



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4CSDI-L12-835U-L12-835D-XXX-DIM1-UNV-OM-CSU-RW-WHD-WM\_.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #13257153.18 and #13257153.16

[TESTLAB]

[ISSUE DATE] 9-FEB-2021

[MANUFAC] H E Williams Inc

[LUMCAT] 4CSDI-L12-835U-L12-835D-xxx-DIM1-UNV-OM-CSU-RW-WHD-WM

[MORE]

[LUMINAIRE] White formed aluminum housing, medium distrib anodized aluminum reflector trim w/clear cover glass up,

[MORE] wide distrib white painted regressed prismatic lens 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	2401
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	85
Total Luminaire Watts	28.2
Ballast Factor	1.00
CIE Type	General Diffuse
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-OM-CSU-RW-WHD-WM\_.IES****LUMINANCE DATA (cd/sq.m)**

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	28992	39460	28368
55	20144	21752	19724
65	15615	14429	15663
75	8990	8293	9068
85	4144	4144	4144

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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>
<b>0.0</b>	1501.827	1501.827	1501.827	1501.827	1501.827	1501.827	1501.827	1501.827	1501.827
<b>2.5</b>	1499.406	1505.862	1498.599	1492.950	1491.336	1492.950	1498.599	1505.862	1499.406
<b>5.0</b>	1484.880	1491.336	1484.880	1478.424	1476.810	1478.424	1484.880	1491.336	1484.880
<b>7.5</b>	1463.898	1469.547	1463.091	1457.442	1454.214	1457.442	1463.091	1469.547	1463.898
<b>10.0</b>	1435.653	1442.109	1435.653	1429.197	1426.776	1429.197	1435.653	1442.109	1435.653
<b>12.5</b>	1396.917	1404.180	1397.724	1392.075	1388.847	1392.075	1397.724	1404.180	1396.917
<b>15.0</b>	1344.462	1352.532	1347.690	1342.041	1337.199	1342.041	1347.690	1352.532	1344.462
<b>17.5</b>	1275.060	1283.937	1281.516	1275.867	1269.411	1275.867	1281.516	1283.937	1275.060
<b>20.0</b>	1182.255	1194.360	1197.588	1189.518	1178.220	1189.518	1197.588	1194.360	1182.255
<b>22.5</b>	1061.205	1078.959	1091.871	1076.538	1057.977	1076.538	1091.871	1078.959	1061.205
<b>25.0</b>	908.682	938.541	965.172	937.734	907.068	937.734	965.172	938.541	908.682
<b>27.5</b>	738.324	778.755	818.298	776.818	734.773	776.818	818.298	778.755	738.324
<b>30.0</b>	571.275	614.450	659.965	607.671	560.300	607.671	659.965	614.450	571.275
<b>32.5</b>	414.717	459.829	508.006	450.467	397.367	450.467	508.006	459.829	414.717
<b>35.0</b>	277.366	329.740	375.336	318.039	263.808	318.039	375.336	329.740	277.366
<b>37.5</b>	184.319	225.395	273.734	217.002	174.715	217.002	273.734	225.395	184.319
<b>40.0</b>	129.443	156.719	201.346	149.941	123.148	149.941	201.346	156.719	129.443
<b>42.5</b>	99.907	114.917	149.779	110.398	95.952	110.398	149.779	114.917	99.907
<b>45.0</b>	82.475	91.352	112.254	88.609	80.700	88.609	112.254	91.352	82.475
<b>47.5</b>	70.612	76.504	87.640	75.212	69.483	75.212	87.640	76.504	70.612
<b>50.0</b>	61.171	65.690	71.258	64.883	60.202	64.883	71.258	65.690	61.171
<b>52.5</b>	53.181	56.974	59.557	56.248	52.294	56.248	59.557	56.974	53.181
<b>55.0</b>	46.483	49.388	50.195	48.743	45.515	48.743	50.195	49.388	46.483
<b>57.5</b>	40.834	42.771	42.367	42.206	40.108	42.206	42.367	42.771	40.834
<b>60.0</b>	35.911	36.880	35.589	36.557	35.508	36.557	35.589	36.880	35.911
<b>62.5</b>	31.069	31.473	29.778	31.392	31.069	31.392	29.778	31.473	31.069
<b>65.0</b>	26.550	26.470	24.533	26.550	26.631	26.550	24.533	26.470	26.550
<b>67.5</b>	22.112	21.789	19.933	21.950	22.192	21.950	19.933	21.789	22.112
<b>70.0</b>	17.835	17.431	15.817	17.673	17.996	17.673	15.817	17.431	17.835
<b>72.5</b>	13.558	13.315	12.024	13.477	13.800	13.477	12.024	13.315	13.558
<b>75.0</b>	9.361	9.442	8.635	9.603	9.442	9.603	8.635	9.442	9.361
<b>77.5</b>	4.761	5.568	5.730	5.649	5.165	5.649	5.730	5.568	4.761
<b>80.0</b>	3.470	3.470	3.551	3.389	3.389	3.389	3.551	3.470	3.470
<b>82.5</b>	2.421	2.421	2.340	2.340	2.340	2.340	2.340	2.421	2.421
<b>85.0</b>	1.453	1.453	1.453	1.453	1.453	1.453	1.453	1.453	1.453
<b>87.5</b>	0.646	0.646	0.646	0.646	0.646	0.646	0.646	0.646	0.646
<b>90.0</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>92.5</b>	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100
<b>95.0</b>	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100
<b>97.5</b>	0.199	0.199	0.199	0.199	0.199	0.199	0.199	0.199	0.199
<b>100.0</b>	0.199	0.199	0.199	0.199	0.299	0.199	0.199	0.199	0.199
<b>102.5</b>	0.299	0.299	0.299	0.299	0.398	0.299	0.299	0.299	0.299
<b>105.0</b>	0.498	0.498	0.498	0.498	0.498	0.498	0.498	0.498	0.498
<b>107.5</b>	0.597	0.597	0.597	0.597	0.697	0.597	0.597	0.597	0.597
<b>110.0</b>	0.896	0.796	1.095	0.896	0.896	0.896	1.095	0.796	0.896
<b>112.5</b>	1.194	1.095	3.682	1.194	1.294	1.194	3.682	1.095	1.194
<b>115.0</b>	1.592	4.975	11.642	5.373	1.692	5.373	11.642	4.975	1.592
<b>117.5</b>	11.144	19.701	23.681	20.000	10.348	20.000	23.681	19.701	11.144
<b>120.0</b>	29.950	37.014	37.213	38.407	30.149	38.407	37.213	37.014	29.950
<b>122.5</b>	49.153	53.233	51.740	55.720	51.044	55.720	51.740	53.233	49.153
<b>125.0</b>	68.854	69.750	66.964	73.232	71.740	73.232	66.964	69.750	68.854
<b>127.5</b>	90.147	86.963	82.784	91.341	93.829	91.341	82.784	86.963	90.147
<b>130.0</b>	111.938	105.868	99.600	110.744	116.813	110.744	99.600	105.868	111.938
<b>132.5</b>	134.126	126.863	118.803	132.236	140.594	132.236	118.803	126.863	134.126

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<b>135.0</b>	157.509	150.444	141.887	156.016	165.170	156.016	141.887	150.444	157.509
<b>137.5</b>	183.478	178.006	171.837	183.777	191.836	183.777	171.837	178.006	183.478
<b>140.0</b>	214.821	212.134	211.836	217.408	222.880	217.408	211.836	212.134	214.821
<b>142.5</b>	253.228	254.919	263.476	258.999	260.193	258.999	263.476	254.919	253.228
<b>145.0</b>	300.888	308.550	324.967	310.938	306.560	310.938	324.967	308.550	300.888
<b>147.5</b>	362.280	376.409	395.115	377.006	366.558	377.006	395.115	376.409	362.280
<b>150.0</b>	441.084	459.491	473.322	458.098	443.074	458.098	473.322	459.491	441.084
<b>152.5</b>	536.504	552.225	557.897	549.539	534.614	549.539	557.897	552.225	536.504
<b>155.0</b>	638.094	647.646	649.636	645.059	633.915	645.059	649.636	647.646	638.094
<b>157.5</b>	735.206	742.867	745.255	740.877	731.027	740.877	745.255	742.867	735.206
<b>160.0</b>	831.223	839.084	843.263	838.288	829.532	838.288	843.263	839.084	831.223
<b>162.5</b>	930.126	937.489	943.260	936.793	930.226	936.793	943.260	937.489	930.126
<b>165.0</b>	1028.830	1033.805	1040.770	1033.805	1027.835	1033.805	1040.770	1033.805	1028.830
<b>167.5</b>	1122.360	1125.345	1129.325	1124.350	1121.365	1124.350	1129.325	1125.345	1122.360
<b>170.0</b>	1206.935	1207.930	1206.935	1206.935	1205.940	1206.935	1206.935	1207.930	1206.935
<b>172.5</b>	1276.585	1276.585	1274.595	1274.595	1275.590	1274.595	1274.595	1276.585	1276.585
<b>175.0</b>	1330.315	1331.310	1329.320	1329.320	1330.315	1329.320	1329.320	1331.310	1330.315
<b>177.5</b>	1368.125	1368.125	1365.140	1366.135	1367.130	1366.135	1365.140	1368.125	1368.125
<b>180.0</b>	1379.000	1379.000	1379.000	1379.000	1379.000	1379.000	1379.000	1379.000	1379.000

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Zone	Lumens	%Lamp	%Fixt
0-20	514.55	N.A.	21.40
0-30	933.94	N.A.	38.90
0-40	1146.42	N.A.	47.80
0-60	1267.27	N.A.	52.80
0-80	1303.28	N.A.	54.30
0-90	1304.97	N.A.	54.40
10-90	1164.9	N.A.	48.50
20-40	631.87	N.A.	26.30
20-50	708.60	N.A.	29.50
40-70	146.81	N.A.	6.10
60-80	36.01	N.A.	1.50
70-80	10.05	N.A.	0.40
80-90	1.69	N.A.	0.10
90-110	0.66	N.A.	0.00
90-120	11.49	N.A.	0.50
90-130	74.28	N.A.	3.10
90-150	392.69	N.A.	16.40
90-180	1095.83	N.A.	45.60
110-180	1095.17	N.A.	45.60
0-180	2400.8	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	140.07
10-20	374.48
20-30	419.39
30-40	212.48
40-50	76.73
50-60	44.12
60-70	25.97
70-80	10.05
80-90	1.69
90-100	0.14
100-110	0.52
110-120	10.83
120-130	62.79
130-140	119.48
140-150	198.92
150-160	293.61
160-170	286.51
170-180	123.03

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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	108	108	108	108	100	100	100	100	86	86	86	72	72	72	60	60	60	54
1	101	98	95	92	94	91	88	86	79	77	75	67	66	65	57	56	55	50
2	94	88	84	79	88	83	79	75	72	69	67	62	60	58	53	52	51	47
3	88	80	75	70	82	76	70	66	66	63	60	58	55	53	50	48	47	43
4	82	73	67	62	77	69	64	59	61	57	54	54	51	48	47	45	43	40
5	77	67	61	56	72	64	58	54	57	52	49	50	47	44	44	42	40	37
6	72	62	56	51	68	59	53	49	53	48	45	47	44	41	42	39	37	35
7	68	58	51	46	64	55	49	45	49	45	41	44	41	38	39	37	35	33
8	64	54	47	43	60	51	45	41	46	42	38	42	38	35	37	35	33	31
9	60	50	44	39	57	48	42	38	43	39	36	39	36	33	35	33	31	29
10	57	47	41	36	54	45	39	35	41	36	33	37	34	31	34	31	29	27

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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	13.7	14.4	14.7	15.4	16.6	13.6	14.3	14.6	15.3	16.5
	3H	14.8	15.4	15.8	16.4	17.6	14.8	15.4	15.7	16.3	17.6
	4H	15.0	15.6	16.0	16.6	17.8	15.0	15.6	16.0	16.5	17.8
	6H	15.0	15.6	16.0	16.5	17.8	15.0	15.5	16.0	16.5	17.8
	8H	15.0	15.5	16.0	16.5	17.8	15.0	15.5	16.0	16.5	17.7
	12H	15.0	15.5	16.0	16.4	17.7	14.9	15.4	15.9	16.4	17.7

### UGR Viewed Endwise

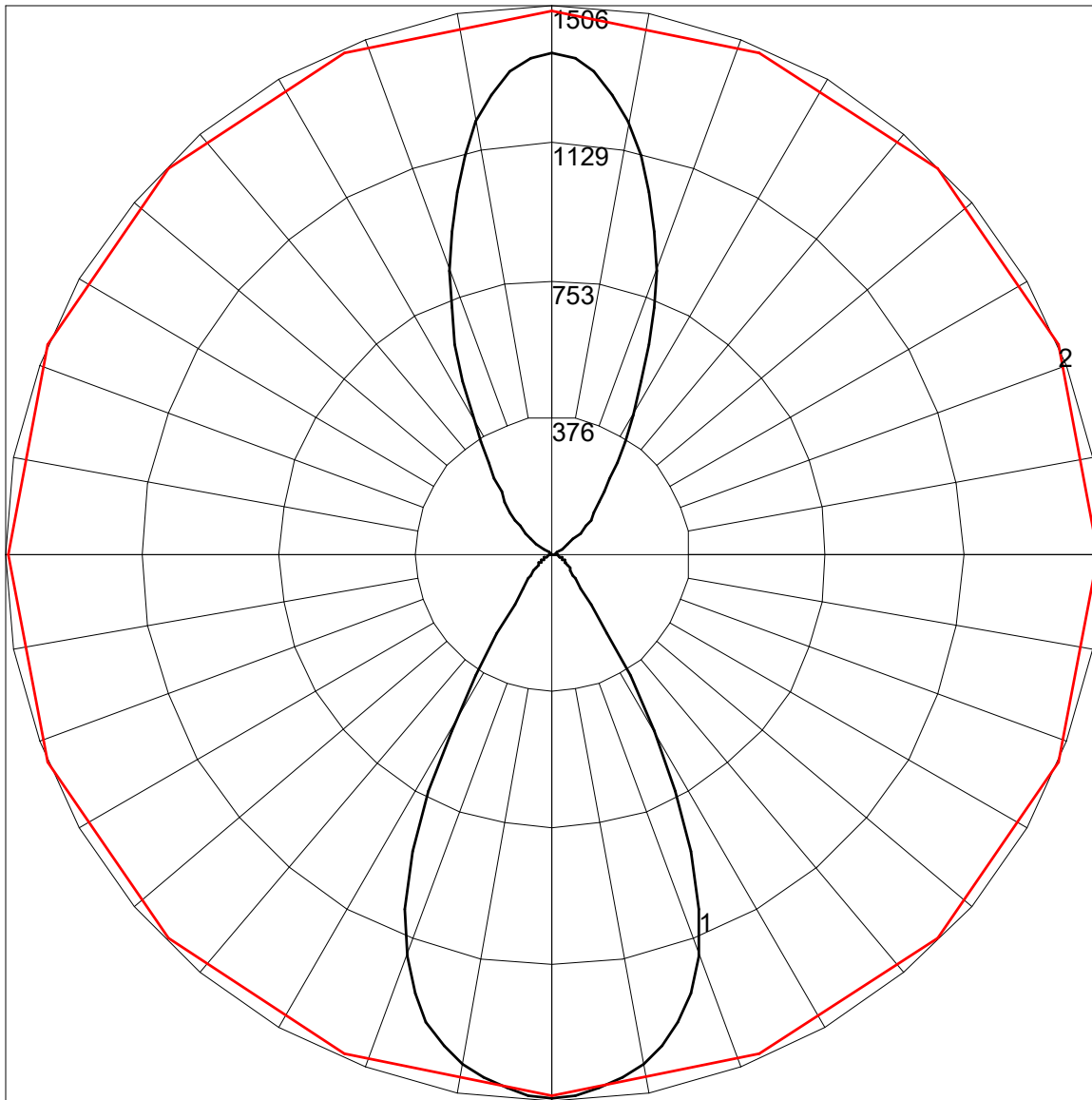
4H	2H	14.0	14.6	15.0	15.5	16.8	13.9	14.5	14.9	15.4	16.7
	3H	15.2	15.7	16.2	16.7	17.9	15.2	15.6	16.2	16.6	17.9
	4H	15.5	15.9	16.5	16.9	18.2	15.5	15.9	16.5	16.9	18.2
	6H	15.5	15.9	16.5	16.9	18.2	15.5	15.9	16.5	16.9	18.2
	8H	15.5	15.9	16.5	16.9	18.2	15.5	15.9	16.5	16.8	18.1
	12H	15.5	15.8	16.5	16.8	18.1	15.5	15.8	16.5	16.8	18.1
8H	4H	15.5	15.8	16.5	16.8	18.1	15.5	15.8	16.5	16.8	18.1
	6H	15.6	15.8	16.6	16.9	18.2	15.5	15.8	16.6	16.9	18.2
	8H	15.6	15.8	16.6	16.9	18.2	15.6	15.8	16.6	16.8	18.2
	12H	15.6	15.8	16.6	16.8	18.2	15.6	15.8	16.6	16.8	18.2
12H	4H	15.4	15.7	16.5	16.8	18.1	15.4	15.7	16.4	16.7	18.0
	6H	15.5	15.8	16.6	16.8	18.1	15.5	15.8	16.5	16.8	18.1
	8H	15.6	15.8	16.6	16.8	18.1	15.5	15.7	16.6	16.8	18.1

Maximum UGR = 18.2

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## POLAR GRAPH



Maximum Candela = 1505.862 Located At Horizontal Angle = 22.5, Vertical Angle = 2.5

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

# 2 - Horizontal Cone Through Vertical Angle (2.5) (Through Max. Cd.)