



IES INDOOR REPORT

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

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #13537338.13 and #13257153.18

[TESTLAB]

[ISSUE DATE] 8-FEB-2021

[MANUFAC] H E Williams Inc

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

[MORE]

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

[MORE] medium 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	2362
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	84
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	3330	2246	3492
55	1332	956	1388
65	29	156	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	1117.116	1117.116	1117.116	1117.116	1117.116	1117.116	1117.116	1117.116	1117.116
2.5	1108.250	1108.250	1105.832	1106.638	1107.444	1106.638	1105.832	1108.250	1108.250
5.0	1077.622	1078.428	1076.816	1076.816	1077.622	1076.816	1076.816	1078.428	1077.622
7.5	1034.098	1034.098	1032.486	1032.486	1033.292	1032.486	1032.486	1034.098	1034.098
10.0	977.678	978.484	977.678	977.678	976.872	977.678	977.678	978.484	977.678
12.5	909.168	911.586	914.810	910.780	908.362	910.780	914.810	911.586	909.168
15.0	833.404	837.434	843.076	837.434	832.598	837.434	843.076	837.434	833.404
17.5	753.449	759.413	764.088	758.849	753.529	758.849	764.088	759.413	753.449
20.0	673.332	679.700	683.085	679.055	671.962	679.055	683.085	679.700	673.332
22.5	595.553	601.760	603.694	600.148	592.168	600.148	603.694	601.760	595.553
25.0	516.888	524.625	526.237	522.530	513.503	522.530	526.237	524.625	516.888
27.5	434.595	447.330	451.924	445.154	433.064	445.154	451.924	447.330	434.595
30.0	357.300	372.211	383.414	371.082	358.912	371.082	383.414	372.211	357.300
32.5	293.465	304.910	320.063	305.393	296.930	305.393	320.063	304.910	293.465
35.0	243.734	249.941	263.240	251.875	248.329	251.875	263.240	249.941	243.734
37.5	205.127	206.497	213.429	209.802	210.769	209.802	213.429	206.497	205.127
40.0	174.015	171.839	171.597	176.111	180.544	176.111	171.597	171.839	174.015
42.5	148.626	144.193	139.196	148.868	155.397	148.868	139.196	144.193	148.626
45.0	127.590	121.867	114.936	126.381	133.796	126.381	114.936	121.867	127.590
47.5	108.649	102.765	96.236	107.117	113.888	107.117	96.236	102.765	108.649
50.0	90.675	85.758	80.681	89.708	94.624	89.708	80.681	85.758	90.675
52.5	73.024	70.444	67.059	73.991	76.006	73.991	67.059	70.444	73.024
55.0	55.775	56.501	54.244	59.322	58.113	59.322	54.244	56.501	55.775
57.5	39.816	43.121	41.912	45.136	41.348	45.136	41.912	43.121	39.816
60.0	24.261	29.983	30.144	31.112	24.422	31.112	30.144	29.983	24.261
62.5	9.027	15.959	19.183	16.201	8.382	16.201	19.183	15.959	9.027
65.0	1.290	4.030	9.430	4.352	1.370	4.352	9.430	4.030	1.290
67.5	0.967	0.887	2.982	0.967	1.048	0.967	2.982	0.887	0.967
70.0	0.725	0.645	0.887	0.725	0.725	0.725	0.887	0.645	0.725
72.5	0.484	0.484	0.484	0.484	0.564	0.484	0.484	0.484	0.484
75.0	0.403	0.403	0.403	0.403	0.403	0.403	0.403	0.403	0.403
77.5	0.242	0.242	0.242	0.242	0.322	0.242	0.242	0.242	0.242
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	331.75	N.A.	14.00
0-30	569.59	N.A.	24.10
0-40	730.72	N.A.	30.90
0-60	878.37	N.A.	37.20
0-80	887.57	N.A.	37.60
0-90	887.68	N.A.	37.60
10-90	788.02	N.A.	33.40
20-40	398.97	N.A.	16.90
20-50	495.76	N.A.	21.00
40-70	156.43	N.A.	6.60
60-80	9.20	N.A.	0.40
70-80	0.42	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.	14.20
90-180	1474.45	N.A.	62.40
110-180	1450.57	N.A.	61.40
0-180	2362.13	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	99.66
10-20	232.09
20-30	237.84
30-40	161.13
40-50	96.79
50-60	50.86
60-70	8.78
70-80	0.42
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	76	76	76	60	60	60	45	45	45	38
1	97	93	90	87	88	85	82	80	69	67	66	55	54	53	42	41	41	35
2	89	83	78	74	81	76	72	68	63	60	57	50	49	47	39	38	37	32
3	83	75	69	64	75	69	63	59	57	53	50	46	44	42	36	35	34	29
4	77	68	61	56	70	62	57	52	52	48	45	43	40	38	34	32	31	27
5	71	61	54	49	65	57	51	46	48	43	40	39	37	34	32	30	28	25
6	66	56	49	44	61	52	46	41	44	40	36	37	34	31	30	28	26	23
7	62	51	44	40	57	48	42	37	41	36	33	34	31	29	28	26	24	22
8	58	47	40	36	53	44	38	34	38	33	30	32	29	26	26	24	23	20
9	54	44	37	33	50	41	35	31	35	31	28	30	27	24	25	23	21	19
10	51	41	34	30	47	38	32	28	33	28	26	28	25	23	23	21	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	3.0	3.0	3.2	3.8	5.2	3.0	3.0	3.5	4.1	5.5
	3H	3.0	3.0	3.0	3.5	5.0	3.0	3.0	3.3	3.8	5.3
	4H	3.0	3.0	3.0	3.4	4.9	3.0	3.0	3.2	3.7	5.2
	6H	3.0	3.0	3.0	3.2	4.7	3.0	3.0	3.1	3.5	5.0
	8H	3.0	3.0	3.0	3.2	4.6	3.0	3.0	3.0	3.5	4.9
	12H	3.0	3.0	3.0	3.1	4.6	3.0	3.0	3.0	3.4	4.9

UGR Viewed Endwise

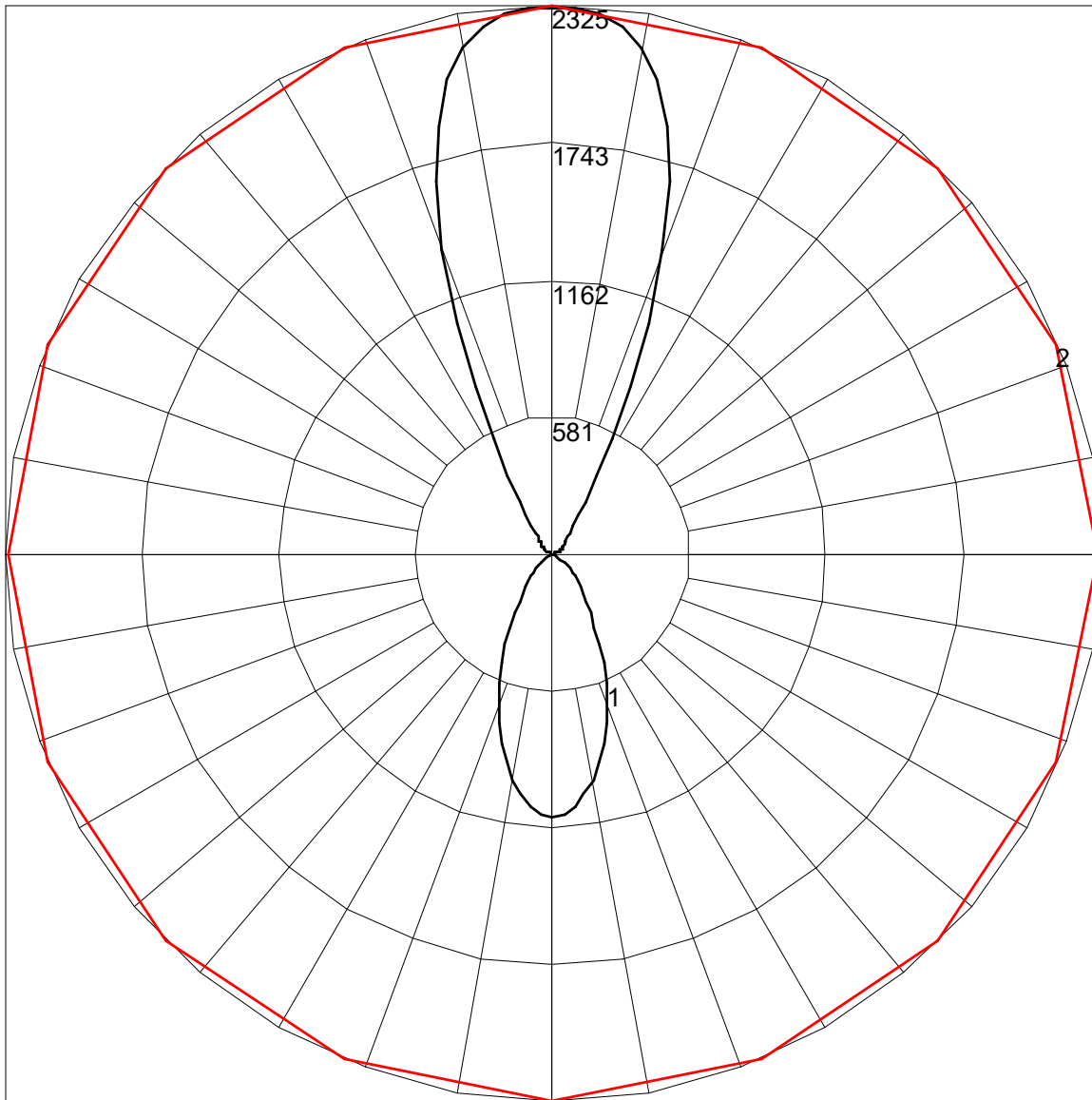
4H	2H	3.0	3.0	3.0	3.4	4.9	3.0	3.0	3.2	3.7	5.2
	3H	3.0	3.0	3.0	3.2	4.7	3.0	3.0	3.0	3.5	5.0
	4H	3.0	3.0	3.0	3.0	4.5	3.0	3.0	3.0	3.3	4.8
	6H	3.0	3.0	3.0	3.0	4.4	3.0	3.0	3.0	3.2	4.7
	8H	3.0	3.0	3.0	3.0	4.3	3.0	3.0	3.0	3.1	4.6
	12H	3.0	3.0	3.0	3.0	4.2	3.0	3.0	3.0	3.0	4.5
8H	4H	3.0	3.0	3.0	3.0	4.3	3.0	3.0	3.0	3.1	4.6
	6H	3.0	3.0	3.0	3.0	4.1	3.0	3.0	3.0	3.0	4.4
	8H	3.0	3.0	3.0	3.0	4.1	3.0	3.0	3.0	3.0	4.4
	12H	3.0	3.0	3.0	3.0	4.0	3.0	3.0	3.0	3.0	4.3
12H	4H	3.0	3.0	3.0	3.0	4.2	3.0	3.0	3.0	3.0	4.5
	6H	3.0	3.0	3.0	3.0	4.1	3.0	3.0	3.0	3.0	4.4
	8H	3.0	3.0	3.0	3.0	4.0	3.0	3.0	3.0	3.0	4.3

Maximum UGR = 5.5

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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.)