

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: P12448-350

Luminaire Tested: **MPWP-FC-350-XX**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P12448-350
Test Lab: COOPER LIGHTING INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: MPWP-FC-350-XX
Description: LUMARK WAL-PAK HID WALL FIXTURE WITH FULL-CUTOFF DOOR WITH CLEAR GLASS LENS
Light Source: MOGUL BASE CLEAR QUARTZ ED37 PULSE START 350W METAL HALIDE LAMP 350 WATTS
Ballast/Driver: -

Summary

Lumens per Lamp: 33000 (1 lamp)
Luminaire Lumens: 15734 lumens
Efficiency: 47.7%
Efficacy: 45.0 lumens/watt
Luminous Opening: Rectangular w/ Sides (W: 0.73' x L: 1.15' x H: 0.1')
IES Classification: Type II - Short - Full Cutoff
BUG Rating: B4 - U0 - G2

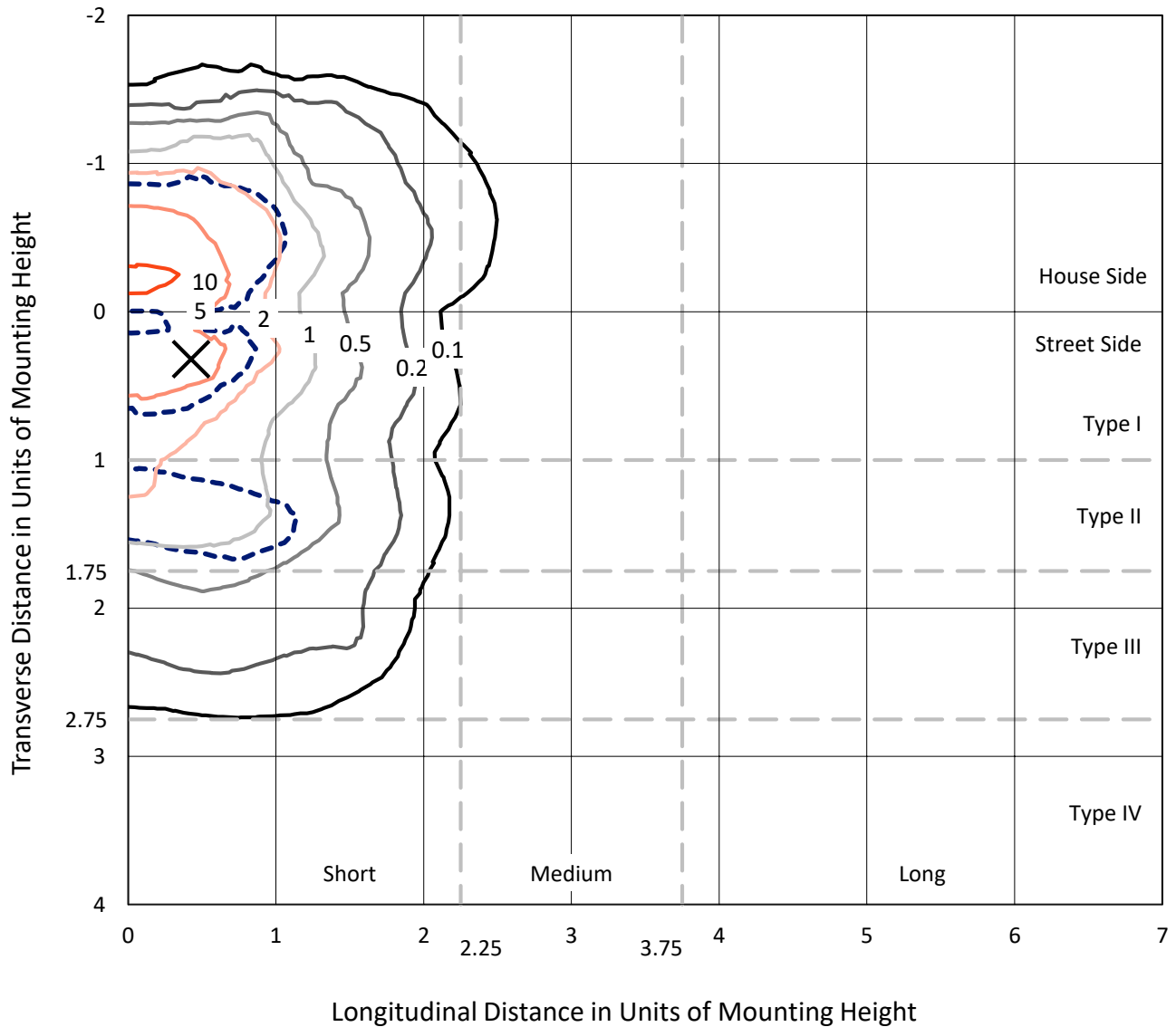
Input Watts (W): 350
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

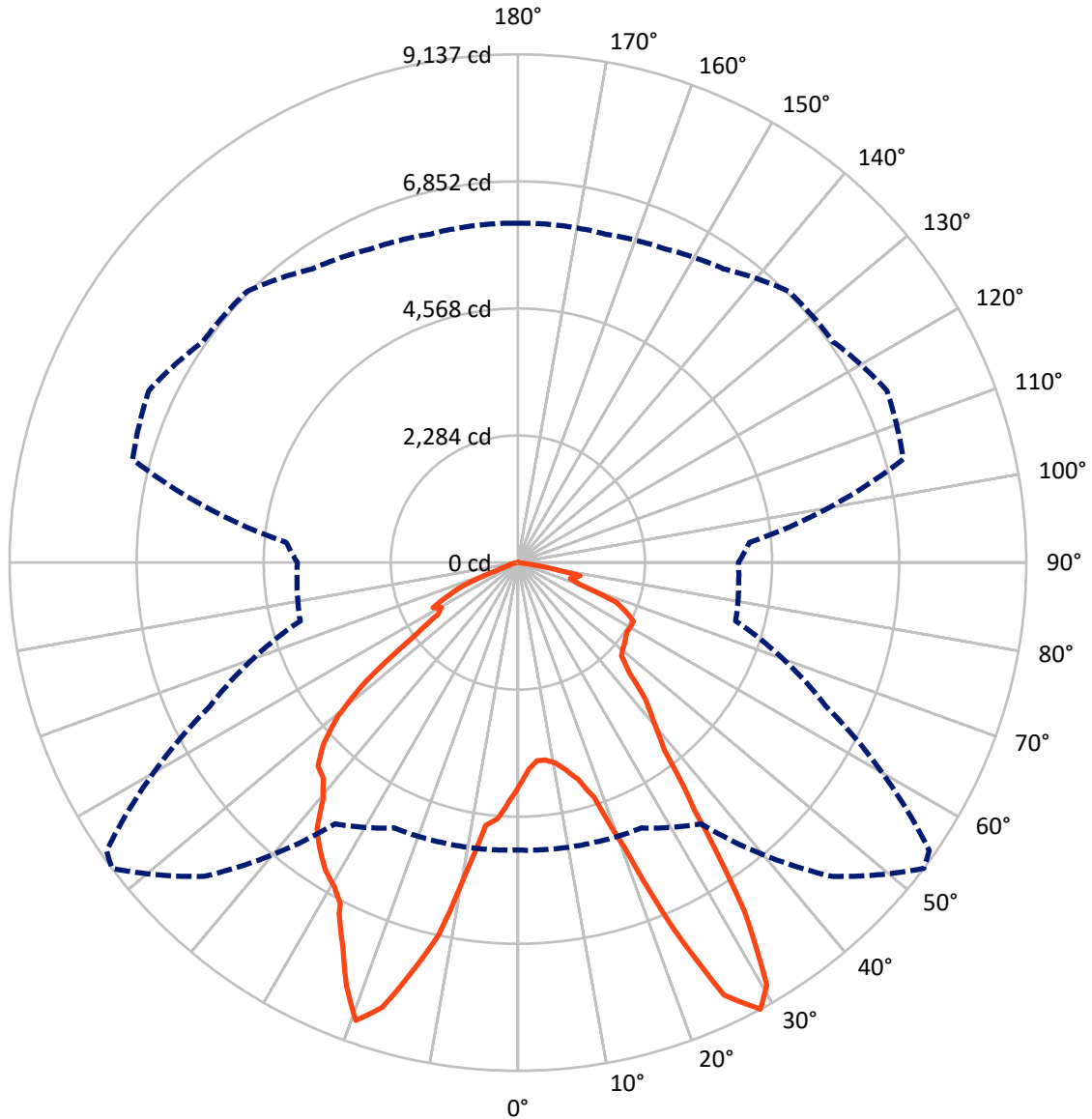
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 11.4 fc
 Type II - Short - Full Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 53-Deg Lateral - - - Horizontal Cone Through 28-Deg Vertical

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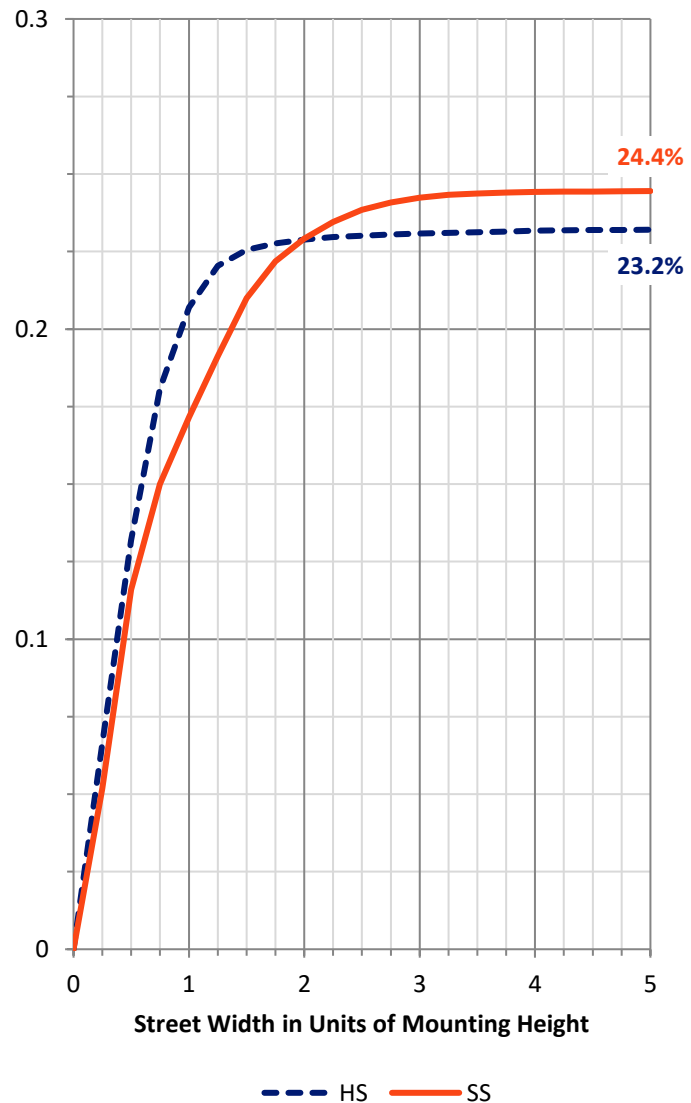
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	7697.0	0.0	7697.0
	% Lamp	23.3	0.0	23.3
Street Side	Lumens	8036.9	0.0	8036.9
	% Lamp	24.4	0.0	24.4
Total	Lumens	15734.0	0.0	15734.0
	% Lamp	47.7	0.0	47.7

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture	% Lamp
0°-10°	423.2	2.7	1.3
10°-20°	1704.2	10.8	5.2
20°-30°	2913.7	18.5	8.8
30°-40°	3294.0	20.9	10.0
40°-50°	2827.4	18.0	8.6
50°-60°	2478.3	15.8	7.5
60°-70°	1547.0	9.8	4.7
70°-80°	502.8	3.2	1.5
80°-90°	43.2	0.3	0.1
90°-100°	0.0	0.0	0.0
100°-110°	0.0	0.0	0.0
110°-120°	0.0	0.0	0.0
120°-130°	0.0	0.0	0.0
130°-140°	0.0	0.0	0.0
140°-150°	0.0	0.0	0.0
150°-160°	0.0	0.0	0.0
160°-170°	0.0	0.0	0.0
170°-180°	0.0	0.0	0.0
0°-90°	15734.0	100.0	47.7
0°-180°	15734.0	100.0	47.7



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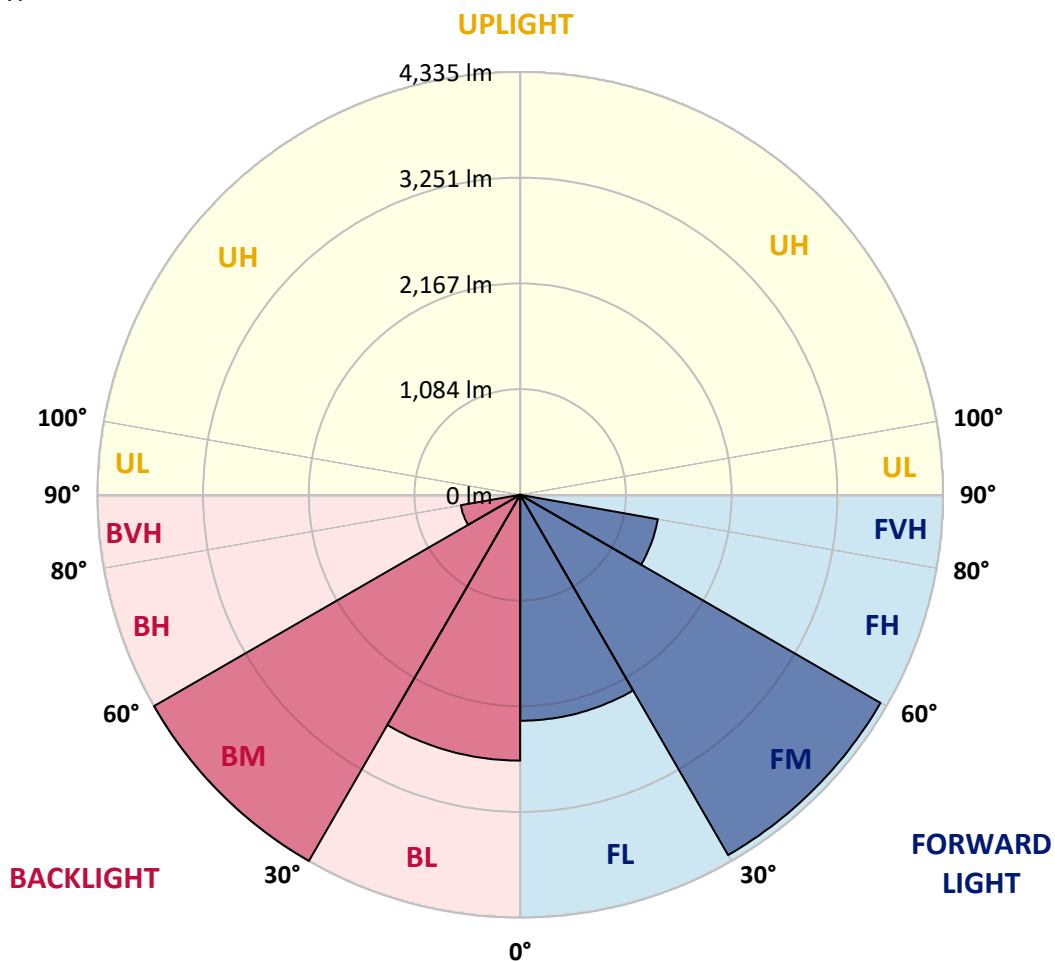
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Lamp	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	2315.9	7.0			
FM (30°-60°)	4264.8	12.9			
FH (60°-80°)	1432.8	4.3			G1/1800
FVH (80°-90°)	23.4	0.1			G1/100
BL (0°-30°)	2725.2	8.3	B4/5000		
BM (30°-60°)	4334.9	13.1	B3/5000		
BH (60°-80°)	617.1	1.9	B2/1000		G2/1000
BVH (80°-90°)	19.8	0.1			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	
Trapped Light	17266.0	52.3			

BUG Rating: B4-U0-G2

Type II Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	53°	55°	65°	75°	85°
0°	3996.0	3996.0	3996.0	3996.0	3996.0	3996.0	3996.0	3996.0	3996.0	3996.0	3996.0
2.5°	3596.2	3588.8	3603.0	3627.8	3649.5	3675.8	3720.0	3725.2	3784.5	3862.5	3951.0
5°	3519.8	3521.2	3532.5	3531.0	3539.2	3551.2	3579.0	3581.2	3642.8	3743.2	3919.5
7.5°	3684.0	3683.2	3660.0	3618.8	3582.0	3574.5	3584.2	3573.0	3601.5	3684.8	3873.8
10°	4390.5	4382.2	4336.5	4167.0	3931.5	3711.8	3661.5	3654.0	3651.8	3706.5	3879.8
12.5°	5226.0	5207.2	5028.0	4720.5	4397.2	4026.8	3819.8	3783.0	3782.2	3816.0	3953.2
15°	7358.2	7308.8	6950.2	6243.0	5266.5	4404.0	4043.2	3980.2	3967.5	4017.8	4096.5
17.5°	7736.2	7747.5	7796.2	7911.8	7106.2	5463.0	4438.5	4280.2	4125.0	4236.0	4256.2
20°	7283.2	7284.8	7491.8	7892.2	8313.0	7287.0	5456.2	5052.0	4257.8	4397.2	4407.8
22.5°	6126.8	6193.5	6501.0	7104.8	8156.2	8540.2	7135.5	6501.0	4501.5	4361.2	4396.5
25°	5271.8	5289.0	5367.0	5984.2	7314.8	8699.2	8611.5	8118.8	4950.0	4227.8	4296.0
27.5°	5145.0	5148.8	5220.8	5307.8	6089.2	8268.8	9047.2	8890.5	5778.0	4072.5	4067.2
28°	5169.0	5181.8	5213.2	5262.8	5733.0	7978.5	9136.5	9026.2	6108.8	4049.2	3984.0
30°	5082.0	5124.0	5226.0	5174.2	5315.2	7029.8	8812.5	8940.0	6881.2	3998.2	3833.2
32.5°	4041.8	4212.8	5145.0	5373.8	5118.0	5610.8	7477.5	7882.5	7076.2	4083.0	3677.2
35°	3395.2	3411.0	3563.2	4279.5	5050.5	4942.5	5478.0	5868.8	6435.0	4468.5	3608.2
37.5°	3443.2	3444.8	3390.8	3340.5	4122.0	4478.2	4266.8	4299.8	5614.5	5039.2	3564.0
40°	3503.2	3520.5	3496.5	3324.8	3108.8	3868.5	3753.0	3778.5	4632.0	4528.5	3346.5
42.5°	3567.8	3565.5	3496.5	3330.0	3069.0	2907.8	3354.8	3309.0	3531.8	3959.2	3159.8
45°	3714.0	3697.5	3563.2	3334.5	3050.2	2773.5	2790.0	2718.0	3192.0	4124.2	2933.2
47.5°	4278.0	4225.5	3794.2	3367.5	3044.2	2735.2	2505.8	2480.2	3221.2	3903.0	2692.5
50°	4919.2	4897.5	4380.8	3689.2	3057.8	2728.5	2440.5	2377.5	2996.2	3370.5	2424.8
52.5°	5304.0	5349.0	5149.5	4342.5	3274.5	2721.0	2403.8	2330.2	2661.8	2928.8	2148.8
55°	5306.2	5396.2	5533.5	5027.2	3797.2	2757.8	2353.5	2256.0	2197.5	2669.2	1943.2
57.5°	3647.2	3942.0	5169.8	5611.5	4305.8	2936.2	2322.0	2204.2	1828.5	2378.2	1759.5
60°	2515.5	2784.8	3576.0	4737.8	4866.0	3333.8	2327.2	2173.5	1666.5	2048.2	1506.8
62.5°	2232.8	2490.0	3326.2	3489.8	3912.8	3720.8	2334.0	2029.5	1305.0	1572.0	1064.2
65°	2025.0	2187.8	3186.8	3178.5	2808.0	3222.8	2132.2	1829.2	1030.5	1185.8	812.2
67.5°	1914.0	2058.8	2851.5	2842.5	2712.8	2127.8	1912.5	1804.5	848.2	973.5	708.0
70°	1297.5	1332.8	1844.2	2201.2	3255.0	1554.0	1179.8	1149.8	795.0	711.8	573.8
72.5°	630.0	675.0	1189.5	1743.8	1214.2	727.5	990.0	905.2	521.2	667.5	515.2
75°	127.5	131.2	225.8	420.0	374.2	513.8	1054.5	945.0	625.5	768.0	520.5
77.5°	75.8	76.5	92.2	75.0	83.2	502.5	1138.5	1004.2	447.8	651.8	433.5
80°	38.2	36.8	49.5	59.2	47.2	110.2	439.5	444.0	246.0	296.2	297.0
82.5°	20.2	23.2	23.2	30.8	34.5	29.2	37.5	48.0	88.5	121.5	100.5
85°	12.0	12.0	9.8	12.8	9.8	15.0	18.8	18.0	22.5	20.2	20.2
87.5°	9.0	12.8	9.0	10.5	9.8	10.5	9.0	10.5	9.0	9.0	30.8
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°	3996.0	3996.0	3996.0	3996.0	3996.0	3996.0	3996.0	3996.0	3996.0	3996.0	3996.0
2.5°	3990.8	4029.8	4106.2	4194.8	4266.8	4336.5	4389.0	4441.5	4484.2	4493.2	4500.0
5°	4013.2	4117.5	4321.5	4492.5	4604.2	4671.0	4692.8	4736.2	4771.5	4773.8	4784.2
7.5°	3997.5	4128.8	4383.0	4572.0	4699.5	4990.5	5520.8	6148.5	6528.0	6693.0	6717.8
10°	4019.2	4157.2	4422.0	4640.2	5423.2	6536.2	7110.8	7521.8	7792.5	7942.5	7977.8
12.5°	4071.0	4193.2	4431.8	5142.0	6679.5	7476.8	8142.8	8385.8	8316.0	8203.5	8229.0
15°	4168.5	4234.5	4548.0	6066.8	7384.5	8445.8	8525.2	8147.2	7504.5	7108.5	7090.5
17.5°	4257.8	4245.8	4706.2	6934.5	8291.2	8673.0	7830.8	7130.2	6997.5	6963.0	6974.2
20°	4356.0	4281.0	5222.2	7537.5	8912.2	8006.2	7309.5	6957.8	6793.5	6753.0	6743.2
22.5°	4319.2	4273.5	5859.0	8141.2	8412.0	7438.5	6913.5	6729.8	6596.2	6541.5	6561.8
25°	4211.2	4251.0	6493.5	8300.2	7735.5	6993.0	6633.0	6520.5	6336.0	6225.8	6228.0
27.5°	4018.5	4222.5	6996.8	7542.0	7155.0	6763.5	6438.0	6289.5	6156.8	6087.8	6109.5
28°	3964.5	4179.0	7170.0	7317.8	6916.5	6889.5	6444.0	6224.2	6109.5	6105.8	6100.5
30°	3829.5	4119.8	7105.5	6607.5	6624.8	7003.5	6272.2	6090.0	6128.2	6117.0	6125.2
32.5°	3779.2	4035.0	6918.8	5711.2	6504.0	6597.0	6047.2	6363.8	6422.2	6555.8	6583.5
35°	3698.2	3817.5	6722.2	5712.0	6326.2	6078.8	6303.8	6485.2	6459.0	6456.0	6489.8
37.5°	3493.5	3550.5	6054.8	5547.8	6009.8	5964.8	6380.2	6267.0	5661.0	5155.5	5101.5
40°	3246.0	3183.8	5107.5	5302.5	5408.2	5868.8	6156.0	5257.5	4329.8	4002.0	3984.8
42.5°	2978.2	2804.2	4340.2	5109.8	5150.2	5526.8	5181.8	4385.2	3699.0	3768.0	3858.8
45°	2651.2	2469.8	3813.0	5033.2	5174.2	4921.5	4179.8	4202.2	3180.8	2274.8	2331.8
47.5°	2372.2	2238.0	3290.2	4752.8	4902.8	4244.2	3898.5	3891.8	2167.5	1722.0	1662.8
50°	2186.2	2076.0	3106.5	4010.2	4350.0	3865.5	3741.8	3828.8	1854.0	1850.2	1914.8
52.5°	1956.8	1866.0	3187.5	3250.5	3447.0	3576.8	4022.2	2703.0	1602.0	1148.2	1051.5
55°	1767.8	1722.0	2968.5	3089.2	2140.5	2978.2	3813.0	1234.5	556.5	411.0	399.0
57.5°	1606.5	1593.0	2706.0	2939.2	1677.8	1860.0	2694.8	691.5	474.8	363.8	363.0
60°	1395.8	1448.2	2380.5	2349.0	1648.5	1389.0	1381.5	536.2	474.8	423.8	426.8
62.5°	996.8	1183.5	1941.0	1771.5	1764.0	1559.2	470.2	523.5	585.0	364.5	339.8
65°	766.5	1159.5	1598.2	1404.0	1506.8	967.5	372.8	536.2	376.5	276.0	286.5
67.5°	690.0	1114.5	1514.2	1410.0	1255.5	364.5	466.5	384.0	258.8	246.8	251.2
70°	519.8	856.5	1185.8	1140.0	446.2	327.8	378.0	249.8	237.8	248.2	243.8
72.5°	485.2	689.2	883.5	738.0	162.8	141.0	172.5	238.5	268.5	298.5	300.8
75°	533.2	506.2	576.8	247.5	170.2	39.0	84.0	267.0	411.0	270.8	257.2
77.5°	354.0	347.2	327.0	252.8	160.5	103.5	133.5	109.5	51.0	36.0	36.0
80°	233.2	282.0	216.8	252.0	52.5	108.0	91.5	30.0	24.8	26.2	22.5
82.5°	101.2	150.8	139.5	54.8	51.8	36.8	16.5	23.2	20.2	20.2	19.5
85°	27.8	38.2	70.5	30.8	15.8	5.2	7.5	10.5	16.5	9.8	9.8
87.5°	37.5	21.8	9.0	18.0	6.8	4.5	3.8	3.0	1.5	1.5	6.0
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)