



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4CSDI-P12-835U-P12-835D-XXX-POE PR-OM-CSU-OW-CSD-WM_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #13257153.18 & #13257153.12

[TESTLAB] UL Verification Services Inc.

[ISSUE DATE] 20-APR-2021

[MANUFAC] H E Williams Inc

[LUMCAT] 4CSDI-P12-835U-P12-835D-xxx-PoE PR-OM-CSU-UW-CSD-WM

[LUMINAIRE] Aluminum housing, optics, and trim enclosure

[LAMP] Two white LEDs

[OTHER] This test was performed using the calibrated photodetector met

[MORE] hod of absolute photometry.

[_ CONVERT] Photometric web converted from original test data

[_ CONVERT] Luminaire test position and photometric web converted from original test data

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	1988
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	86
Total Luminaire Watts	23
Ballast Factor	1.00
CIE Type	General Diffuse
Spacing Criterion (0-180)	N.A.
Spacing Criterion (90-270)	N.A.
Spacing Criterion (Diagonal)	N.A.
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	0.21 ft
Luminous Width (90-270)	0.21 ft
Luminous Height	0.00 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	42240	42467	44254
55	18570	23431	19409
65	807	3749	807
75	387	387	387
85	231	231	231

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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>
0.0	1179.027	1179.027	1179.027	1179.027	1179.027	1179.027	1179.027	1179.027	1179.027
2.5	1178.220	1172.571	1169.343	1168.536	1166.922	1168.536	1169.343	1172.571	1178.220
5.0	1151.589	1146.747	1143.519	1142.712	1141.905	1142.712	1143.519	1146.747	1151.589
7.5	1111.239	1106.397	1103.976	1103.976	1103.169	1103.976	1103.976	1106.397	1111.239
10.0	1059.591	1054.749	1053.942	1053.135	1052.328	1053.135	1053.942	1054.749	1059.591
12.5	994.224	991.803	990.996	990.189	989.382	990.189	990.996	991.803	994.224
15.0	917.559	916.752	917.559	915.945	914.331	915.945	917.559	916.752	917.559
17.5	834.438	833.631	835.245	834.438	832.017	834.438	835.245	833.631	834.438
20.0	746.314	746.717	747.524	747.282	744.377	747.282	747.524	746.717	746.314
22.5	657.301	658.351	658.512	658.593	655.042	658.593	658.512	658.351	657.301
25.0	572.324	574.180	575.633	573.858	569.177	573.858	575.633	574.180	572.324
27.5	483.393	488.719	493.238	488.074	481.456	488.074	493.238	488.719	483.393
30.0	397.205	406.082	414.717	405.114	397.447	405.114	414.717	406.082	397.205
32.5	321.428	329.014	341.603	329.014	322.558	329.014	341.603	329.014	321.428
35.0	259.531	263.485	276.962	265.019	261.791	265.019	276.962	263.485	259.531
37.5	211.111	211.757	222.167	214.662	215.308	214.662	222.167	211.757	211.111
40.0	173.505	172.133	177.863	176.087	179.396	176.087	177.863	172.133	173.505
42.5	144.211	141.709	144.937	146.551	150.425	146.551	144.937	141.709	144.211
45.0	120.162	117.903	120.808	122.906	125.892	122.906	120.808	117.903	120.162
47.5	98.535	97.728	101.682	102.489	103.135	102.489	101.682	97.728	98.535
50.0	78.360	79.812	85.058	84.009	81.910	84.009	85.058	79.812	78.360
52.5	59.718	63.349	69.402	66.900	62.381	66.900	69.402	63.349	59.718
55.0	42.852	47.855	54.069	50.760	44.788	50.760	54.069	47.855	42.852
57.5	28.487	33.571	39.139	35.589	29.455	35.589	39.139	33.571	28.487
60.0	16.866	21.143	25.501	22.273	16.705	22.273	25.501	21.143	16.866
62.5	7.263	10.894	14.203	10.975	6.617	10.975	14.203	10.894	7.263
65.0	1.372	3.228	6.375	2.824	1.372	2.824	6.375	3.228	1.372
67.5	1.049	0.968	2.179	0.968	1.049	0.968	2.179	0.968	1.049
70.0	0.726	0.726	0.807	0.726	0.807	0.726	0.807	0.726	0.726
72.5	0.565	0.565	0.565	0.565	0.565	0.565	0.565	0.565	0.565
75.0	0.403	0.403	0.403	0.403	0.403	0.403	0.403	0.403	0.403
77.5	0.323	0.323	0.323	0.323	0.323	0.323	0.323	0.323	0.323
80.0	0.242	0.242	0.242	0.242	0.242	0.242	0.242	0.242	0.242
82.5	0.161	0.161	0.161	0.161	0.161	0.161	0.161	0.161	0.161
85.0	0.081	0.081	0.081	0.081	0.081	0.081	0.081	0.081	0.081
87.5	0.081	0.081	0.081	0.081	0.081	0.081	0.081	0.081	0.081
90.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
92.5	0.096	0.096	0.096	0.096	0.096	0.096	0.096	0.096	0.096
95.0	0.096	0.096	0.096	0.096	0.096	0.096	0.096	0.096	0.096
97.5	0.191	0.191	0.191	0.191	0.191	0.191	0.191	0.191	0.191
100.0	0.191	0.191	0.191	0.191	0.286	0.191	0.191	0.191	0.191
102.5	0.286	0.286	0.286	0.286	0.381	0.286	0.286	0.286	0.286
105.0	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477
107.5	0.572	0.572	0.572	0.572	0.668	0.572	0.572	0.572	0.572
110.0	0.858	0.763	1.049	0.858	0.858	0.858	1.049	0.763	0.858
112.5	1.144	1.049	3.527	1.144	1.240	1.144	3.527	1.049	1.144
115.0	1.525	4.766	11.153	5.147	1.621	5.147	11.153	4.766	1.525
117.5	10.676	18.874	22.687	19.161	9.914	19.161	22.687	18.874	10.676
120.0	28.693	35.460	35.651	36.795	28.884	36.795	35.651	35.460	28.693
122.5	47.090	50.999	49.568	53.381	48.902	53.381	49.568	50.999	47.090
125.0	65.964	66.823	64.153	70.158	68.729	70.158	64.153	66.823	65.964
127.5	86.363	83.313	79.309	87.507	89.891	87.507	79.309	83.313	86.363
130.0	107.240	101.425	95.420	106.096	111.910	106.096	95.420	101.425	107.240
132.5	128.497	121.538	113.817	126.686	134.693	126.686	113.817	121.538	128.497

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135.0	150.898	144.130	135.932	149.468	158.238	149.468	135.932	144.130	150.898
137.5	175.777	170.535	164.625	176.064	183.784	176.064	164.625	170.535	175.777
140.0	205.805	203.231	202.945	208.283	213.526	208.283	202.945	203.231	205.805
142.5	242.600	244.220	252.418	248.129	249.272	248.129	252.418	244.220	242.600
145.0	288.259	295.600	311.328	297.888	293.693	297.888	311.328	295.600	288.259
147.5	347.075	360.611	378.532	361.183	351.173	361.183	378.532	360.611	347.075
150.0	422.571	440.206	453.456	438.871	424.478	438.871	453.456	440.206	422.571
152.5	513.986	529.048	534.482	526.474	512.176	526.474	534.482	529.048	513.986
155.0	611.313	620.464	622.370	617.985	607.309	617.985	622.370	620.464	611.313
157.5	704.349	711.688	713.976	709.782	700.345	709.782	713.976	711.688	704.349
160.0	796.336	803.867	807.870	803.104	794.716	803.104	807.870	803.867	796.336
162.5	891.088	898.142	903.671	897.475	891.184	897.475	903.671	898.142	891.088
165.0	985.649	990.415	997.088	990.415	984.696	990.415	997.088	990.415	985.649
167.5	1075.254	1078.113	1081.926	1077.160	1074.300	1077.160	1081.926	1078.113	1075.254
170.0	1156.279	1157.232	1156.279	1156.279	1155.326	1156.279	1156.279	1157.232	1156.279
172.5	1223.006	1223.006	1221.099	1221.099	1222.052	1221.099	1221.099	1223.006	1223.006
175.0	1274.480	1275.434	1273.527	1273.527	1274.480	1273.527	1273.527	1275.434	1274.480
177.5	1310.704	1310.704	1307.844	1308.797	1309.750	1308.797	1307.844	1310.704	1310.704
180.0	1321.122	1321.122	1321.122	1321.122	1321.122	1321.122	1321.122	1321.122	1321.122

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Zone	Lumens	%Lamp	%Fixt
0-20	360.05	N.A.	18.10
0-30	621.11	N.A.	31.20
0-40	791.54	N.A.	39.80
0-60	931.02	N.A.	46.80
0-80	937.96	N.A.	47.20
0-90	938.08	N.A.	47.20
10-90	831.68	N.A.	41.80
20-40	431.49	N.A.	21.70
20-50	526.53	N.A.	26.50
40-70	145.95	N.A.	7.30
60-80	6.94	N.A.	0.30
70-80	0.47	N.A.	0.00
80-90	0.12	N.A.	0.00
90-110	0.63	N.A.	0.00
90-120	11.01	N.A.	0.60
90-130	71.17	N.A.	3.60
90-150	376.21	N.A.	18.90
90-180	1049.84	N.A.	52.80
110-180	1049.21	N.A.	52.80
0-180	1987.92	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	106.40
10-20	253.65
20-30	261.06
30-40	170.42
40-50	95.05
50-60	44.44
60-70	6.47
70-80	0.47
80-90	0.12
90-100	0.13
100-110	0.50
110-120	10.38
120-130	60.15
130-140	114.47
140-150	190.57
150-160	281.29
160-170	274.48
170-180	117.87

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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	106	106	106	106	98	98	98	98	82	82	82	67	67	67	54	54	54	47
1	99	96	93	90	91	88	86	83	75	73	71	62	61	60	50	50	49	44
2	92	86	81	77	85	80	76	72	68	65	63	57	55	54	47	46	45	40
3	86	78	72	67	79	73	68	63	62	59	56	53	51	48	44	43	41	37
4	80	71	64	59	74	66	61	56	57	53	50	49	46	44	41	40	38	35
5	75	65	58	53	69	61	55	50	53	49	45	46	42	40	39	37	35	32
6	70	59	53	48	65	56	50	45	49	44	41	42	39	37	36	34	32	30
7	65	55	48	43	61	52	46	41	45	41	38	40	36	34	34	32	30	28
8	61	51	44	39	57	48	42	38	42	38	35	37	34	31	32	30	28	26
9	58	47	41	36	54	44	39	35	40	35	32	35	32	29	31	28	26	24
10	54	44	38	33	51	42	36	32	37	33	30	33	30	27	29	27	25	23

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UGR TABLE - CORRECTED

Reflectances

Ceiling Cavity	70	70	50	50	30	70	70	50	50	30
Walls	50	30	50	30	30	50	30	50	30	30
Floor Cavity	20	20	20	20	20	20	20	20	20	20

Room Size UGR Viewed Crosswise

X=2H	Y=2H	12.2	12.9	13.2	13.9	15.2	12.6	13.2	13.6	14.2	15.6
	3H	12.0	12.6	13.0	13.6	14.9	12.4	13.0	13.4	14.0	15.3
	4H	11.9	12.5	12.9	13.5	14.8	12.3	12.8	13.3	13.8	15.2
	6H	11.8	12.3	12.8	13.3	14.7	12.1	12.7	13.2	13.7	15.0
	8H	11.7	12.2	12.8	13.2	14.6	12.1	12.6	13.1	13.6	15.0
	12H	11.6	12.1	12.7	13.1	14.5	12.0	12.5	13.1	13.5	14.9

UGR Viewed Endwise

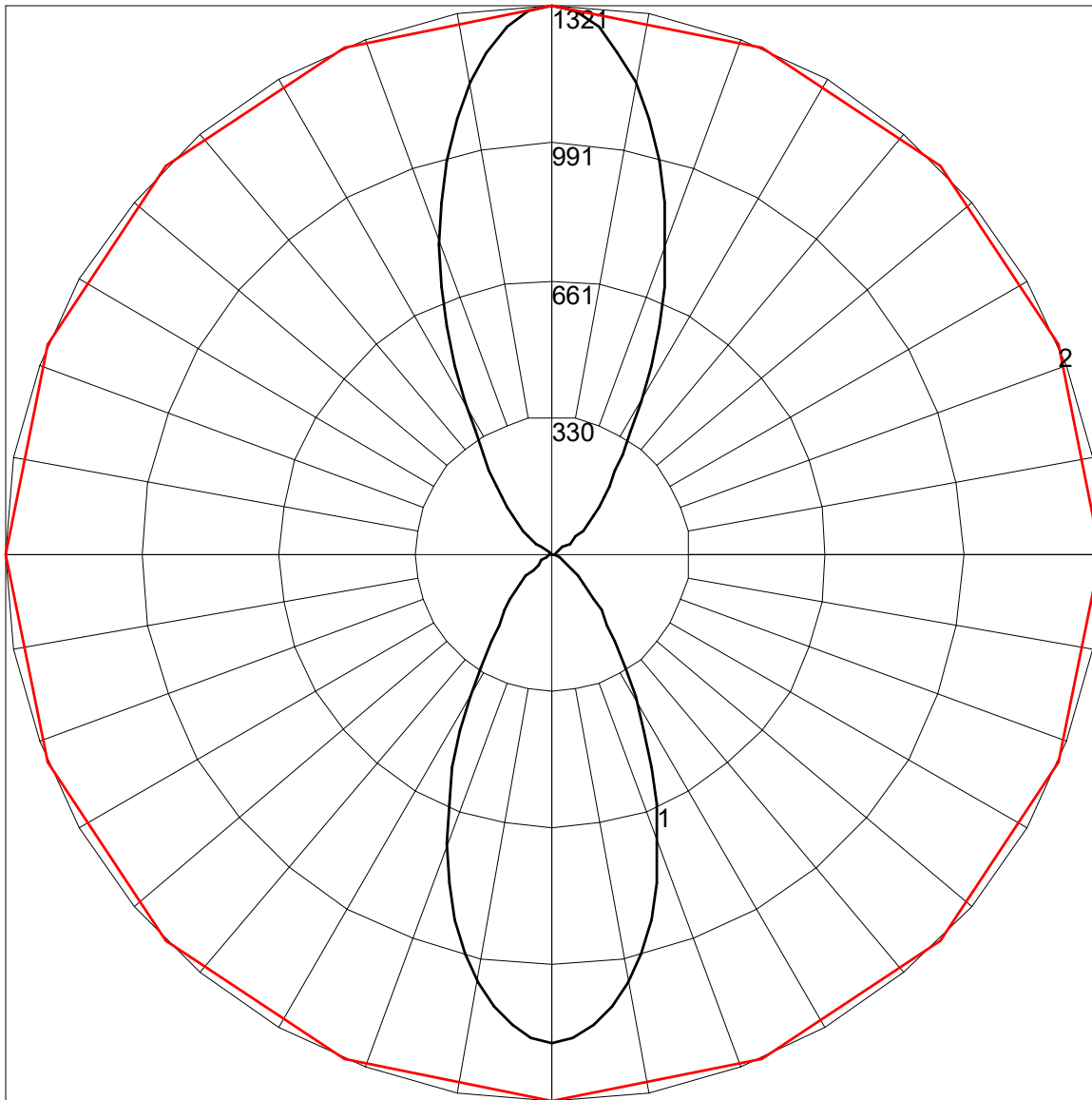
4H	2H	12.0	12.5	13.0	13.5	14.9	12.3	12.9	13.4	13.9	15.3
	3H	11.8	12.2	12.8	13.3	14.6	12.1	12.6	13.2	13.6	15.0
	4H	11.6	12.1	12.7	13.1	14.5	12.0	12.4	13.1	13.5	14.9
	6H	11.5	11.9	12.6	13.0	14.3	11.9	12.3	13.0	13.3	14.7
	8H	11.5	11.8	12.5	12.9	14.3	11.8	12.2	12.9	13.2	14.6
	12H	11.4	11.7	12.5	12.8	14.2	11.8	12.1	12.8	13.1	14.5
8H	4H	11.5	11.8	12.5	12.9	14.3	11.8	12.2	12.9	13.2	14.6
	6H	11.4	11.6	12.4	12.7	14.1	11.7	12.0	12.8	13.1	14.5
	8H	11.3	11.5	12.4	12.6	14.0	11.7	11.9	12.8	13.0	14.4
	12H	11.2	11.4	12.3	12.5	14.0	11.6	11.8	12.7	12.9	14.3
12H	4H	11.4	11.7	12.5	12.8	14.2	11.8	12.1	12.8	13.1	14.5
	6H	11.3	11.5	12.4	12.6	14.0	11.7	11.9	12.7	13.0	14.4
	8H	11.2	11.4	12.3	12.5	14.0	11.6	11.8	12.7	12.9	14.3

Maximum UGR = 15.6

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POLAR GRAPH



Maximum Candela = 1321.122 Located At Horizontal Angle = 0, Vertical Angle = 180

1 - Vertical Plane Through Horizontal Angles (90 - 270)

2 - Horizontal Cone Through Vertical Angle (180) (Through Max. Cd.)