



IES INDOOR REPORT

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

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #13257153.19 & #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-LM-WHU-OW-CSD-WM

[LUMINAIRE] Aluminum housing, optics, and trim enclosure

[LAMP] Two white LEDs

[OTHER] 25.1 C, 120.077 V, 0.14532 A, 17.3136 W, 0.992212 PF, 60.0001

[MORE] Hz

[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	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
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	0.731	1.005	1.097	1.187	1.279	1.187	1.097	1.005	0.731
95.0	4.111	3.838	3.655	4.020	4.385	4.020	3.655	3.838	4.111
97.5	7.492	7.218	7.036	7.492	7.858	7.492	7.036	7.218	7.492
100.0	11.421	11.238	10.964	11.512	11.878	11.512	10.964	11.238	11.421
102.5	15.806	15.715	15.349	15.989	16.172	15.989	15.349	15.715	15.806
105.0	20.649	20.649	20.192	21.014	21.106	21.014	20.192	20.649	20.649
107.5	25.948	25.948	25.399	26.496	26.313	26.496	25.399	25.948	25.948
110.0	31.705	31.795	31.248	32.343	31.887	32.343	31.248	31.795	31.705
112.5	37.734	38.100	37.552	38.557	37.825	38.557	37.552	38.100	37.734
115.0	44.130	45.043	44.404	45.226	44.130	45.226	44.404	45.043	44.130
117.5	50.891	52.170	51.714	52.627	50.891	52.627	51.714	52.170	50.891
120.0	57.744	59.205	59.571	60.210	57.926	60.210	59.571	59.205	57.744
122.5	64.048	66.697	68.160	68.068	65.235	68.068	66.697	64.048	64.048
125.0	71.174	75.286	78.027	76.839	72.636	76.839	78.027	75.286	71.174
127.5	79.854	85.244	89.539	86.981	81.408	86.981	89.539	85.244	79.854
130.0	90.726	97.670	103.061	99.133	92.097	99.133	103.061	97.670	90.726
132.5	104.523	112.746	118.868	114.025	105.528	114.025	118.868	112.746	104.523

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135.0	121.060	130.197	136.319	131.202	121.609	131.202	136.319	130.197	121.060
137.5	140.339	149.476	156.602	150.389	140.613	150.389	156.602	149.476	140.339
140.0	162.267	170.855	182.184	172.226	162.267	172.226	182.184	170.855	162.267
142.5	185.657	195.524	215.898	198.448	185.657	198.448	215.898	195.524	185.657
145.0	211.970	227.137	263.409	231.705	214.254	231.705	263.409	227.137	211.970
147.5	248.060	272.455	327.732	276.840	252.171	276.840	327.732	272.455	248.060
150.0	302.331	338.786	404.113	340.614	304.342	340.614	404.113	338.786	302.331
152.5	382.642	422.935	489.450	425.676	380.724	425.676	489.450	422.935	382.642
155.0	485.886	527.093	594.887	534.950	488.993	534.950	594.887	527.093	485.886
157.5	628.236	676.294	748.291	695.572	646.600	695.572	748.291	676.294	628.236
160.0	870.265	926.455	1005.030	959.347	906.538	959.347	1005.030	926.455	870.265
162.5	1285.525	1337.604	1409.783	1370.496	1319.331	1370.496	1409.783	1337.604	1285.525
165.0	1855.651	1891.284	1942.449	1906.817	1863.874	1906.817	1942.449	1891.284	1855.651
167.5	2452.274	2465.979	2489.734	2462.324	2433.087	2462.324	2489.734	2465.979	2452.274
170.0	2924.638	2918.243	2926.466	2915.502	2901.797	2915.502	2926.466	2918.243	2924.638
172.5	3228.889	3217.012	3221.580	3223.407	3222.494	3223.407	3221.580	3217.012	3228.889
175.0	3433.549	3422.585	3428.981	3436.290	3439.945	3436.290	3428.981	3422.585	3433.549
177.5	3577.908	3564.203	3566.944	3576.994	3581.563	3576.994	3566.944	3564.203	3577.908
180.0	3622.807	3622.807	3622.807	3622.807	3622.807	3622.807	3622.807	3622.807	3622.807

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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	27.04	N.A.	1.10
90-120	71.55	N.A.	3.00
90-130	139.97	N.A.	5.80
90-150	391.97	N.A.	16.20
90-180	1474.53	N.A.	61.10
110-180	1447.48	N.A.	60.00
0-180	2412.61	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	4.90
100-110	22.14
110-120	44.51
120-130	68.42
130-140	101.16
140-150	150.84
150-160	258.60
160-170	512.36
170-180	311.60

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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	11.3	11.9	12.4	13.0	14.4	11.6	12.3	12.7	13.3	14.8
	3H	11.1	11.6	12.2	12.7	14.2	11.4	12.0	12.5	13.1	14.5
	4H	11.0	11.5	12.1	12.6	14.0	11.3	11.9	12.4	12.9	14.4
	6H	10.8	11.3	12.0	12.4	13.9	11.2	11.7	12.3	12.8	14.3
	8H	10.8	11.3	11.9	12.3	13.8	11.2	11.6	12.3	12.7	14.2
	12H	10.7	11.2	11.8	12.3	13.7	11.1	11.5	12.2	12.6	14.1

UGR Viewed Endwise

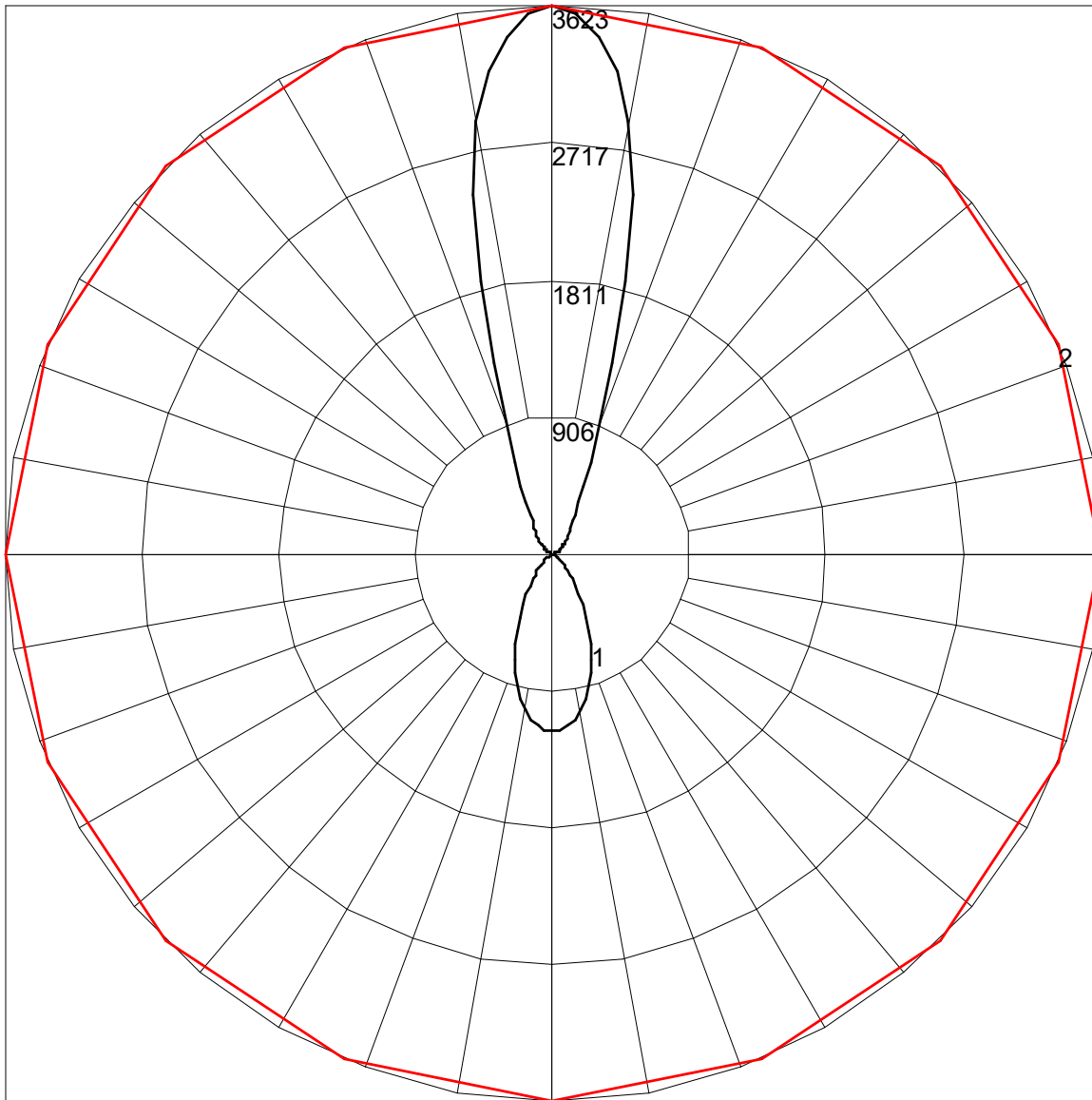
4H	2H	11.0	11.6	12.2	12.6	14.1	11.4	11.9	12.5	13.0	14.5
	3H	10.8	11.3	11.9	12.4	13.9	11.2	11.6	12.3	12.7	14.2
	4H	10.7	11.1	11.8	12.2	13.7	11.1	11.5	12.2	12.6	14.1
	6H	10.6	11.0	11.7	12.1	13.6	11.0	11.3	12.1	12.4	13.9
	8H	10.6	10.9	11.7	12.0	13.5	10.9	11.2	12.0	12.3	13.8
	12H	10.5	10.8	11.6	11.9	13.4	10.8	11.1	12.0	12.2	13.8
8H	4H	10.6	10.9	11.7	12.0	13.5	10.9	11.2	12.0	12.3	13.8
	6H	10.4	10.7	11.6	11.8	13.3	10.8	11.1	11.9	12.2	13.7
	8H	10.4	10.6	11.5	11.7	13.3	10.7	11.0	11.9	12.1	13.6
	12H	10.3	10.5	11.5	11.6	13.2	10.7	10.9	11.8	12.0	13.6
12H	4H	10.5	10.8	11.6	11.9	13.4	10.8	11.1	12.0	12.2	13.8
	6H	10.4	10.6	11.5	11.7	13.3	10.7	11.0	11.9	12.1	13.6
	8H	10.3	10.5	11.5	11.6	13.2	10.7	10.9	11.8	12.0	13.6

Maximum UGR = 14.8

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POLAR GRAPH



Maximum Candela = 3622.807 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.)