



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4CSDI-L12-835U-L12-835D-XXX-DIM1-UNV-LW-WHU-ON-CSD-WM_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #13537338.13 and #13257153.21

[TESTLAB]

[ISSUE DATE] 8-FEB-2021

[MANUFAC] H E Williams Inc

[LUMCAT] 4CSDI-L12-835U-L12-835D-xxx-DIM1-UNV-LW-WHU-ON-CSD-WM

[MORE]

[LUMINAIRE] White formed aluminum housing, wide distrib white painted flush prismatic lens trim up,

[MORE] narrow distrib anodized alum open reflector trim down

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

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

[OTHER]

[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	2391
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	85
Total Luminaire Watts	28.2
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	3416	2350	3553
55	1280	974	1325
65	29	140	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	1157.238	1157.238	1157.238	1157.238	1157.238	1157.238	1157.238	1157.238	1157.238
2.5	1148.361	1148.361	1146.747	1145.940	1146.747	1145.940	1146.747	1148.361	1148.361
5.0	1116.081	1116.081	1115.274	1114.467	1115.274	1114.467	1115.274	1116.081	1116.081
7.5	1069.275	1070.082	1068.468	1067.661	1067.661	1067.661	1068.468	1070.082	1069.275
10.0	1010.364	1011.978	1011.171	1008.750	1007.943	1008.750	1011.171	1011.978	1010.364
12.5	939.348	942.576	944.190	940.155	936.120	940.155	944.190	942.576	939.348
15.0	861.069	865.104	869.946	863.490	858.648	863.490	869.946	865.104	861.069
17.5	779.804	785.292	789.730	783.839	777.625	783.839	789.730	785.292	779.804
20.0	697.894	704.592	707.578	702.736	695.473	702.736	707.578	704.592	697.894
22.5	616.951	623.165	624.941	620.744	612.674	620.744	624.941	623.165	616.951
25.0	536.494	543.514	544.806	540.125	530.925	540.125	544.806	543.514	536.494
27.5	453.615	463.702	467.656	460.636	449.983	460.636	467.656	463.702	453.615
30.0	375.820	387.602	396.640	385.827	375.174	385.827	396.640	387.602	375.820
32.5	309.646	318.926	331.596	318.846	311.260	318.846	331.596	318.926	309.646
35.0	257.272	261.549	273.573	263.324	260.257	263.324	273.573	261.549	257.272
37.5	216.115	215.711	222.732	218.616	220.150	218.616	222.732	215.711	216.115
40.0	182.301	178.912	179.557	182.624	187.305	182.624	179.557	178.912	182.301
42.5	154.218	149.295	145.825	153.411	159.705	153.411	145.825	149.295	154.218
45.0	130.895	125.246	120.243	129.443	136.141	129.443	120.243	125.246	130.895
47.5	110.236	104.668	100.149	108.784	114.594	108.784	100.149	104.668	110.236
50.0	90.787	86.591	83.524	90.303	93.854	90.303	83.524	86.591	90.787
52.5	71.581	70.612	68.998	73.679	74.002	73.679	68.998	70.612	71.581
55.0	53.585	55.764	55.279	58.427	55.441	58.427	55.279	55.764	53.585
57.5	37.364	41.722	42.125	43.820	38.575	43.820	42.125	41.722	37.364
60.0	22.273	28.245	29.698	29.455	22.031	29.455	29.698	28.245	22.273
62.5	8.473	14.526	18.238	14.687	7.182	14.687	18.238	14.526	8.473
65.0	1.291	3.631	8.473	3.874	1.372	3.874	8.473	3.631	1.291
67.5	0.968	0.888	2.582	0.968	1.049	0.968	2.582	0.888	0.968
70.0	0.726	0.646	0.888	0.726	0.726	0.726	0.888	0.646	0.726
72.5	0.565	0.484	0.484	0.484	0.565	0.484	0.484	0.484	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	0.242	0.242	0.242	0.323	0.242	0.242	0.242	0.323
80.0	0.161	0.161	0.161	0.161	0.242	0.161	0.161	0.161	0.161
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	55.444	54.155	50.716
127.5	54.400	58.698	60.847	60.356	57.777	60.356	60.847	58.698	54.400
130.0	58.944	64.654	67.479	65.944	62.382	65.944	67.479	64.654	58.944
132.5	65.821	72.820	76.382	73.496	69.382	73.496	72.820	76.382	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	342.90	N.A.	14.30
0-30	589.36	N.A.	24.70
0-40	757.57	N.A.	31.70
0-60	907.57	N.A.	38.00
0-80	916.16	N.A.	38.30
0-90	916.28	N.A.	38.30
10-90	813.16	N.A.	34.00
20-40	414.67	N.A.	17.30
20-50	514.34	N.A.	21.50
40-70	158.17	N.A.	6.60
60-80	8.59	N.A.	0.40
70-80	0.43	N.A.	0.00
80-90	0.11	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.	4.60
90-150	336.45	N.A.	14.10
90-180	1474.45	N.A.	61.70
110-180	1450.57	N.A.	60.70
0-180	2390.73	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	103.11
10-20	239.79
20-30	246.46
30-40	168.21
40-50	99.67
50-60	50.33
60-70	8.17
70-80	0.43
80-90	0.11
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	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	104	104	104	104	95	95	95	95	77	77	77	60	60	60	45	45	45	38
1	97	93	90	87	88	85	82	80	70	68	66	56	55	54	43	42	41	36
2	90	83	78	74	82	76	72	69	63	60	58	51	49	48	40	39	38	33
3	83	75	69	64	76	69	64	60	58	54	51	47	45	43	37	36	34	30
4	77	68	61	56	70	63	57	52	53	48	45	43	41	38	35	33	32	28
5	72	62	55	50	65	57	51	47	48	44	41	40	37	35	32	30	29	26
6	67	56	49	44	61	52	46	42	44	40	37	37	34	32	30	28	27	24
7	62	52	45	40	57	48	42	38	41	37	33	34	31	29	28	26	25	22
8	58	47	41	36	53	44	38	34	38	34	30	32	29	27	27	25	23	21
9	55	44	37	33	50	41	35	31	35	31	28	30	27	25	25	23	22	19
10	51	41	34	30	47	38	33	29	33	29	26	28	25	23	24	22	20	18

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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	3.5	5.0	3.1	3.1	3.2	3.9	5.3
	3H	3.1	3.1	3.1	3.3	4.7	3.1	3.1	3.1	3.6	5.1
	4H	3.1	3.1	3.1	3.1	4.6	3.1	3.1	3.1	3.5	4.9
	6H	3.1	3.1	3.1	3.1	4.5	3.1	3.1	3.1	3.3	4.8
	8H	3.1	3.1	3.1	3.1	4.4	3.1	3.1	3.1	3.2	4.7
	12H	3.1	3.1	3.1	3.1	4.3	3.1	3.1	3.1	3.1	4.6

UGR Viewed Endwise

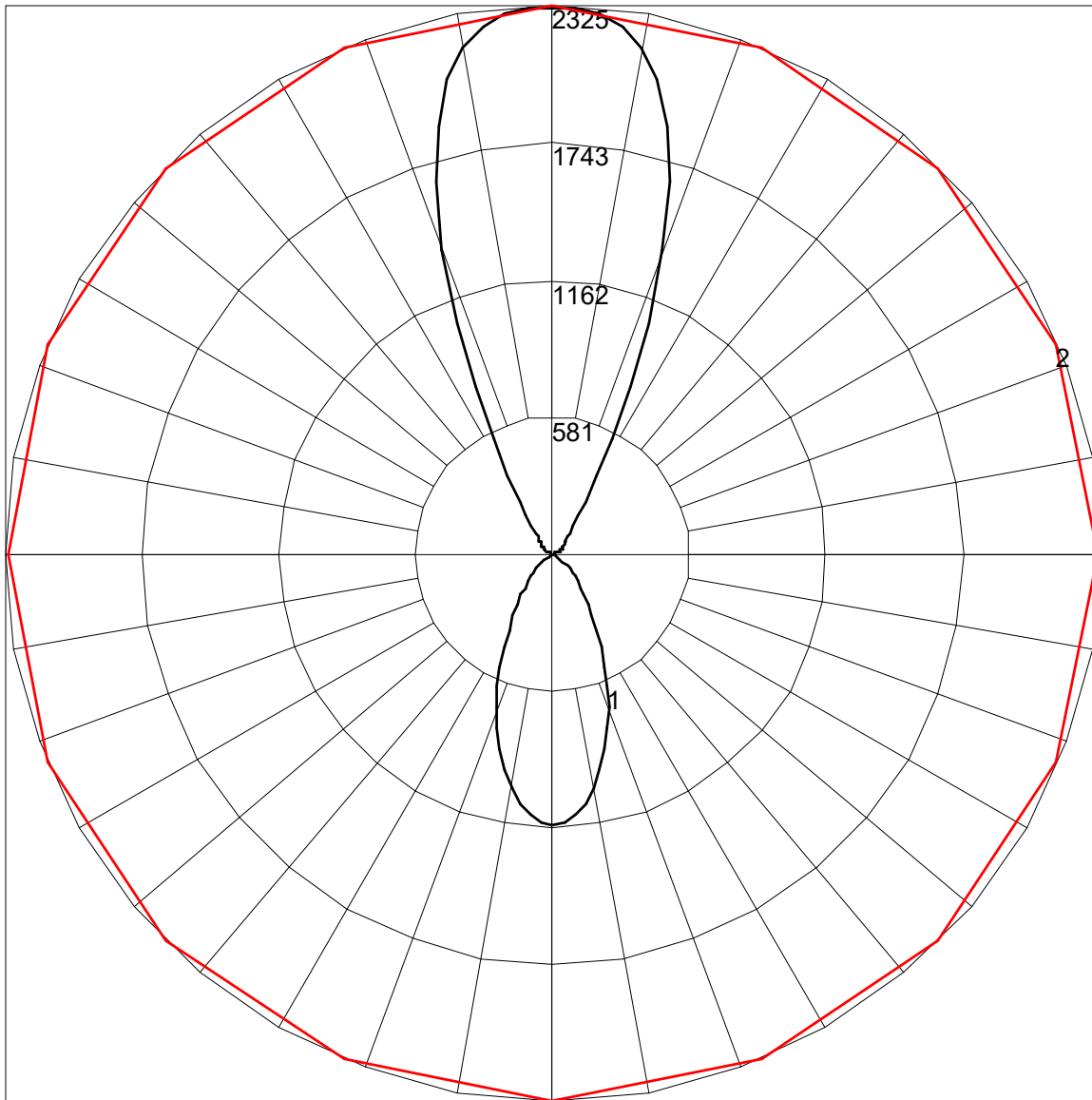
4H	2H	3.1	3.1	3.1	3.2	4.7	3.1	3.1	3.1	3.5	5.0
	3H	3.1	3.1	3.1	3.1	4.4	3.1	3.1	3.1	3.2	4.7
	4H	3.1	3.1	3.1	3.1	4.3	3.1	3.1	3.1	3.1	4.6
	6H	3.1	3.1	3.1	3.1	4.1	3.1	3.1	3.1	3.1	4.4
	8H	3.1	3.1	3.1	3.1	4.0	3.1	3.1	3.1	3.1	4.3
	12H	3.1	3.1	3.1	3.1	3.9	3.1	3.1	3.1	3.1	4.3
8H	4H	3.1	3.1	3.1	3.1	4.0	3.1	3.1	3.1	3.1	4.3
	6H	3.1	3.1	3.1	3.1	3.9	3.1	3.1	3.1	3.1	4.2
	8H	3.1	3.1	3.1	3.1	3.8	3.1	3.1	3.1	3.1	4.1
	12H	3.1	3.1	3.1	3.1	3.7	3.1	3.1	3.1	3.1	4.1
12H	4H	3.1	3.1	3.1	3.1	3.9	3.1	3.1	3.1	3.1	4.3
	6H	3.1	3.1	3.1	3.1	3.8	3.1	3.1	3.1	3.1	4.1
	8H	3.1	3.1	3.1	3.1	3.7	3.1	3.1	3.1	3.1	4.1

Maximum UGR = 5.3

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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.)