



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4CSDI-P12-835U-P12-835D-XXX-POE PR-LW-WHU-OW-CSD-WM_IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #13537338.13 & #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-LW-WHU-OW-CSD-WM

[LUMINAIRE] White formed aluminum housing, wide distribution reflector

[MORE] trims, frosted lens enclosures

[LAMP] Two white LEDs (one up/one down)

[BALLAST] (2) ERP PHB30W-0700-42 Drivers

[OTHER] 24.8 C, 120 V, 0.1986 A, 23.46 W, 0.983 PF, 60 Hz

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

[MORE] hod of absolute photometry.

[_ CONVERT] Photometric web converted from original test data

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	2413
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	105
Total Luminaire Watts	23
Ballast Factor	1.00
CIE Type	Semi-Indirect
Spacing Criterion (0-180)	N.A.
Spacing Criterion (90-270)	N.A.
Spacing Criterion (Diagonal)	N.A.
Basic Luminous Shape	Rectangular w/Sides
Luminous Length (0-180)	0.33 ft
Luminous Width (90-270)	0.33 ft
Luminous Height	1.42 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	3136	2361	3285
55	1024	953	1070
65	31	105	31
75	9	6	9
85	2	1	2

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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	0.737	1.474	2.272	3.868	3.868	3.868	2.272	1.474	0.737
95.0	2.395	3.193	3.868	5.526	5.649	5.526	3.868	3.193	2.395
97.5	5.465	5.833	6.263	7.982	8.166	7.982	6.263	5.833	5.465
100.0	8.596	9.087	9.456	11.236	11.482	11.236	9.456	9.087	8.596
102.5	12.280	12.894	13.078	14.982	15.289	14.982	13.078	12.894	12.280
105.0	16.210	16.885	17.008	19.157	19.280	19.157	17.008	16.885	16.210
107.5	20.323	21.183	21.367	23.639	23.578	23.639	21.367	21.183	20.323
110.0	24.683	25.727	25.911	28.305	28.244	28.305	25.911	25.727	24.683
112.5	29.349	30.516	30.639	33.340	33.156	33.340	30.639	30.516	29.349
115.0	34.016	35.612	35.796	38.375	37.945	38.375	35.796	35.612	34.016
117.5	38.436	40.524	40.892	43.410	42.612	43.410	40.892	40.524	38.436
120.0	43.041	45.313	45.866	48.015	46.971	48.015	45.866	45.313	43.041
122.5	47.217	49.980	50.716	52.190	50.655	52.190	50.716	49.980	47.217
125.0	50.716	54.155	55.444	56.120	53.971	56.120	54.155	50.716	50.716
127.5	54.400	58.698	60.847	60.356	57.777	60.356	58.698	54.400	54.400
130.0	58.944	64.654	67.479	65.944	62.382	65.944	64.654	58.944	58.944
132.5	65.821	72.820	76.382	73.496	69.382	73.496	72.820	65.821	65.821

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135.0	76.443	84.425	89.521	84.548	80.373	84.548	89.521	84.425	76.443
137.5	92.223	101.433	110.766	100.205	96.214	100.205	110.766	101.433	92.223
140.0	114.572	127.282	146.193	122.800	117.765	122.800	146.193	127.282	114.572
142.5	146.992	167.315	207.348	158.473	149.263	158.473	207.348	167.315	146.992
145.0	195.436	230.004	302.825	215.944	195.436	215.944	302.825	230.004	195.436
147.5	269.669	325.297	437.414	308.228	264.941	308.228	437.414	325.297	269.669
150.0	382.031	464.307	605.097	447.053	376.566	447.053	605.097	464.307	382.031
152.5	551.925	652.682	791.446	632.420	544.864	632.420	791.446	652.682	551.925
155.0	785.920	879.248	992.224	863.898	777.938	863.898	992.224	879.248	785.920
157.5	1072.658	1138.970	1212.036	1130.374	1059.150	1130.374	1212.036	1138.970	1072.658
160.0	1377.816	1410.358	1457.636	1417.112	1371.062	1417.112	1457.636	1410.358	1377.816
162.5	1649.204	1668.238	1692.798	1679.904	1655.958	1679.904	1692.798	1668.238	1649.204
165.0	1881.296	1888.050	1900.330	1896.032	1884.366	1896.032	1900.330	1888.050	1881.296
167.5	2064.882	2059.970	2071.022	2069.180	2064.268	2069.180	2071.022	2059.970	2064.882
170.0	2199.348	2193.208	2192.594	2190.138	2188.296	2190.138	2192.594	2193.208	2199.348
172.5	2276.712	2273.028	2269.344	2263.818	2261.976	2263.818	2269.344	2273.028	2276.712
175.0	2312.938	2310.482	2308.026	2306.184	2304.956	2306.184	2308.026	2310.482	2312.938
177.5	2313.552	2318.464	2320.306	2323.376	2324.604	2323.376	2320.306	2318.464	2313.552
180.0	2322.000	2322.000	2322.000	2322.000	2322.000	2322.000	2322.000	2322.000	2322.000

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Zone	Lumens	%Lamp	%Fixt
0-20	360.05	N.A.	14.90
0-30	621.11	N.A.	25.70
0-40	791.54	N.A.	32.80
0-60	931.02	N.A.	38.60
0-80	937.96	N.A.	38.90
0-90	938.08	N.A.	38.90
10-90	831.68	N.A.	34.50
20-40	431.49	N.A.	17.90
20-50	526.53	N.A.	21.80
40-70	145.95	N.A.	6.00
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	23.89	N.A.	1.00
90-120	59.88	N.A.	2.50
90-130	108.92	N.A.	4.50
90-150	336.45	N.A.	13.90
90-180	1474.45	N.A.	61.10
110-180	1450.57	N.A.	60.10
0-180	2412.53	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	4.99
100-110	18.90
110-120	35.99
120-130	49.04
130-140	68.05
140-150	159.48
150-160	405.66
160-170	515.63
170-180	216.70

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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

Effective Floor Cavity Reflectance 0.20

RC RW	80				70				50			30			10			0
	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
0	104	104	104	104	95	95	95	95	77	77	77	61	61	61	46	46	46	39
1	97	93	90	87	88	85	83	80	70	68	67	56	55	54	43	43	42	36
2	90	84	79	74	82	77	73	69	64	61	58	52	50	48	40	39	38	33
3	83	75	69	64	76	69	64	60	58	54	51	47	45	43	38	36	35	31
4	77	68	62	57	71	63	57	53	53	49	46	44	41	39	35	34	32	28
5	72	62	55	50	66	57	52	47	49	44	41	41	38	35	33	31	30	26
6	67	57	50	45	61	53	47	42	45	40	37	38	35	32	31	29	27	25
7	63	52	45	40	57	48	42	38	42	37	34	35	32	30	29	27	25	23
8	59	48	41	37	54	45	39	35	39	34	31	33	30	27	27	25	24	21
9	55	44	38	33	51	41	36	32	36	32	29	31	28	25	26	24	22	20
10	52	41	35	31	48	39	33	29	34	29	26	29	26	24	24	22	21	19

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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	3.1	3.1	3.1	3.1	3.3	3.1	3.1	3.1	3.1	3.7
	3H	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.5
	4H	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.3
	6H	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.2
	8H	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
	12H	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1

UGR Viewed Endwise

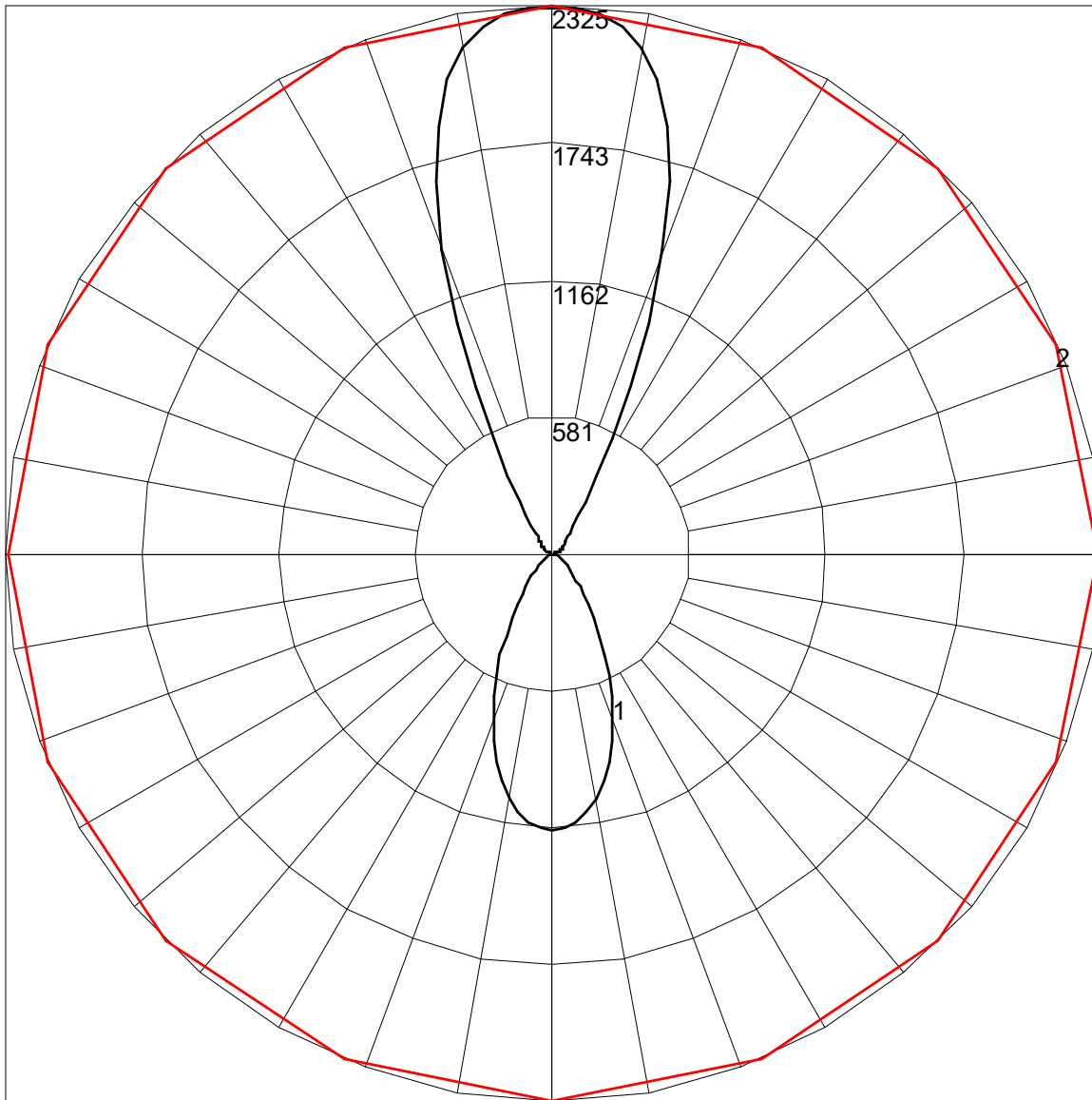
4H	2H	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.4
	3H	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
	4H	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
	6H	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
	8H	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
	12H	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
8H	4H	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
	6H	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
	8H	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
	12H	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
12H	4H	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
	6H	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
	8H	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1

Maximum UGR = 3.7

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POLAR GRAPH



Maximum Candela = 2324.604 Located At Horizontal Angle = 90, Vertical Angle = 177.5

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

2 - Horizontal Cone Through Vertical Angle (177.5) (Through Max. Cd.)