0	88.5
Total	Lumens	15422.0	0.0	15422.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	202.4	1.3
10°-20°	508.6	3.3
20°-30°	792.6	5.1
30°-40°	1220.3	7.9
40°-50°	1989.4	12.9
50°-60°	3091.3	20.0
60°-70°	4137.6	26.8
70°-80°	2975.5	19.3
80°-90°	504.4	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°	15422.0	100.0
0°-180°	15422.0	100.0

Coefficient of Utilization



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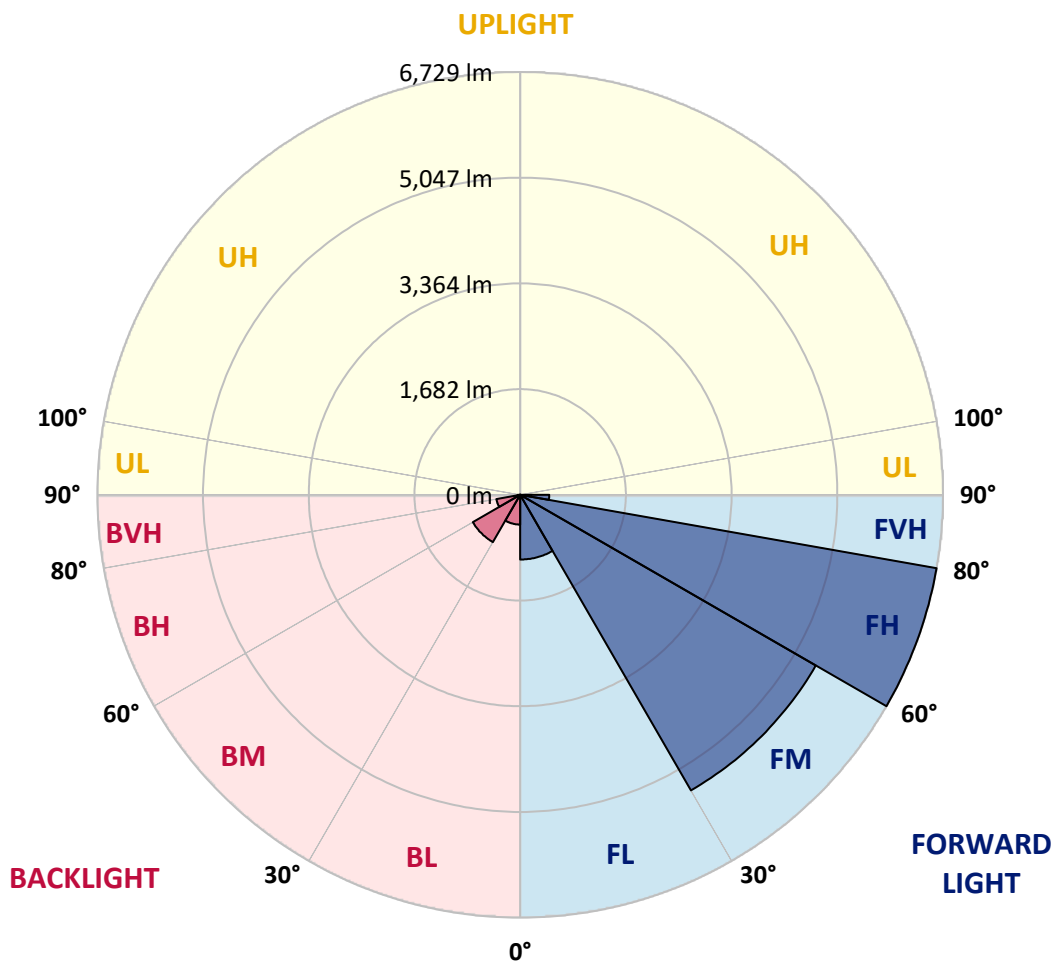
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1030.2	6.7			
FM	(30°-60°)	5431.9	35.2			
FH	(60°-80°)	6728.9	43.6			G3/7500
FVH	(80°-90°)	462.7	3.0			G3/500
BL	(0°-30°)	473.4	3.1	B1/500		
BM	(30°-60°)	869.0	5.6	B1/1000		
BH	(60°-80°)	384.2	2.5	B1/500		G1/500
BVH	(80°-90°)	41.7	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°	2355.2	2355.2	2355.2	2355.2	2355.2	2355.2	2355.2	2355.2	2355.2	2355.2	2355.2
2.5°	2405.9	2407.0	2403.9	2394.6	2386.3	2382.1	2374.9	2362.5	2345.9	2334.5	2325.2
5°	2383.2	2386.3	2384.2	2368.7	2354.2	2345.9	2334.5	2316.9	2295.2	2285.9	2264.1
7.5°	2365.6	2367.6	2361.4	2343.8	2315.9	2305.5	2284.8	2262.0	2242.4	2228.9	2203.0
10°	2353.1	2355.2	2350.0	2332.4	2301.4	2289.0	2264.1	2239.3	2213.4	2196.8	2167.8
12.5°	2335.5	2339.7	2339.7	2331.4	2310.7	2302.4	2277.6	2250.7	2226.8	2209.2	2173.0
15°	2332.4	2337.6	2346.9	2345.9	2339.7	2333.5	2313.8	2286.9	2266.2	2245.5	2201.0
17.5°	2358.3	2369.7	2388.3	2394.6	2390.4	2377.0	2354.2	2329.3	2306.6	2286.9	2232.0
20°	2423.5	2429.8	2457.7	2470.1	2449.4	2429.8	2399.7	2367.6	2346.9	2331.4	2261.0
22.5°	2521.9	2530.2	2553.0	2554.0	2510.5	2486.7	2448.4	2409.0	2389.4	2383.2	2300.3
25°	2679.3	2677.2	2683.4	2657.5	2578.8	2550.9	2504.3	2458.7	2445.3	2457.7	2358.3
27.5°	2867.7	2862.5	2842.8	2775.5	2656.5	2620.2	2564.3	2524.0	2524.0	2553.0	2437.0
30°	3085.1	3079.9	3015.7	2902.9	2748.6	2707.2	2648.2	2605.7	2627.5	2683.4	2543.6
32.5°	3314.9	3296.3	3206.2	3055.1	2880.1	2834.5	2777.6	2734.1	2775.5	2870.8	2696.9
35°	3531.3	3520.9	3410.1	3231.0	3049.9	3011.6	2972.2	2918.4	2984.7	3132.7	2913.2
37.5°	3754.9	3746.6	3611.0	3420.5	3256.9	3231.0	3197.9	3160.6	3267.3	3461.9	3206.2
40°	4004.4	3987.8	3817.0	3626.5	3498.1	3485.7	3468.1	3457.8	3629.6	3919.5	3576.8
42.5°	4287.0	4254.9	4034.4	3853.2	3761.1	3771.5	3762.1	3803.5	4066.5	4447.5	4017.8
45°	4610.0	4545.8	4250.8	4094.5	4052.0	4093.4	4113.1	4218.7	4583.1	5057.2	4510.6
47.5°	4912.3	4829.5	4487.9	4356.4	4380.2	4451.6	4507.5	4693.9	5149.4	5659.8	5013.8
50°	5190.8	5097.6	4741.5	4627.6	4743.6	4845.0	4961.0	5223.9	5751.9	6279.9	5475.5
52.5°	5396.8	5329.5	4995.1	4923.7	5160.8	5295.4	5480.7	5813.0	6360.6	6871.0	5887.5
55°	5556.2	5520.0	5242.6	5263.3	5632.8	5825.4	6050.1	6432.1	7004.6	7401.1	6218.8
57.5°	5740.5	5713.6	5525.2	5673.2	6218.8	6461.1	6726.1	7150.5	7617.4	7868.0	6478.7
60°	5935.1	5935.1	5839.9	6167.0	6951.8	7229.2	7493.2	7823.5	8228.2	8288.3	6584.3
62.5°	6082.2	6120.5	6154.6	6693.0	7647.5	7992.2	8282.1	8598.9	8860.8	8495.3	6335.8
65°	6295.4	6377.2	6569.8	7300.7	8508.8	8960.2	9351.5	9617.6	9373.2	8330.7	5525.2
67.5°	6661.9	6783.0	7193.0	8205.5	9827.7	10503.7	10883.7	10424.0	9272.8	7294.4	4232.1
70°	6992.1	7163.0	7863.8	9353.6	11542.1	12244.0	12069.1	10236.7	8076.1	5347.1	2603.7
72°	6772.7	6959.0	7894.9	9853.6	12458.3	12789.6	11867.2	9072.0	6240.5	3263.1	1283.7
72.5°	6628.8	6822.4	7794.5	9841.2	12483.2	12720.2	11586.6	8609.2	5664.9	2855.2	1038.4
75°	5537.6	5703.2	6702.3	8722.1	11000.7	10565.9	9042.0	5571.8	2603.7	922.4	534.2
77.5°	3616.2	3742.5	4621.4	6042.8	7705.4	7287.2	5503.4	2608.9	976.3	560.1	401.7
80°	1816.9	1906.9	2473.2	3177.2	4158.6	3826.3	2540.5	1262.0	653.2	404.8	315.8
82.5°	1264.1	1346.9	1703.0	1622.3	1738.2	1682.3	1194.7	1052.9	488.6	255.7	165.6
85°	1060.1	1146.0	1409.0	1156.4	946.2	862.4	856.2	994.9	323.0	126.3	139.8
87.5°	924.5	1054.9	1162.6	844.8	649.1	572.5	630.5	912.1	102.5	69.4	42.4
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°	2355.2	2355.2	2355.2	2355.2	2355.2	2355.2	2355.2	2355.2	2355.2	2355.2	2355.2
2.5°	2309.7	2306.6	2291.0	2267.2	2249.6	2238.2	2216.5	2215.5	2217.5	2198.9	2206.1
5°	2244.4	2232.0	2191.6	2136.8	2092.3	2049.8	2003.2	1987.7	1974.2	1946.3	1949.4
7.5°	2176.1	2154.4	2084.0	1993.9	1908.0	1829.3	1751.7	1713.4	1684.4	1648.1	1648.1
10°	2135.7	2101.6	1993.9	1862.4	1725.8	1610.9	1494.9	1425.6	1374.8	1328.2	1325.1
12.5°	2133.7	2081.9	1931.8	1750.6	1563.2	1401.7	1243.3	1136.7	1061.1	1006.3	1001.1
15°	2150.2	2077.8	1880.0	1646.1	1410.0	1199.9	1004.2	868.6	772.3	711.2	705.0
17.5°	2164.7	2072.6	1824.1	1536.3	1260.9	1005.2	787.8	647.0	555.9	506.2	501.1
20°	2178.2	2061.2	1752.7	1420.4	1096.3	823.0	616.0	502.1	442.1	414.1	411.0
22.5°	2197.9	2050.8	1678.2	1289.9	934.8	669.8	508.3	426.5	394.4	381.0	378.9
25°	2229.9	2051.9	1605.7	1156.4	786.8	558.0	440.0	389.3	371.7	362.3	362.3
27.5°	2276.5	2064.3	1534.3	1020.8	661.5	481.4	399.6	369.6	358.2	351.0	348.9
30°	2344.9	2087.1	1458.7	892.4	562.1	428.6	375.8	357.2	347.8	341.6	340.6
32.5°	2444.2	2127.5	1379.0	775.4	486.6	391.3	358.2	346.8	339.6	334.4	333.4
35°	2592.3	2198.9	1301.3	676.0	432.7	364.4	343.7	334.4	330.2	328.2	327.1
37.5°	2809.7	2313.8	1227.8	598.4	397.5	346.8	329.2	324.0	322.0	322.0	322.0
40°	3083.0	2465.0	1161.6	543.5	377.9	333.4	318.9	314.7	314.7	315.8	315.8
42.5°	3415.3	2654.4	1104.6	506.2	366.5	324.0	311.6	309.5	308.5	308.5	309.5
45°	3801.5	2878.0	1069.4	477.3	358.2	318.9	306.4	305.4	301.3	299.2	299.2
47.5°	4189.7	3117.2	1067.4	460.7	347.8	312.6	301.3	301.3	293.0	288.8	289.9
50°	4552.0	3331.5	1090.1	456.5	341.6	303.3	296.1	297.1	285.7	280.6	279.5
52.5°	4844.0	3495.0	1118.1	461.7	341.6	295.0	286.8	291.9	279.5	273.3	272.3
55°	5069.7	3608.9	1128.4	473.1	345.8	287.8	278.5	286.8	277.4	269.2	269.2
57.5°	5231.2	3645.2	1083.9	478.3	352.0	286.8	270.2	285.7	280.6	270.2	270.2
60°	5172.2	3435.0	918.3	458.6	351.0	284.7	264.0	287.8	290.9	279.5	279.5
62.5°	4711.5	2873.9	737.1	414.1	333.4	277.4	256.7	285.7	298.2	294.0	291.9
65°	3835.6	2107.8	571.5	361.3	303.3	261.9	241.2	267.1	281.6	285.7	286.8
67.5°	2703.1	1334.5	444.1	307.5	266.1	239.1	223.6	236.0	241.2	243.3	247.4
70°	1478.4	722.6	353.0	258.8	227.8	216.4	205.0	206.0	203.9	201.9	203.9
72°	742.3	472.1	298.2	224.7	201.9	194.6	189.5	186.3	186.3	183.2	184.3
72.5°	638.8	439.0	287.8	216.4	195.7	189.5	185.3	182.2	181.2	179.1	180.1
75°	425.5	347.8	240.2	181.2	166.7	162.5	164.6	161.5	162.5	160.5	161.5
77.5°	343.7	299.2	203.9	153.2	142.9	136.7	140.8	141.8	143.9	141.8	140.8
80°	287.8	254.7	170.8	126.3	119.1	113.9	115.9	123.2	124.2	118.0	117.0
82.5°	186.3	205.0	134.6	98.3	91.1	89.0	94.2	101.5	103.5	95.2	93.2
85°	156.3	164.6	97.3	67.3	60.0	58.0	68.3	75.6	80.8	72.5	70.4
87.5°	43.5	80.8	47.6	32.1	26.9	26.9	33.1	39.3	46.6	47.6	47.6
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)