



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : HZCAS310HTMOWT50120-277V.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST]

[TESTLAB]

[TESTDATE] 2017-11-15

[ISSUEDATE] 2017-11-15 18:07:04

[NEARFIELD]

[LAMPPOSITION] 0,0

[OTHER]

[MANUFAC] BEGHELLI

[LUMINAIRE] HZCAS310HTMOWT50120-277V

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	14373
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	138
Total Luminaire Watts	104.2
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.30
Spacing Criterion (90-270)	1.30
Spacing Criterion (Diagonal)	1.38
Basic Luminous Shape	Point
Luminous Length (0-180)	0.00 m
Luminous Width (90-270)	0.00 m
Luminous Height	0.00 m

### LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	0	0	0
55	0	0	0
65	0	0	0
75	0	0	0
85	0	0	0

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**CANDELA TABULATION**

	<u>0.0</u>	<u>22.5</u>	<u>45.0</u>	<u>67.5</u>	<u>90.0</u>	<u>112.5</u>	<u>135.0</u>	<u>157.5</u>	<u>180.0</u>	<u>202.5</u>
0	5396.10	5396.10	5396.10	5396.10	5396.10	5396.10	5396.10	5396.10	5396.10	5396.10
1	5395.57	5393.90	5386.64	5394.48	5391.79	5395.54	5396.03	5397.21	5395.57	5396.58
2	5395.01	5388.94	5377.15	5391.73	5390.12	5394.97	5393.83	5398.27	5396.08	5394.93
3	5390.60	5384.62	5368.24	5390.60	5389.50	5392.74	5391.06	5397.15	5394.44	5392.16
4	5387.36	5378.55	5362.30	5386.31	5384.39	5388.20	5386.44	5394.27	5393.79	5387.68
5	5382.84	5370.92	5357.18	5381.79	5377.93	5382.77	5378.86	5389.91	5389.99	5383.86
6	5376.39	5361.02	5351.81	5371.10	5375.03	5375.50	5372.10	5383.17	5384.86	5375.98
7	5367.07	5348.93	5347.86	5361.12	5367.42	5368.12	5362.51	5374.17	5374.69	5363.64
8	5356.82	5333.64	5341.67	5350.33	5357.95	5358.93	5352.78	5365.49	5364.41	5351.78
9	5343.05	5316.05	5332.31	5339.36	5351.66	5348.84	5343.33	5353.69	5352.64	5340.01
10	5326.00	5299.57	5322.95	5326.20	5338.37	5336.00	5336.98	5340.24	5338.67	5326.65
11	5310.06	5282.09	5311.99	5308.74	5328.57	5321.38	5322.85	5323.93	5322.96	5312.03
12	5294.72	5264.12	5296.82	5290.30	5312.34	5305.66	5309.91	5306.58	5307.83	5294.11
13	5277.14	5247.55	5278.71	5270.93	5293.83	5286.07	5291.37	5287.38	5292.03	5273.28
14	5256.10	5229.92	5259.45	5249.48	5275.19	5268.56	5271.64	5266.68	5271.67	5250.97
15	5234.66	5210.04	5236.55	5226.25	5252.77	5246.86	5251.48	5246.60	5249.32	5227.02
16	5209.94	5184.86	5212.82	5201.69	5226.84	5224.52	5227.08	5225.46	5223.92	5200.53
17	5179.98	5155.49	5185.06	5172.90	5197.70	5202.86	5202.94	5200.22	5196.55	5174.29
18	5146.31	5125.73	5158.65	5145.45	5171.06	5174.15	5175.31	5172.50	5167.89	5149.08
19	5110.04	5094.00	5128.07	5113.70	5135.95	5144.37	5144.28	5143.38	5138.00	5123.74
20	5073.85	5066.11	5096.05	5083.17	5100.97	5111.70	5108.34	5112.33	5105.20	5093.82
21	5039.37	5035.10	5064.63	5052.12	5066.29	5076.42	5073.54	5078.09	5069.98	5061.30
22	5005.03	5003.57	5029.08	5018.98	5023.49	5037.60	5037.41	5045.75	5034.55	5028.60
23	4973.07	4968.97	4988.35	4986.14	4987.87	4999.79	4998.99	5010.19	5002.19	4992.02
24	4943.53	4933.43	4947.28	4951.12	4946.06	4960.72	4960.92	4975.48	4966.33	4956.76
25	4912.82	4896.34	4904.30	4910.87	4905.22	4922.16	4922.21	4936.36	4928.63	4916.40
26	4874.57	4856.11	4864.77	4870.48	4865.35	4877.97	4880.72	4895.82	4886.75	4874.46
27	4827.23	4813.07	4826.46	4825.43	4828.03	4837.46	4842.17	4851.91	4844.46	4831.19
28	4781.49	4771.72	4787.38	4779.23	4785.71	4789.51	4798.21	4807.38	4797.76	4785.59
29	4734.92	4723.56	4742.35	4731.03	4743.76	4745.92	4753.86	4761.38	4752.33	4735.79
30	4686.62	4675.36	4694.75	4680.13	4699.26	4703.00	4703.82	4713.46	4704.49	4683.89
31	4636.38	4628.11	4646.30	4629.10	4649.61	4649.71	4652.86	4659.81	4654.74	4631.66
32	4583.96	4577.58	4592.97	4578.07	4600.85	4600.85	4597.39	4605.05	4602.18	4578.53
33	4529.48	4523.67	4540.50	4527.44	4545.77	4543.05	4540.35	4546.94	4548.38	4523.78
34	4474.08	4466.07	4483.92	4476.54	4489.74	4486.67	4484.72	4491.65	4493.90	4470.41
35	4413.30	4405.38	4425.88	4422.05	4429.43	4431.42	4427.03	4432.43	4436.97	4410.24
36	4347.62	4337.82	4360.94	4362.25	4365.90	4367.97	4362.51	4372.22	4373.31	4349.61
37	4273.06	4259.85	4286.40	4293.92	4297.25	4300.27	4294.13	4307.32	4307.35	4282.93
38	4193.01	4178.40	4205.84	4214.08	4223.40	4225.62	4218.26	4235.37	4233.79	4213.17
39	4108.48	4092.05	4118.57	4126.54	4138.10	4140.30	4135.87	4155.49	4154.46	4133.01
40	4018.54	4004.46	4025.60	4037.72	4052.73	4051.59	4049.41	4071.01	4068.94	4050.34
41	3918.75	3909.55	3927.44	3942.01	3957.01	3961.43	3962.41	3985.63	3982.80	3961.41
42	3815.28	3813.65	3828.62	3840.33	3862.57	3866.47	3871.26	3890.91	3890.64	3869.69
43	3721.08	3723.42	3735.67	3742.90	3771.28	3773.94	3776.21	3793.42	3794.23	3772.98
44	3633.31	3640.79	3648.53	3651.71	3675.26	3679.36	3685.73	3699.59	3698.30	3678.33
45	3544.80	3554.21	3557.86	3561.80	3589.65	3593.83	3597.35	3606.36	3606.19	3585.35
46	3452.94	3462.52	3467.81	3471.75	3495.77	3500.53	3511.62	3513.35	3512.75	3493.89
47	3364.40	3372.04	3378.86	3384.18	3407.25	3409.68	3421.90	3416.90	3419.85	3407.17
48	3277.36	3285.41	3292.04	3299.01	3319.58	3323.13	3333.84	3325.79	3327.42	3317.71
49	3187.09	3195.66	3201.31	3211.10	3227.80	3230.88	3244.35	3232.33	3232.89	3225.61
50	3097.31	3107.71	3114.27	3117.33	3133.03	3136.09	3146.94	3138.83	3139.03	3132.41
51	3002.00	3018.01	3024.35	3022.96	3038.26	3041.30	3049.53	3045.34	3045.16	3039.22
52	2909.14	2918.49	2933.80	2926.80	2943.49	2946.74	2952.50	2951.84	2951.36	2946.04
53	2814.06	2826.75	2840.47	2831.60	2853.53	2858.24	2866.06	2858.29	2859.35	2853.20

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**CANDELA TABULATION - (Cont.)**

54	2719.49	2730.30	2748.72	2734.72	2757.29	2761.95	2772.97	2762.40	2765.24	2759.71
55	2627.23	2634.96	2653.30	2640.04	2660.71	2666.54	2680.04	2666.65	2668.38	2665.19
56	2534.63	2534.83	2561.07	2545.39	2563.03	2568.31	2584.38	2570.28	2571.67	2567.15
57	2440.17	2438.56	2463.55	2449.77	2463.37	2466.69	2487.97	2473.06	2474.35	2472.83
58	2336.29	2338.44	2359.78	2349.38	2363.80	2371.45	2390.97	2373.19	2374.42	2371.76
59	2232.17	2229.29	2250.64	2241.35	2260.22	2269.52	2289.73	2271.09	2270.34	2269.36
60	2117.03	2113.54	2130.88	2126.31	2150.04	2160.57	2178.73	2166.59	2164.12	2159.70
61	1996.99	1992.93	2007.09	2006.05	2033.47	2036.06	2057.56	2045.55	2047.43	2045.04
62	1874.99	1870.34	1883.81	1888.73	1911.40	1911.01	1931.08	1925.57	1923.85	1921.86
63	1758.18	1754.12	1765.10	1774.27	1794.11	1789.36	1811.64	1806.72	1802.60	1802.84
64	1645.35	1641.57	1656.45	1664.58	1678.79	1676.34	1698.24	1693.31	1692.04	1689.64
65	1538.23	1538.18	1550.12	1556.53	1566.61	1566.74	1585.02	1581.61	1584.02	1581.72
66	1431.16	1434.81	1443.85	1448.51	1458.32	1463.11	1473.47	1468.76	1472.99	1474.60
67	1324.08	1331.43	1337.58	1340.49	1347.38	1358.00	1362.90	1361.08	1367.65	1367.80
68	1222.08	1229.49	1234.06	1239.60	1240.22	1255.26	1257.59	1255.25	1266.22	1265.33
69	1120.51	1125.48	1133.11	1139.07	1140.36	1155.23	1158.03	1149.39	1165.67	1163.80
70	1016.90	1023.37	1031.50	1038.72	1037.92	1055.18	1060.03	1045.67	1063.21	1055.62
71	905.97	909.68	921.69	932.81	931.85	952.37	954.64	943.42	956.70	942.92
72	802.22	805.05	814.16	825.77	822.38	842.69	847.39	840.43	846.97	839.59
73	707.23	710.98	715.81	725.71	724.55	741.21	744.86	743.00	748.32	749.01
74	618.26	621.69	628.79	633.61	635.40	650.02	653.18	655.33	655.14	655.98
75	532.65	539.09	547.45	546.46	551.39	564.05	566.72	566.04	567.52	566.05
76	449.88	455.42	463.53	465.81	470.23	473.63	478.73	481.05	481.11	481.46
77	372.15	378.09	384.07	385.50	383.13	391.03	396.51	399.02	402.05	400.67
78	303.63	312.00	317.43	318.06	313.34	322.21	327.22	323.62	328.93	331.42
79	240.25	250.04	252.55	249.42	251.83	260.69	264.36	261.81	262.11	265.10
80	186.61	194.65	196.67	193.81	194.75	202.67	205.92	204.86	202.26	204.84
81	139.88	146.42	143.49	144.44	148.23	154.00	156.12	155.12	151.96	150.27
82	100.88	106.65	105.19	104.49	106.73	109.93	113.60	113.29	108.62	108.27
83	68.35	70.41	71.18	71.36	75.78	77.75	80.12	77.69	76.44	75.00
84	43.93	46.20	47.25	47.59	50.03	52.66	52.40	52.48	51.70	50.16
85	27.87	28.74	29.27	29.74	31.00	32.74	33.86	33.90	33.38	31.70
86	17.32	17.39	17.80	18.13	19.63	20.68	21.31	21.62	21.32	20.57
87	11.43	11.72	12.09	12.39	12.81	13.76	14.23	14.32	14.42	14.18
88	5.97	6.19	6.62	7.08	7.50	7.91	8.16	8.28	8.41	8.10
89	1.44	1.71	1.83	2.18	3.04	3.34	3.39	3.44	3.19	3.03
90	0.77	0.78	0.88	0.89	0.46	0.36	0.36	0.36	0.36	0.46
91	0.76	0.71	0.86	0.61	0.46	0.40	0.35	0.40	0.35	0.41
92	0.61	0.61	0.72	0.56	0.41	0.36	0.31	0.31	0.31	0.41
93	0.61	0.56	0.61	0.56	0.41	0.41	0.31	0.31	0.35	0.41
94	0.61	0.56	0.61	0.56	0.41	0.41	0.36	0.31	0.25	0.46
95	0.61	0.56	0.61	0.56	0.41	0.46	0.36	0.36	0.36	0.46
96	0.61	0.61	0.61	0.56	0.51	0.56	0.36	0.36	0.36	0.51
97	0.61	0.56	0.71	0.61	0.61	0.61	0.51	0.46	0.51	0.61
98	0.76	0.76	0.71	0.71	0.66	0.71	0.61	0.51	0.61	0.66
99	1.01	1.05	0.91	0.81	0.76	0.76	0.61	0.61	0.71	0.61
100	1.07	1.16	1.17	1.21	0.87	0.76	0.77	0.77	0.87	0.81
101	1.32	1.37	1.32	1.27	1.07	0.97	0.97	0.92	0.97	0.92
102	1.47	1.47	1.47	1.41	1.32	1.02	0.97	1.02	1.02	1.12
103	1.88	1.72	1.72	1.77	1.38	1.37	1.22	1.02	1.22	1.22
104	1.93	1.97	1.97	1.92	1.63	1.47	1.27	1.12	1.37	1.42
105	2.03	2.08	2.18	2.17	1.78	1.73	1.58	1.38	1.43	1.57
106	2.33	2.27	2.48	2.42	2.08	1.88	1.78	1.63	1.58	1.57
107	2.63	2.63	2.74	2.68	2.14	1.98	1.93	1.78	1.83	1.83
108	2.84	2.79	2.94	3.03	2.49	2.18	1.95	2.04	2.14	1.93
109	3.24	3.04	3.05	3.23	2.64	2.39	2.34	2.19	2.24	2.18

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**CANDELA TABULATION - (Cont.)**

110	3.45	3.09	3.30	3.59	2.85	2.70	2.29	2.34	2.49	2.34
111	3.60	3.44	3.60	3.69	3.15	2.89	2.44	2.54	2.59	2.59
112	3.71	3.70	3.76	3.99	3.35	2.95	2.64	2.59	2.75	2.64
113	3.81	3.65	4.05	4.44	3.56	3.25	2.65	2.75	2.95	2.84
114	4.11	3.80	4.26	4.55	3.56	3.51	2.90	2.95	3.20	3.14
115	4.42	3.95	4.47	5.00	3.67	3.71	3.21	2.90	3.36	3.19
116	4.47	4.10	4.67	5.26	4.06	3.91	3.41	2.90	3.61	3.19
117	4.67	4.06	5.02	5.32	4.22	3.96	3.62	2.90	3.87	3.19
118	4.67	4.06	5.23	5.51	4.32	4.01	3.92	2.95	4.01	3.20
119	4.72	4.06	5.48	5.67	4.42	4.21	3.97	3.15	4.01	3.50
120	4.98	4.56	5.59	5.97	4.48	4.22	4.02	3.58	4.17	3.76
121	5.57	5.35	5.79	6.27	4.88	4.47	4.07	4.28	4.22	4.11
122	6.35	5.87	5.84	6.43	4.98	4.57	4.07	4.78	4.69	4.42
123	7.15	6.38	6.04	6.68	5.08	4.77	4.12	4.88	5.13	4.61
124	7.77	7.04	5.99	6.88	5.18	4.77	4.17	4.98	5.74	4.87
125	8.12	7.49	6.24	7.23	5.19	5.03	4.22	5.08	5.79	5.22
126	8.38	7.80	6.20	7.54	5.34	5.18	4.37	5.29	6.00	5.48
127	8.54	7.96	6.25	7.64	5.69	5.33	4.43	5.44	6.20	5.79
128	8.54	8.11	6.30	7.65	5.89	5.53	4.53	5.44	6.35	6.08
129	8.79	8.36	6.50	7.65	6.20	5.58	4.94	5.69	6.40	6.19
130	8.89	8.46	6.60	7.69	6.30	5.63	5.19	5.69	6.50	6.39
131	8.89	8.52	6.85	7.75	6.50	5.74	5.39	5.80	6.50	6.54
132	8.94	8.71	7.05	7.75	6.60	5.79	5.45	6.11	6.56	6.70
133	8.94	8.87	7.11	7.75	6.61	5.79	5.75	6.30	6.61	6.85
134	9.25	8.97	7.16	7.75	6.86	5.94	5.75	6.36	6.81	7.00
135	9.35	9.22	7.41	7.80	7.06	5.95	5.75	6.41	6.96	7.15
136	9.40	9.23	7.57	7.75	7.16	6.24	5.75	6.56	7.06	7.10
137	9.55	9.37	7.57	7.94	7.37	6.40	5.85	6.66	7.11	7.10
138	9.55	9.33	7.57	8.05	7.52	6.60	5.85	6.71	7.32	7.15
139	9.55	9.33	7.57	8.10	7.67	6.70	5.95	6.97	7.47	7.20
140	9.55	9.33	7.37	8.05	7.77	6.75	6.05	7.17	7.67	7.20
141	9.40	9.33	7.06	8.05	7.82	6.76	6.16	7.33	7.93	7.36
142	9.35	9.33	6.96	8.05	7.98	6.95	6.31	7.52	8.18	7.71
143	8.85	9.33	6.56	8.05	8.13	7.05	6.26	7.83	8.13	8.16
144	8.64	9.33	6.50	8.05	8.43	7.10	6.41	8.09	8.13	8.32
145	8.54	9.33	6.50	8.05	8.58	7.06	6.41	8.34	8.24	8.62
146	8.99	9.33	6.50	8.05	8.73	7.36	6.52	8.55	8.71	8.93
147	9.69	9.38	6.80	8.05	8.69	7.46	6.81	8.91	9.31	9.19
148	9.91	9.53	7.01	8.05	8.69	7.61	6.92	9.20	9.81	9.53
149	10.11	9.63	7.46	8.05	8.69	7.77	7.23	9.25	10.06	9.68
150	10.26	9.83	7.67	8.05	8.73	8.07	7.58	9.30	10.11	9.68
151	10.36	9.79	7.77	8.10	8.58	8.17	7.83	9.15	10.06	9.68
152	10.46	9.78	7.92	8.30	8.58	8.23	7.83	9.04	10.11	9.68
153	10.42	9.78	8.38	8.35	8.53	8.38	7.83	8.89	10.00	9.68
154	10.42	9.78	8.48	8.40	8.48	8.78	7.83	8.64	9.80	9.73
155	10.42	9.78	8.58	8.61	8.48	8.93	7.83	8.59	9.29	9.53
156	10.42	9.78	8.83	8.66	8.43	8.88	7.78	8.59	8.89	9.22
157	10.32	9.78	8.89	8.71	8.28	8.88	7.78	8.59	8.68	8.87
158	10.26	9.78	8.99	8.76	8.23	8.88	7.78	8.69	8.48	8.82
159	10.11	9.83	8.94	8.76	8.28	8.88	7.78	8.64	8.48	8.87
160	10.01	9.94	9.19	8.76	8.38	8.88	7.78	8.64	8.49	9.02
161	10.06	9.99	9.34	8.76	8.69	8.88	7.78	8.64	8.69	9.13
162	9.96	9.94	9.30	8.76	8.94	8.88	7.78	8.80	8.84	9.18
163	9.91	9.94	9.45	8.76	9.25	8.88	7.78	8.85	8.84	9.38
164	9.96	9.94	9.40	8.76	9.45	8.88	7.78	8.90	8.84	9.43
165	9.91	10.03	9.40	8.71	9.55	9.09	7.93	9.00	8.84	9.43

**IES INDOOR REPORT**  
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**CANDELA TABULATION - (Cont.)**

166	9.76	10.09	9.45	8.71	9.65	9.25	7.99	9.06	8.89	9.48
167	9.81	10.59	9.75	8.71	10.06	9.85	8.29	9.42	9.01	9.65
168	10.25	11.39	10.25	9.01	10.36	10.30	8.50	10.23	9.87	10.56
169	11.16	11.80	10.81	9.26	10.51	10.56	8.91	11.04	10.69	11.42
170	11.77	11.91	11.02	9.37	10.92	10.87	9.32	11.44	11.49	12.13
171	12.49	12.26	11.27	9.57	11.43	11.32	9.97	11.60	12.15	12.68
172	12.90	12.27	11.33	9.62	11.38	11.32	10.22	11.89	12.40	13.04
173	13.15	12.37	11.33	9.72	11.38	11.42	10.22	11.84	12.45	13.33
174	13.21	12.37	11.38	9.82	11.43	11.53	10.27	11.84	12.60	13.43
175	13.26	12.57	11.68	10.07	11.68	11.72	10.22	11.84	12.55	13.43
176	13.31	12.52	11.73	10.13	11.73	11.67	10.17	11.84	12.50	13.33
177	13.31	12.52	11.73	10.13	11.63	11.72	10.07	11.48	12.44	13.28
178	13.31	12.57	11.73	10.18	11.38	11.22	10.07	11.03	11.99	12.98
179	13.31	12.62	11.73	10.13	11.07	11.11	10.02	11.03	11.99	12.93
180	13.31	13.31	13.31	13.31	13.31	13.31	13.31	13.31	13.31	13.31

**Vert. Angles**      **Horizontal Angles**

	<u>225.0</u>	<u>247.5</u>	<u>270.0</u>	<u>292.5</u>	<u>315.0</u>	<u>337.5</u>	<u>360.0</u>
0	5396.10	5396.10	5396.10	5396.10	5396.10	5396.10	5396.10
1	5403.28	5395.51	5395.13	5394.48	5398.28	5393.89	5395.57
2	5409.20	5393.85	5396.21	5391.71	5396.66	5391.10	5395.01
3	5410.26	5390.54	5393.53	5388.47	5392.36	5385.72	5390.60
4	5407.92	5385.43	5388.06	5382.99	5385.73	5379.60	5387.36
5	5402.49	5378.41	5381.48	5380.16	5377.52	5373.04	5382.84
6	5396.86	5371.65	5369.96	5370.41	5369.70	5364.72	5376.39
7	5388.83	5360.95	5362.10	5362.60	5361.92	5355.33	5367.07
8	5377.46	5349.10	5354.72	5353.81	5348.28	5345.96	5356.82
9	5364.01	5337.32	5339.76	5339.72	5337.18	5334.60	5343.05
10	5347.79	5322.24	5329.28	5329.82	5323.00	5323.58	5326.00
11	5328.81	5303.88	5312.33	5313.94	5308.12	5311.50	5310.06
12	5305.89	5283.22	5292.66	5295.38	5294.95	5295.12	5294.72
13	5280.22	5262.05	5272.84	5276.09	5276.96	5275.91	5277.14
14	5252.64	5240.76	5250.17	5253.51	5258.13	5255.44	5256.10
15	5224.87	5220.62	5225.25	5230.77	5233.51	5232.32	5234.66
16	5199.74	5193.63	5198.77	5206.49	5203.82	5208.68	5209.94
17	5176.46	5168.48	5171.07	5178.82	5174.75	5183.50	5179.98
18	5153.85	5139.99	5143.49	5150.24	5143.64	5155.89	5146.31
19	5125.14	5109.75	5111.11	5115.65	5114.89	5121.87	5110.04
20	5095.84	5079.35	5080.82	5080.98	5083.75	5086.81	5073.85
21	5065.43	5047.95	5052.40	5050.95	5051.71	5048.66	5039.37
22	5033.23	5016.96	5014.85	5011.90	5022.42	5006.96	5005.03
23	4999.79	4983.59	4982.44	4981.57	4986.03	4961.80	4973.07
24	4961.23	4943.56	4941.55	4945.00	4949.60	4923.29	4943.53
25	4922.13	4907.04	4901.44	4909.91	4912.92	4886.62	4912.82
26	4881.15	4862.93	4865.51	4871.86	4872.58	4852.55	4874.57
27	4835.54	4817.70	4822.09	4831.30	4834.40	4822.20	4827.23
28	4791.40	4772.72	4784.72	4788.41	4792.16	4788.10	4781.49
29	4742.87	4723.52	4738.69	4741.26	4743.59	4743.27	4734.92
30	4695.06	4671.59	4693.57	4692.91	4696.35	4693.85	4686.62
31	4646.38	4622.07	4650.45	4645.99	4645.64	4641.92	4636.38
32	4592.76	4572.39	4595.22	4590.96	4591.14	4591.09	4583.96
33	4539.98	4517.78	4535.34	4540.45	4535.63	4538.74	4529.48
34	4481.79	4461.06	4475.84	4486.42	4475.50	4483.15	4474.08
35	4420.95	4399.87	4415.35	4422.81	4411.29	4421.80	4413.30
36	4357.74	4336.95	4345.72	4356.17	4342.23	4351.51	4347.62

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**CANDELA TABULATION - (Cont.)**

37	4287.14	4262.59	4275.38	4279.07	4264.33	4275.26	4273.06
38	4217.57	4189.78	4194.49	4200.32	4184.13	4195.14	4193.01
39	4136.86	4105.84	4109.51	4115.23	4099.52	4109.38	4108.48
40	4051.85	4021.11	4019.65	4019.91	4005.67	4016.44	4018.54
41	3961.61	3931.74	3934.91	3923.14	3908.19	3917.39	3918.75
42	3867.10	3839.25	3839.43	3823.60	3815.47	3817.67	3815.28
43	3774.00	3749.07	3749.52	3735.61	3727.21	3725.73	3721.08
44	3682.44	3655.16	3663.99	3651.03	3641.59	3636.53	3633.31
45	3589.82	3565.55	3571.27	3561.59	3550.87	3543.06	3544.80
46	3499.75	3480.16	3479.61	3472.48	3461.86	3451.91	3452.94
47	3408.81	3388.98	3386.81	3381.94	3368.21	3362.02	3364.40
48	3318.88	3302.64	3295.69	3292.37	3279.32	3273.38	3277.36
49	3228.51	3212.47	3203.61	3203.13	3190.85	3187.73	3187.09
50	3135.47	3116.50	3110.06	3110.24	3103.43	3096.94	3097.31
51	3042.43	3020.53	3016.59	3020.57	3014.31	3007.29	3002.00
52	2949.32	2924.70	2922.72	2926.61	2916.39	2916.40	2909.14
53	2854.47	2832.90	2829.53	2836.88	2823.57	2823.22	2814.06
54	2758.19	2738.80	2739.05	2743.81	2731.92	2731.59	2719.49
55	2662.33	2643.44	2640.80	2644.69	2635.62	2635.34	2627.23
56	2565.82	2544.66	2546.10	2543.53	2540.04	2539.83	2534.63
57	2466.81	2445.62	2445.19	2439.92	2440.08	2442.33	2440.17
58	2364.33	2344.94	2342.52	2335.30	2338.14	2337.76	2336.29
59	2258.21	2239.85	2241.48	2234.09	2240.77	2229.18	2232.17
60	2148.74	2128.55	2130.80	2120.17	2133.37	2113.12	2117.03
61	2027.72	2006.96	2012.77	2003.96	2010.06	1986.42	1996.99
62	1903.92	1884.61	1894.60	1889.06	1893.52	1869.49	1874.99
63	1789.95	1768.35	1775.42	1774.34	1777.98	1758.43	1758.18
64	1678.18	1658.97	1663.13	1662.22	1661.52	1647.27	1645.35
65	1570.79	1551.23	1557.56	1556.31	1553.23	1541.34	1538.23
66	1465.54	1445.26	1452.03	1450.40	1444.97	1435.44	1431.16
67	1358.82	1342.45	1346.51	1344.49	1336.71	1329.54	1324.08
68	1250.28	1236.96	1239.84	1237.82	1230.13	1221.68	1222.08
69	1143.50	1132.93	1135.18	1135.02	1125.48	1116.87	1120.51
70	1037.34	1027.21	1028.13	1025.10	1015.38	1006.73	1016.90
71	926.32	919.87	919.51	918.49	904.01	896.31	905.97
72	828.83	824.13	819.57	819.73	801.13	796.51	802.22
73	733.03	729.94	719.40	722.42	708.04	704.12	707.23
74	641.87	641.00	631.04	631.43	617.62	616.69	618.26
75	556.02	550.97	544.97	540.59	531.59	529.51	532.65
76	473.27	465.42	455.59	451.16	446.66	449.91	449.88
77	397.41	383.45	376.96	376.91	369.87	374.02	372.15
78	325.76	315.11	306.28	307.14	304.49	303.92	303.63
79	260.81	246.06	237.87	239.49	240.08	240.86	240.25
80	198.55	190.58	182.28	182.96	184.68	186.32	186.61
81	148.57	141.96	136.45	135.99	135.65	139.17	139.88
82	107.10	101.00	96.47	96.81	96.79	97.75	100.88
83	71.55	69.39	65.80	65.54	66.29	67.70	68.35
84	47.65	44.58	42.58	42.83	43.07	44.01	43.93
85	30.29	28.08	26.69	26.53	26.57	27.08	27.87
86	19.85	18.79	18.21	17.82	17.47	17.22	17.32
87	13.55	12.77	12.44	12.16	11.68	11.33	11.43
88	7.66	6.99	6.62	6.17	5.79	5.93	5.97
89	2.63	2.27	1.78	1.50	1.31	1.27	1.44
90	0.46	0.30	0.88	0.82	0.72	0.82	0.77
91	0.40	0.31	0.71	0.76	0.61	0.61	0.76
92	0.30	0.36	0.71	0.66	0.56	0.66	0.61

**IES INDOOR REPORT**  
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**CANDELA TABULATION - (Cont.)**

93	0.25	0.41	0.66	0.56	0.51	0.61	0.61
94	0.25	0.41	0.66	0.56	0.51	0.56	0.61
95	0.36	0.36	0.66	0.56	0.51	0.56	0.61
96	0.46	0.41	0.66	0.56	0.51	0.56	0.61
97	0.51	0.56	0.66	0.61	0.56	0.61	0.61
98	0.61	0.61	0.71	0.81	0.66	0.61	0.76
99	0.71	0.71	0.96	0.96	0.91	0.91	1.01
100	0.81	0.86	1.22	1.11	1.12	1.12	1.07
101	0.97	1.02	1.37	1.32	1.22	1.22	1.32
102	1.22	1.22	1.57	1.47	1.32	1.47	1.47
103	1.32	1.37	1.93	1.72	1.62	1.63	1.88
104	1.58	1.47	2.03	1.97	1.93	1.83	1.93
105	1.68	1.73	2.28	2.28	2.08	1.93	2.03
106	1.93	1.97	2.58	2.58	2.33	2.28	2.33
107	2.08	2.18	2.89	2.69	2.54	2.44	2.63
108	2.29	2.28	3.05	2.99	2.79	2.69	2.84
109	2.44	2.43	3.39	3.34	2.95	2.89	3.24
110	2.49	2.74	3.55	3.70	3.10	3.05	3.45
111	2.59	3.09	3.90	3.91	3.40	3.10	3.60
112	2.74	3.19	4.21	4.11	3.61	3.25	3.71
113	2.84	3.44	4.41	4.36	3.71	3.35	3.81
114	2.85	3.55	4.67	4.51	3.96	3.60	4.11
115	3.15	3.85	4.77	4.82	4.27	3.71	4.42
116	3.25	3.85	5.22	5.12	4.52	3.71	4.47
117	3.51	3.95	5.43	5.28	4.73	3.71	4.67
118	3.71	4.05	5.58	5.43	5.13	3.76	4.67
119	3.86	4.15	5.94	5.63	5.29	3.86	4.72
120	3.97	4.26	6.15	6.04	5.34	4.98	4.98
121	4.06	4.40	6.24	6.09	5.69	5.67	5.57
122	4.07	4.41	6.45	6.29	5.90	6.10	6.35
123	4.11	4.51	6.85	6.49	6.10	6.40	7.15
124	4.06	4.66	7.11	6.80	6.10	6.86	7.77
125	4.11	4.86	7.21	7.05	6.10	7.06	8.12
126	4.22	5.12	7.51	7.25	6.05	7.42	8.38
127	4.42	5.22	7.67	7.51	6.05	7.57	8.54
128	4.57	5.47	7.87	7.56	6.00	7.77	8.54
129	4.93	5.62	8.02	7.71	6.05	7.88	8.79
130	5.18	5.72	8.17	7.76	6.15	8.03	8.89
131	5.49	5.97	8.18	7.71	6.20	8.43	8.89
132	5.70	6.03	8.33	7.71	6.16	8.54	8.94
133	6.04	6.13	8.48	7.71	6.35	8.54	8.94
134	6.05	6.23	8.58	7.71	6.56	8.54	9.25
135	6.25	6.28	8.68	7.71	6.76	8.59	9.35
136	6.20	6.28	8.79	7.71	6.81	8.64	9.40
137	6.20	6.43	8.98	7.76	6.81	8.74	9.55
138	6.20	6.58	8.99	7.82	6.92	8.84	9.55
139	6.25	6.84	9.09	7.86	6.87	8.89	9.55
140	6.25	6.89	9.04	7.92	6.87	8.95	9.55
141	6.30	6.89	9.04	7.92	6.87	9.00	9.40
142	6.35	6.94	9.04	7.92	6.87	9.00	9.35
143	6.50	6.99	9.04	7.82	6.97	9.00	8.85
144	6.61	7.04	9.09	7.57	7.16	9.00	8.64
145	6.91	7.14	9.09	7.51	7.42	9.05	8.54
146	7.27	7.15	9.19	7.31	7.63	8.95	8.99
147	7.58	7.44	9.14	7.26	7.78	8.95	9.69
148	7.98	7.44	9.14	7.26	7.98	8.90	9.91

**IES INDOOR REPORT**  
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**CANDELA TABULATION - (Cont.)**

<b>149</b>	8.33	7.54	9.14	7.26	8.28	8.95	10.11
<b>150</b>	8.84	7.60	9.14	7.26	8.44	9.10	10.26
<b>151</b>	9.15	7.65	9.14	7.26	8.64	9.30	10.36
<b>152</b>	9.29	7.65	9.09	7.26	8.79	9.35	10.46
<b>153</b>	9.24	7.75	9.09	7.26	9.10	9.61	10.42
<b>154</b>	9.24	7.70	8.94	7.26	9.25	9.61	10.42
<b>155</b>	9.09	7.70	8.79	7.31	9.36	9.61	10.42
<b>156</b>	9.04	7.70	8.74	7.36	9.31	9.61	10.42
<b>157</b>	9.04	7.75	8.69	7.51	9.31	9.61	10.32
<b>158</b>	9.04	7.75	8.69	7.61	9.46	9.61	10.26
<b>159</b>	9.09	7.85	8.74	7.61	9.46	9.61	10.11
<b>160</b>	9.14	7.85	8.84	7.71	9.46	9.61	10.01
<b>161</b>	9.09	8.05	8.99	7.71	9.46	9.61	10.06
<b>162</b>	9.09	8.20	9.04	7.81	9.46	9.61	9.96
<b>163</b>	9.19	8.46	9.09	7.87	9.61	9.61	9.91
<b>164</b>	9.30	8.66	9.04	7.82	9.56	9.61	9.96
<b>165</b>	9.45	8.81	9.19	7.96	9.61	9.21	9.91
<b>166</b>	9.51	9.12	9.29	7.97	9.71	8.95	9.76
<b>167</b>	9.92	9.48	9.60	8.22	10.07	9.10	9.81
<b>168</b>	10.72	9.99	9.95	8.52	10.71	10.09	10.25
<b>169</b>	11.23	10.84	10.26	8.98	11.03	11.12	11.16
<b>170</b>	11.54	11.10	10.26	9.23	11.23	11.72	11.77
<b>171</b>	11.99	11.50	10.76	9.34	11.44	12.09	12.49
<b>172</b>	12.35	11.75	10.97	9.39	11.90	12.20	12.90
<b>173</b>	12.44	11.80	10.92	9.49	11.85	12.20	13.15
<b>174</b>	12.39	11.80	10.97	9.74	11.85	12.20	13.21
<b>175</b>	12.39	11.80	10.92	9.99	11.85	12.20	13.26
<b>176</b>	12.14	11.79	11.12	10.10	11.85	12.20	13.31
<b>177</b>	12.09	11.64	11.07	10.20	11.85	12.20	13.31
<b>178</b>	11.94	11.54	11.07	10.20	11.60	12.20	13.31
<b>179</b>	11.89	11.49	11.07	10.20	11.50	12.15	13.31
<b>180</b>	13.31	13.31	13.31	13.31	13.31	13.31	13.31



**IES INDOOR REPORT**  
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**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	1989.72	N.A.	13.80
0-30	4254.67	N.A.	29.60
0-40	7010.76	N.A.	48.80
0-60	12133.81	N.A.	84.40
0-80	14284.4	N.A.	99.40
0-90	14342.85	N.A.	99.80
10-90	13830.89	N.A.	96.20
20-40	5021.03	N.A.	34.90
20-50	7779.72	N.A.	54.10
40-70	6674.33	N.A.	46.40
60-80	2150.59	N.A.	15.00
70-80	599.32	N.A.	4.20
80-90	58.45	N.A.	0.40
90-110	2.65	N.A.	0.00
90-120	6.47	N.A.	0.00
90-130	11.77	N.A.	0.10
90-150	22.45	N.A.	0.20
90-180	30.29	N.A.	0.20
110-180	27.63	N.A.	0.20
0-180	14373.14	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	511.96
10-20	1477.76
20-30	2264.95
30-40	2756.09
40-50	2758.69
50-60	2364.37
60-70	1551.27
70-80	599.32
80-90	58.45
90-100	0.64
100-110	2.02
110-120	3.82
120-130	5.30
130-140	5.63
140-150	5.05
150-160	4.09
160-170	2.65
170-180	1.10

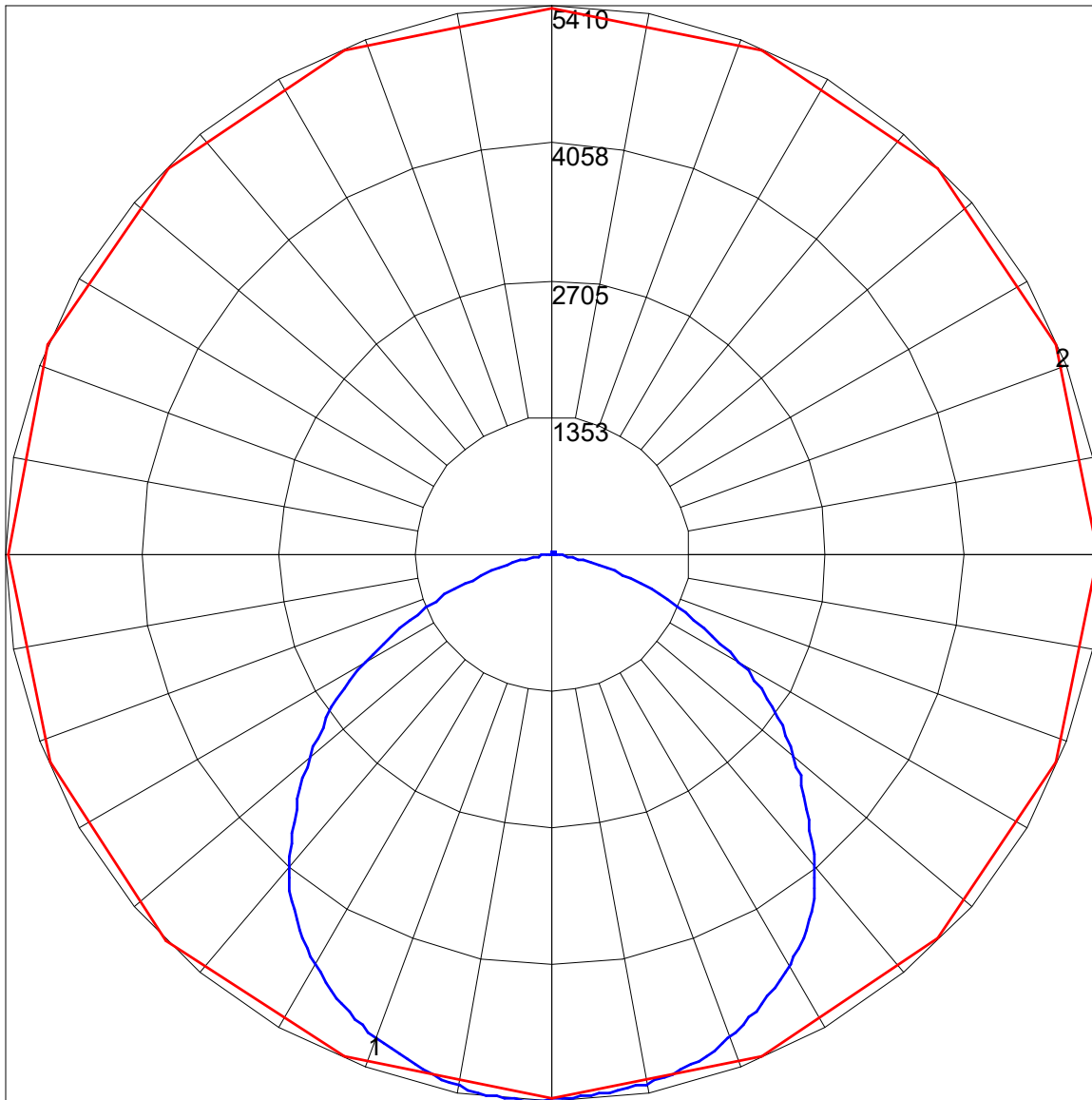
**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : HZCAS310HTMOWT50120-277V.IES**

**COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD**

Effective Floor Cavity Reflectance 0.20

RC	80				70				50			30			10			0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	110	106	102	98	107	103	100	97	99	96	94	95	93	91	92	90	88	86
2	100	93	87	81	98	91	85	80	87	83	78	84	80	77	81	78	75	73
3	92	82	74	68	90	80	73	68	77	71	66	75	70	65	72	68	64	62
4	84	73	65	58	82	72	64	58	69	62	57	67	61	56	65	60	55	53
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43	41
7	67	53	45	39	65	53	44	39	51	44	38	50	43	38	48	42	38	36
8	62	49	40	35	60	48	40	35	47	39	34	45	39	34	44	38	34	32
9	58	45	37	31	56	44	36	31	43	36	31	42	35	31	41	35	31	29
10	54	41	33	28	53	41	33	28	40	33	28	39	32	28	38	32	28	26

POLAR GRAPH



Maximum Candela = 5410.26 Located At Horizontal Angle = 225, Vertical Angle = 3  
# 1 - Vertical Plane Through Horizontal Angles (225 - 45) (Through Max. Cd.)  
# 2 - Horizontal Cone Through Vertical Angle (3) (Through Max. Cd.)