

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: P196194

Luminaire Tested: **NAV-AF-06-D-UNV-SL4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196194
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-06-D-UNV-SL4
Description: NAVION ROADWAY AND AREA LUMINAIRE
(6) 70 CRI, 4000K, 1050mA 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: 35153.7 lumens
Efficiency: N/A
Efficacy: 105.6 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B3 - U0 - G5

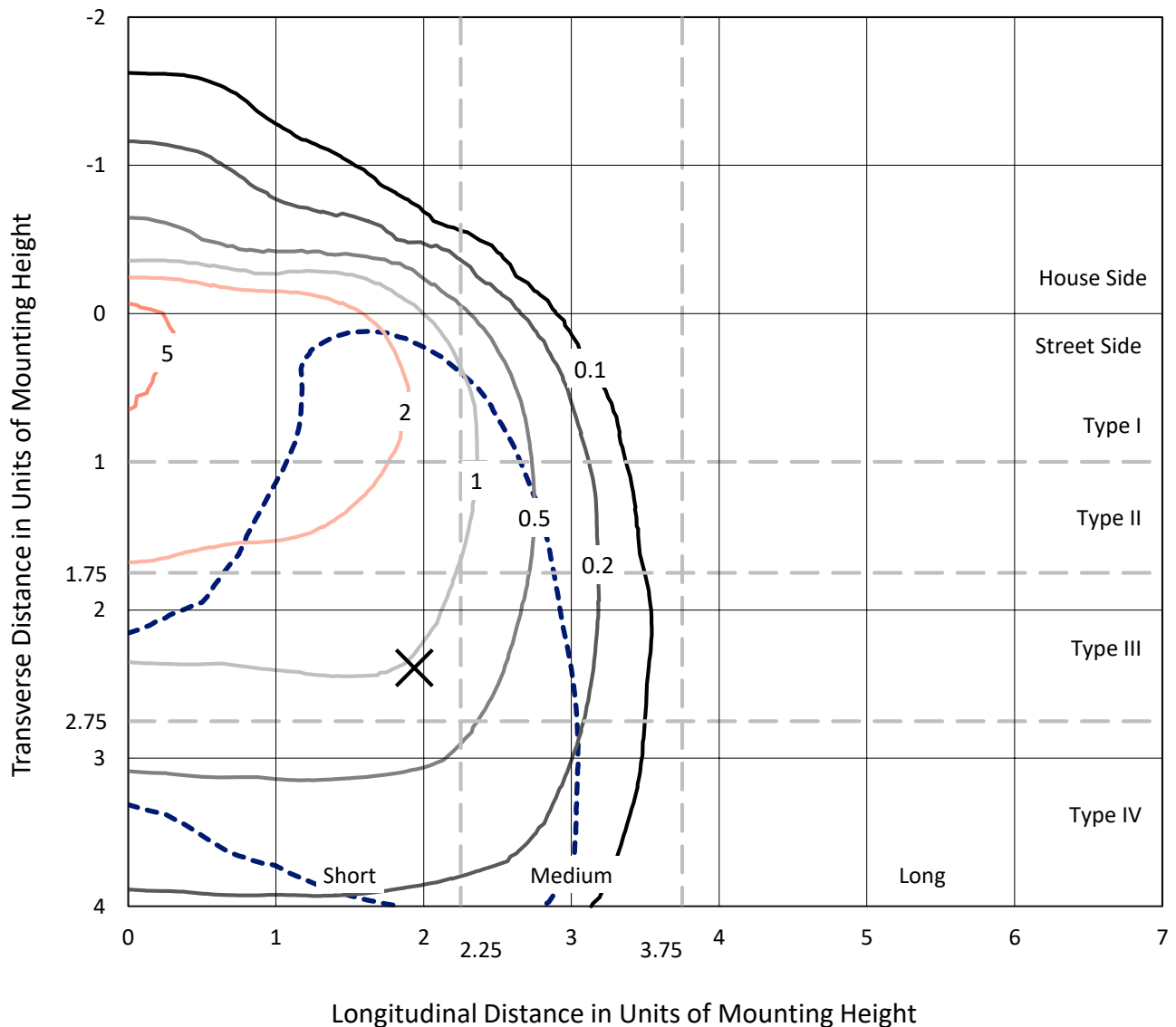
Input Watts (W): 333
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



REPORT NUMBER: P196194
 CATALOG NUMBER: NAV-AF-06-D-UNV-SL4

Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

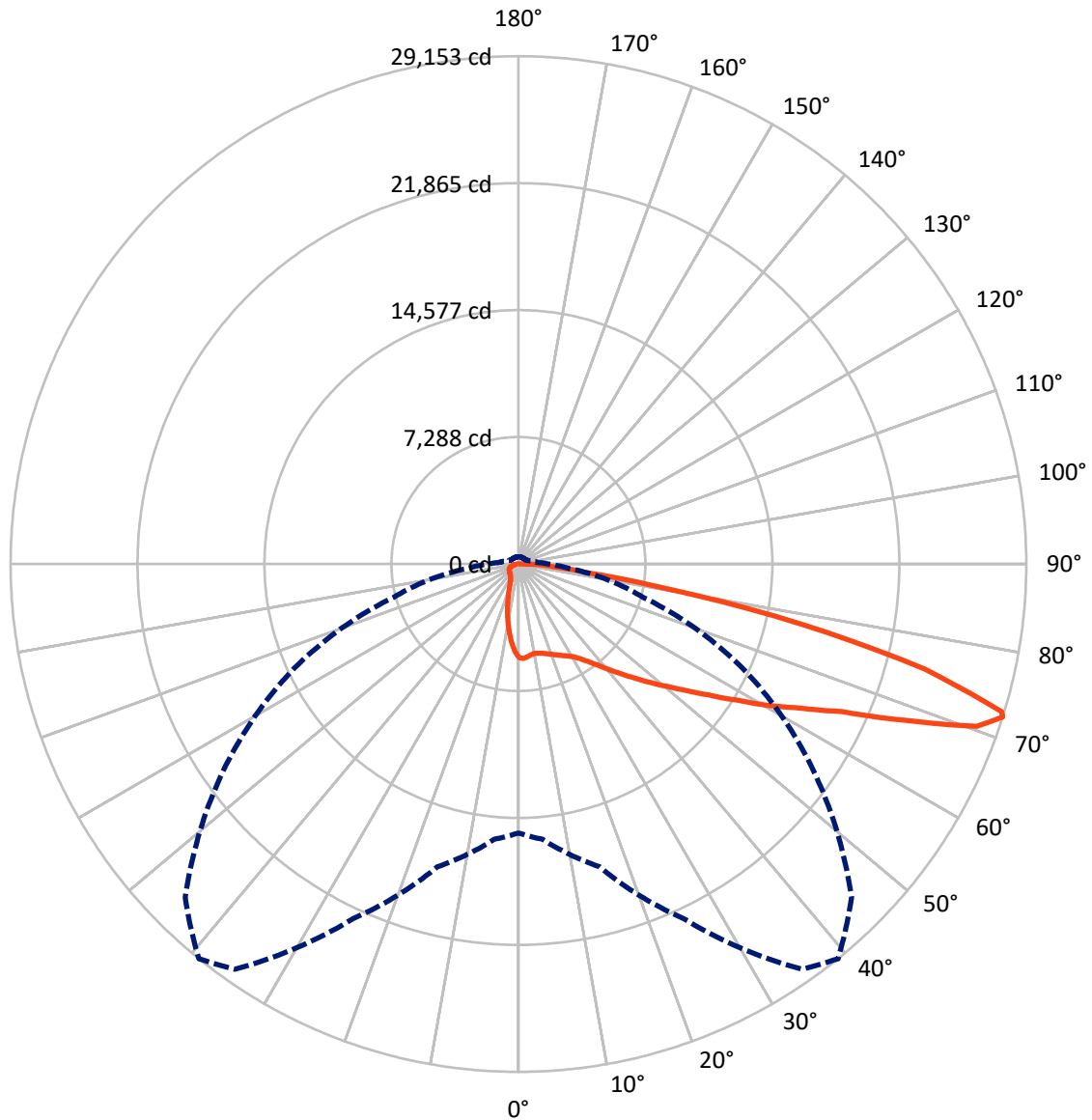


Based on 30 foot mounting height. Maximum calculated value = 6 fc
 Type IV - Short - Non-Cutoff

REPORT NUMBER: P196194

CATALOG NUMBER: NAV-AF-06-D-UNV-SL4

Luminous Intensity Polar Plot



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

REPORT NUMBER: P196194

CATALOG NUMBER: NAV-AF-06-D-UNV-SL4

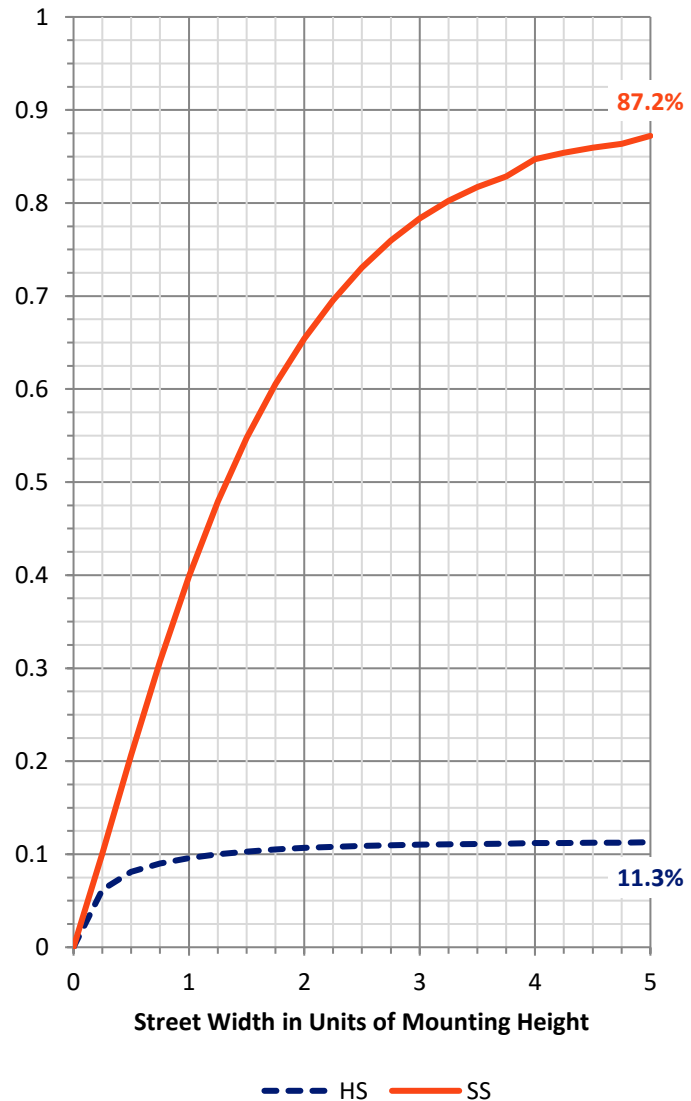
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	4030.8	0.0	4030.8
	% Fixture	11.5	0.0	11.5
Street Side	Lumens	31122.9	0.0	31122.9
	% Fixture	88.5	0.0	88.5
Total	Lumens	35153.7	0.0	35153.7
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	461.4	1.3
10°-20°	1159.3	3.3
20°-30°	1806.6	5.1
30°-40°	2781.6	7.9
40°-50°	4534.7	12.9
50°-60°	7046.4	20.0
60°-70°	9431.4	26.8
70°-80°	6782.5	19.3
80°-90°	1149.8	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°	35153.7	100.0
0°-180°	35153.7	100.0

Coefficient of Utilization



REPORT NUMBER: P196194

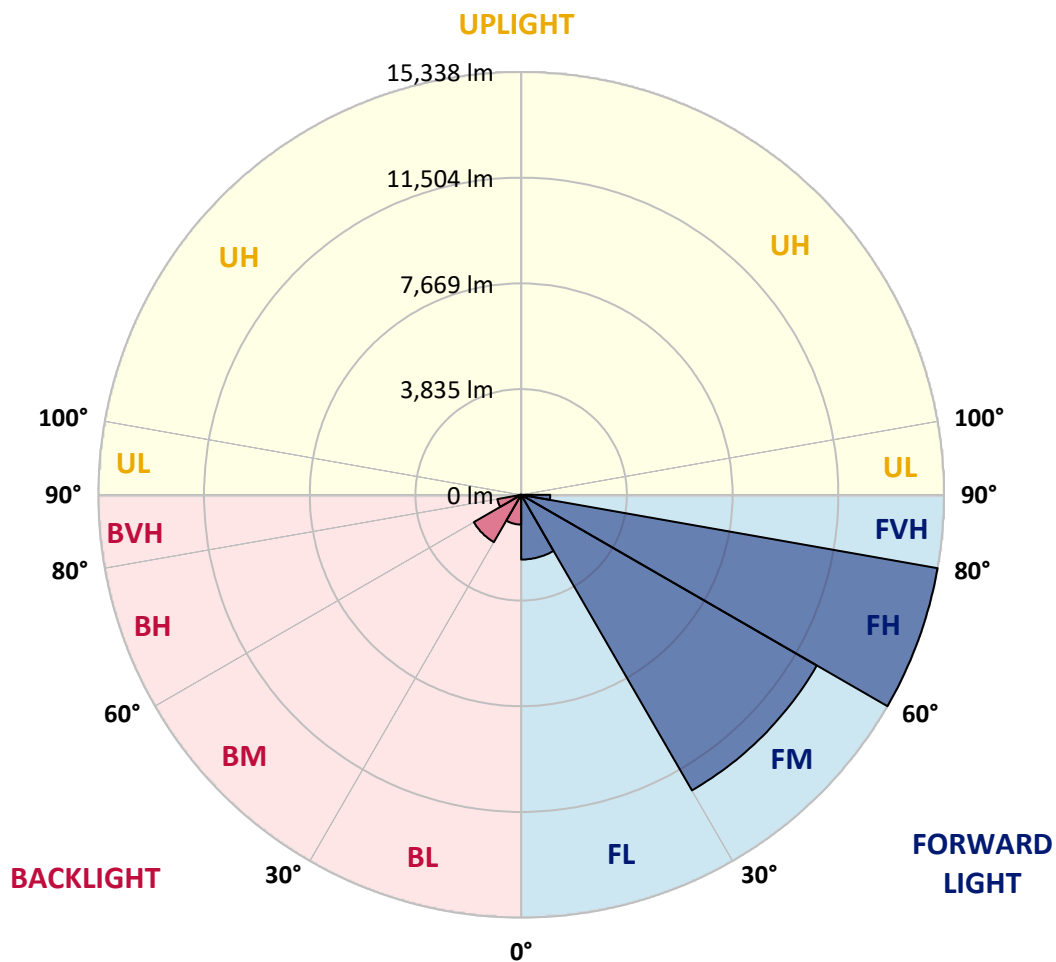
CATALOG NUMBER: NAV-AF-06-D-UNV-SL4

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	2348.2	6.7			
FM	(30°-60°)	12381.8	35.2			
FH	(60°-80°)	15338.1	43.6			G5
FVH	(80°-90°)	1054.7	3.0			G5
BL	(0°-30°)	1079.1	3.1	B3/2500		
BM	(30°-60°)	1981.0	5.6	B2/2500		
BH	(60°-80°)	875.8	2.5	B2/1000		G2/1000
BVH	(80°-90°)	95.1	0.3			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G5

Type IV Short





REPORT NUMBER: P196194

CATALOG NUMBER: NAV-AF-06-D-UNV-SL4

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	39°	45°	55°	65°	75°	85°
0°	5368.7	5368.7	5368.7	5368.7	5368.7	5368.7	5368.7	5368.7	5368.7	5368.7	5368.7
2.5°	5484.2	5486.6	5479.5	5458.3	5439.4	5429.9	5413.5	5385.1	5347.4	5321.4	5300.2
5°	5432.3	5439.4	5434.6	5399.2	5366.2	5347.4	5321.4	5281.3	5231.8	5210.5	5160.9
7.5°	5392.2	5396.9	5382.8	5342.7	5278.9	5255.3	5208.1	5156.2	5111.4	5080.7	5021.7
10°	5363.8	5368.7	5356.8	5316.7	5245.9	5217.6	5160.9	5104.3	5045.3	5007.5	4941.5
12.5°	5323.7	5333.2	5333.2	5314.3	5267.2	5248.2	5191.6	5130.3	5076.0	5035.9	4953.2
15°	5316.7	5328.4	5349.7	5347.4	5333.2	5319.0	5274.2	5212.9	5165.7	5118.4	5017.0
17.5°	5375.7	5401.6	5444.1	5458.3	5448.8	5418.2	5366.2	5309.6	5257.7	5212.9	5087.7
20°	5524.3	5538.5	5602.2	5630.5	5583.4	5538.5	5470.0	5396.9	5349.7	5314.3	5153.8
22.5°	5748.6	5767.4	5819.4	5821.7	5722.6	5668.3	5581.0	5491.3	5446.5	5432.3	5243.5
25°	6107.2	6102.5	6116.6	6057.7	5878.3	5814.7	5708.4	5604.5	5574.0	5602.2	5375.7
27.5°	6536.8	6524.9	6480.1	6326.6	6055.4	5972.7	5845.2	5753.3	5753.3	5819.4	5555.0
30°	7032.3	7020.5	6874.1	6617.0	6265.4	6171.0	6036.4	5939.7	5989.3	6116.6	5798.1
32.5°	7556.1	7513.7	7308.4	6963.8	6565.0	6461.2	6331.5	6232.3	6326.6	6543.8	6147.3
35°	8049.4	8025.8	7773.3	7365.0	6952.1	6864.7	6775.1	6652.4	6803.3	7140.8	6640.6
37.5°	8559.1	8540.2	8231.1	7796.8	7424.0	7365.0	7289.5	7204.5	7447.6	7891.2	7308.4
40°	9127.8	9090.0	8700.7	8266.5	7973.8	7945.6	7905.4	7881.8	8273.5	8934.2	8153.2
42.5°	9772.0	9698.9	9196.2	8783.3	8573.2	8596.9	8575.6	8670.0	9269.4	10137.9	9158.5
45°	10508.3	10362.0	9689.5	9333.1	9236.3	9330.7	9375.5	9616.2	10447.0	11527.7	10281.8
47.5°	11197.3	11008.6	10229.8	9930.2	9984.4	10147.3	10274.7	10699.5	11737.7	12901.1	11428.6
50°	11832.2	11619.8	10808.0	10548.5	10812.7	11044.0	11308.3	11907.7	13111.2	14314.7	12481.1
52.5°	12301.8	12148.4	11386.2	11223.3	11763.7	12070.5	12492.9	13250.4	14498.8	15662.2	13420.3
55°	12665.2	12582.6	11950.1	11997.4	12839.8	13278.7	13790.8	14661.5	15966.6	16870.4	14175.4
57.5°	13085.3	13023.9	12594.4	12931.8	14175.4	14727.6	15331.8	16299.3	17363.6	17934.7	14767.8
60°	13528.8	13528.8	13311.8	14057.5	15846.2	16478.6	17080.4	17833.2	18755.9	18892.8	15008.5
62.5°	13864.0	13951.3	14029.2	15256.3	17432.0	18217.8	18878.6	19600.7	20197.8	19364.8	14442.1
65°	14350.1	14536.5	14975.5	16641.5	19395.4	20424.2	21316.2	21922.8	21365.9	18989.5	12594.4
67.5°	15185.5	15461.6	16396.1	18703.9	22401.8	23942.8	24808.8	23761.1	21136.9	16627.3	9646.9
70°	15938.3	16327.6	17925.3	21321.1	26309.7	27909.7	27510.8	23333.9	18409.0	12188.5	5935.0
72°	15438.0	15862.7	17996.1	22460.8	28398.1	29153.3	27050.7	20679.2	14225.1	7438.2	2926.2
72.5°	15110.0	15551.2	17767.1	22432.5	28454.8	28995.1	26411.2	19624.3	12912.9	6508.4	2366.9
75°	12622.7	13000.3	15277.5	19881.6	25075.5	24084.4	20610.7	12700.5	5935.0	2102.6	1217.7
77.5°	8242.8	8530.8	10534.2	13774.3	17564.2	16610.8	12544.9	5946.7	2225.3	1276.6	915.6
80°	4141.5	4346.8	5637.6	7242.3	9479.4	8721.9	5791.0	2876.6	1489.0	922.7	719.7
82.5°	2881.3	3070.2	3881.9	3697.9	3962.2	3834.7	2723.2	2399.9	1113.8	582.9	377.6
85°	2416.4	2612.3	3211.8	2635.9	2156.9	1965.7	1951.6	2267.8	736.2	287.9	318.5
87.5°	2107.3	2404.7	2650.1	1925.6	1479.6	1305.0	1437.1	2079.0	233.6	158.1	96.8
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P196194

CATALOG NUMBER: NAV-AF-06-D-UNV-SL4

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	5368.7	5368.7	5368.7	5368.7	5368.7	5368.7	5368.7	5368.7	5368.7	5368.7	5368.7
2.5°	5264.7	5257.7	5222.3	5168.0	5128.0	5102.0	5052.4	5050.0	5054.7	5012.3	5028.8
5°	5116.1	5087.7	4995.8	4870.7	4769.2	4672.4	4566.2	4530.9	4500.2	4436.4	4443.6
7.5°	4960.4	4910.8	4750.3	4545.1	4349.2	4169.9	3992.8	3905.5	3839.4	3756.9	3756.9
10°	4868.3	4790.5	4545.1	4245.3	3933.9	3671.9	3407.6	3249.5	3133.8	3027.6	3020.6
12.5°	4863.6	4745.6	4403.4	3990.4	3563.3	3195.2	2834.2	2591.1	2418.9	2293.8	2282.0
15°	4901.4	4736.2	4285.4	3752.1	3214.1	2735.1	2289.1	1979.9	1760.4	1621.2	1607.1
17.5°	4934.4	4724.4	4158.0	3502.0	2874.3	2291.4	1795.8	1474.9	1267.2	1154.0	1142.1
20°	4965.1	4698.4	3995.1	3237.6	2499.1	1876.1	1404.1	1144.5	1007.6	944.0	936.8
22.5°	5009.9	4674.8	3825.3	2940.4	2130.9	1526.9	1158.7	972.2	899.1	868.4	863.7
25°	5083.0	4677.1	3660.1	2635.9	1793.4	1271.9	1002.9	887.3	847.2	825.9	825.9
27.5°	5189.2	4705.5	3497.3	2326.8	1507.9	1097.3	910.9	842.5	816.5	799.9	795.2
30°	5345.0	4757.4	3325.0	2034.1	1281.3	976.9	856.6	814.2	792.9	778.8	776.4
32.5°	5571.5	4849.4	3143.3	1767.6	1109.1	892.0	816.5	790.5	774.1	762.2	759.8
35°	5909.0	5012.3	2966.3	1541.0	986.4	830.6	783.5	762.2	752.8	748.1	745.7
37.5°	6404.6	5274.2	2798.8	1364.0	906.1	790.5	750.4	738.7	733.9	733.9	733.9
40°	7027.6	5618.8	2647.7	1238.9	861.3	759.8	726.8	717.4	717.4	719.7	719.7
42.5°	7785.1	6050.5	2517.9	1154.0	835.3	738.7	710.3	705.6	703.3	703.3	705.6
45°	8665.3	6560.3	2437.7	1087.9	816.5	726.8	698.5	696.1	686.7	682.0	682.0
47.5°	9550.2	7105.4	2433.0	1050.2	792.9	712.7	686.7	686.7	667.8	658.4	660.7
50°	10376.2	7593.9	2484.8	1040.6	778.8	691.4	674.9	677.3	651.3	639.5	637.2
52.5°	11041.6	7966.7	2548.6	1052.5	778.8	672.6	653.7	665.4	637.2	623.0	620.6
55°	11556.1	8226.4	2572.2	1078.4	788.2	656.0	634.8	653.7	632.4	613.6	613.6
57.5°	11924.2	8308.9	2470.7	1090.3	802.3	653.7	615.9	651.3	639.5	615.9	615.9
60°	11789.7	7829.9	2093.2	1045.4	799.9	649.0	601.8	656.0	663.1	637.2	637.2
62.5°	10739.6	6550.9	1680.2	944.0	759.8	632.4	585.2	651.3	679.6	670.2	665.4
65°	8743.2	4804.6	1302.6	823.6	691.4	597.0	549.8	608.9	641.9	651.3	653.7
67.5°	6161.5	3041.8	1012.4	700.8	606.5	545.1	509.7	538.1	549.8	554.5	564.0
70°	3369.8	1647.2	804.7	589.9	519.1	493.2	467.3	469.6	464.9	460.1	464.9
72°	1692.0	1076.0	679.6	512.1	460.1	443.7	431.9	424.7	424.7	417.7	420.0
72.5°	1456.0	1000.5	656.0	493.2	446.0	431.9	422.4	415.3	413.0	408.3	410.6
75°	969.9	792.9	547.5	413.0	379.9	370.5	375.2	368.2	370.5	365.8	368.2
77.5°	783.5	682.0	464.9	349.2	325.6	311.5	320.9	323.3	328.1	323.3	320.9
80°	656.0	580.5	389.3	287.9	271.4	259.6	264.3	280.8	283.2	269.0	266.7
82.5°	424.7	467.3	306.8	224.2	207.7	203.0	214.7	231.3	236.0	217.1	212.4
85°	356.3	375.2	221.8	153.3	136.9	132.2	155.8	172.3	184.0	165.2	160.5
87.5°	99.1	184.0	108.5	73.1	61.4	61.4	75.5	89.7	106.2	108.5	108.5
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)