



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4CSDI-L12-835U-L12-835D-XXX-DIM1-UNV-LM-WHU-OW-CSD-WM\_.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #13257153.19 and #13257153.12

[TESTLAB]

[ISSUE DATE] 8-FEB-2021

[MANUFAC] H E Williams Inc

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

[MORE]

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

[MORE] wide 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

[ 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	2420
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	86
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
Luminous Length (0-180)	0.21 ft
Luminous Width (90-270)	0.21 ft
Luminous Height	0.00 ft

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : 4CSDI-L12-835U-L12-835D-XXX-DIM1-UNV-LM-WHU-OW-CSD-WM\_.IES****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	0.734	1.010	1.102	1.193	1.285	1.193	1.102	1.010	0.734
95.0	4.131	3.856	3.672	4.039	4.406	4.039	3.672	3.856	4.131
97.5	7.528	7.252	7.069	7.528	7.895	7.528	7.069	7.252	7.528
100.0	11.475	11.291	11.016	11.567	11.934	11.567	11.016	11.291	11.475
102.5	15.881	15.790	15.422	16.065	16.249	16.065	15.422	15.790	15.881
105.0	20.747	20.747	20.288	21.114	21.206	21.114	20.288	20.747	20.747
107.5	26.071	26.071	25.520	26.622	26.438	26.622	25.520	26.071	26.071
110.0	31.855	31.946	31.396	32.497	32.038	32.497	31.396	31.946	31.855
112.5	37.913	38.281	37.730	38.740	38.005	38.740	37.730	38.281	37.913
115.0	44.339	45.257	44.615	45.441	44.339	45.441	44.615	45.257	44.339
117.5	51.133	52.418	51.959	52.877	51.133	52.877	51.959	52.418	51.133
120.0	58.018	59.486	59.854	60.496	58.201	60.496	59.854	59.486	58.018
122.5	64.352	67.014	68.483	68.391	65.545	68.391	68.483	67.014	64.352
125.0	71.512	75.643	78.397	77.204	72.981	77.204	78.397	75.643	71.512
127.5	80.233	85.649	89.964	87.394	81.794	87.394	89.964	85.649	80.233
130.0	91.157	98.134	103.550	99.603	92.534	99.603	103.550	98.134	91.157
132.5	105.019	113.281	119.432	114.566	106.029	114.566	119.432	113.281	105.019

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<b>135.0</b>	121.635	130.815	136.966	131.825	122.186	131.825	136.966	130.815	121.635
<b>137.5</b>	141.005	150.185	157.345	151.103	141.280	151.103	157.345	150.185	141.005
<b>140.0</b>	163.037	171.666	183.049	173.043	163.037	173.043	183.049	171.666	163.037
<b>142.5</b>	186.538	196.452	216.923	199.390	186.538	199.390	216.923	196.452	186.538
<b>145.0</b>	212.976	228.215	264.659	232.805	215.271	232.805	264.659	228.215	212.976
<b>147.5</b>	249.237	273.748	329.287	278.154	253.368	278.154	329.287	273.748	249.237
<b>150.0</b>	303.766	340.394	406.031	342.230	305.786	342.230	406.031	340.394	303.766
<b>152.5</b>	384.458	424.942	491.773	427.696	382.531	427.696	491.773	424.942	384.458
<b>155.0</b>	488.192	529.594	597.710	537.489	491.314	537.489	597.710	529.594	488.192
<b>157.5</b>	631.217	679.504	751.842	698.873	649.669	698.873	751.842	679.504	631.217
<b>160.0</b>	874.395	930.852	1009.800	963.900	910.840	963.900	1009.800	930.852	874.395
<b>162.5</b>	1291.626	1343.952	1416.474	1377.000	1325.592	1377.000	1416.474	1343.952	1291.626
<b>165.0</b>	1864.458	1900.260	1951.668	1915.866	1872.720	1915.866	1951.668	1900.260	1864.458
<b>167.5</b>	2463.912	2477.682	2501.550	2474.010	2444.634	2474.010	2501.550	2477.682	2463.912
<b>170.0</b>	2938.518	2932.092	2940.354	2929.338	2915.568	2929.338	2940.354	2932.092	2938.518
<b>172.5</b>	3244.213	3232.279	3236.869	3238.705	3237.787	3238.705	3236.869	3232.279	3244.213
<b>175.0</b>	3449.844	3438.828	3445.254	3452.598	3456.270	3452.598	3445.254	3438.828	3449.844
<b>177.5</b>	3594.888	3581.118	3583.872	3593.970	3598.560	3593.970	3583.872	3581.118	3594.888
<b>180.0</b>	3640.000	3640.000	3640.000	3640.000	3640.000	3640.000	3640.000	3640.000	3640.000

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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.	32.70
0-60	931.02	N.A.	38.50
0-80	937.96	N.A.	38.80
0-90	938.08	N.A.	38.80
10-90	831.68	N.A.	34.40
20-40	431.49	N.A.	17.80
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	27.17	N.A.	1.10
90-120	71.89	N.A.	3.00
90-130	140.63	N.A.	5.80
90-150	393.83	N.A.	16.30
90-180	1481.52	N.A.	61.20
110-180	1454.35	N.A.	60.10
0-180	2419.6	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	4.93
100-110	22.24
110-120	44.72
120-130	68.75
130-140	101.64
140-150	151.55
150-160	259.83
160-170	514.79
170-180	313.08

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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	61	61	61	46	46	46	39
1	97	93	90	87	88	85	83	80	70	68	67	56	55	54	43	42	42	36
2	90	84	79	74	82	77	72	69	64	61	58	51	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	33	32	28
5	72	62	55	50	66	57	51	47	49	44	41	40	38	35	33	31	30	26
6	67	57	50	45	61	53	47	42	45	40	37	38	35	32	31	29	27	24
7	63	52	45	40	57	48	42	38	41	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	11.2	11.9	12.3	12.9	14.4	11.6	12.3	12.7	13.3	14.8
	3H	11.1	11.6	12.1	12.7	14.1	11.4	12.0	12.5	13.1	14.5
	4H	10.9	11.5	12.1	12.6	14.0	11.3	11.9	12.4	12.9	14.4
	6H	10.8	11.3	11.9	12.4	13.9	11.2	11.7	12.3	12.8	14.2
	8H	10.8	11.2	11.9	12.3	13.8	11.1	11.6	12.2	12.7	14.2
	12H	10.7	11.2	11.8	12.2	13.7	11.1	11.5	12.2	12.6	14.1

### UGR Viewed Endwise

4H	2H	11.0	11.6	12.1	12.6	14.1	11.4	11.9	12.5	13.0	14.5
	3H	10.8	11.3	11.9	12.4	13.8	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	10.9	11.7	12.1	13.5	11.0	11.3	12.1	12.4	13.9
	8H	10.5	10.9	11.7	12.0	13.5	10.9	11.2	12.0	12.3	13.8
	12H	10.5	10.7	11.6	11.9	13.4	10.8	11.1	12.0	12.2	13.7

8H	4H	10.5	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	11.0	11.9	12.2	13.7
	8H	10.4	10.6	11.5	11.7	13.2	10.7	11.0	11.9	12.1	13.6
	12H	10.3	10.5	11.4	11.6	13.2	10.7	10.9	11.8	12.0	13.5

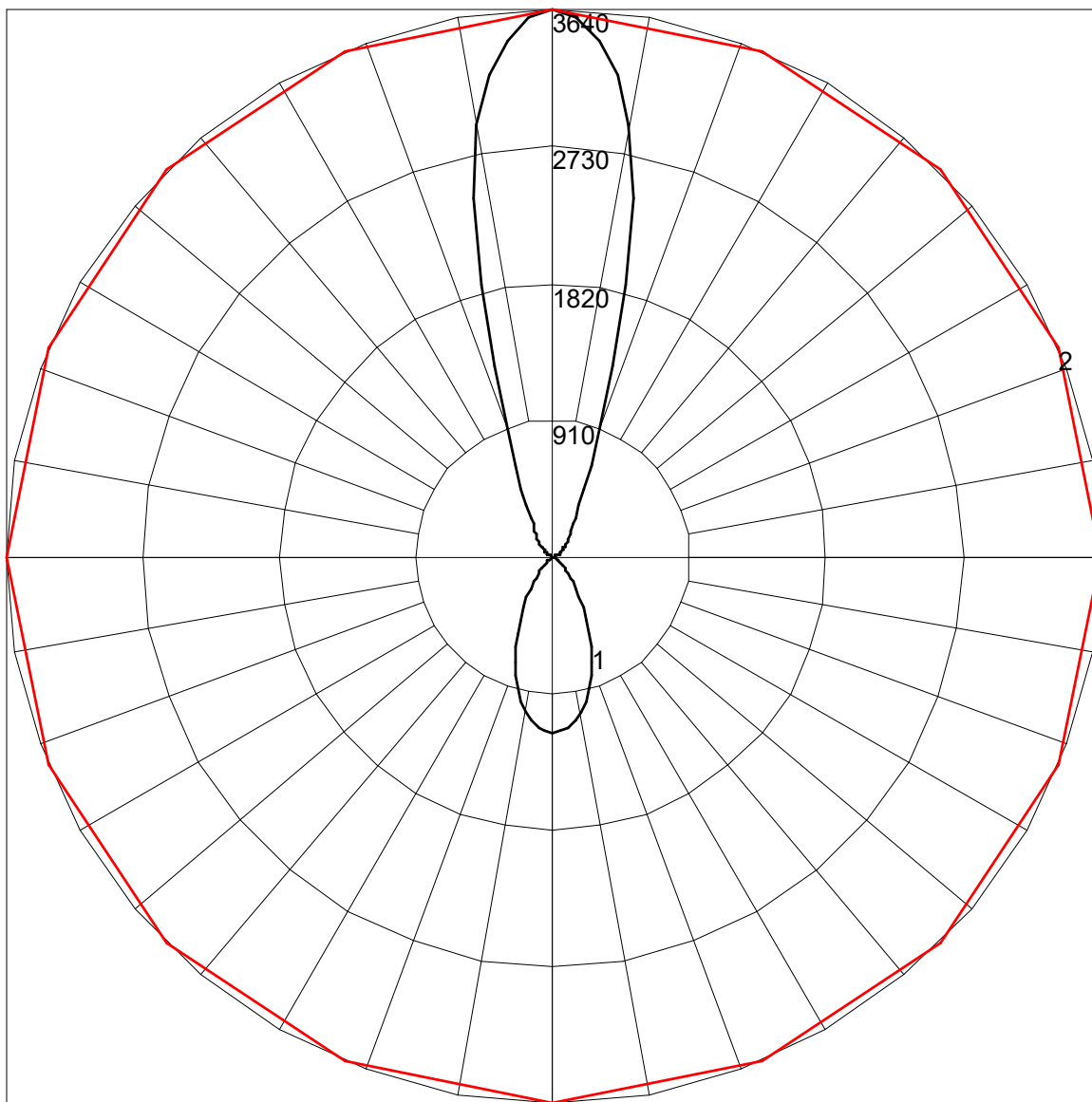
12H	4H	10.5	10.7	11.6	11.9	13.4	10.8	11.1	12.0	12.2	13.7
	6H	10.3	10.6	11.5	11.7	13.2	10.7	10.9	11.9	12.1	13.6
	8H	10.3	10.5	11.4	11.6	13.2	10.7	10.9	11.8	12.0	13.5

Maximum UGR = 14.8

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## POLAR GRAPH



Maximum Candela = 3640 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.)