



## IES INDOOR REPORT

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

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #13537338.12 and #13257153.21

[TESTLAB]

[ISSUE DATE] 9-FEB-2021

[MANUFAC] H E Williams Inc

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

[MORE]

[LUMINAIRE] White formed aluminum housing, wide distrib anodized aluminum reflector trim w/clear cover glass 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	2029
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	72
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 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	0.738	0.984	1.599	3.014	2.891	3.014	1.599	0.984	0.738
95.0	0.861	1.169	1.722	3.075	3.014	3.075	1.722	1.169	0.861
97.5	0.984	1.292	1.907	3.198	3.075	3.198	1.907	1.292	0.984
100.0	1.107	1.476	2.091	3.321	3.198	3.321	2.091	1.476	1.107
102.5	1.230	1.599	2.276	3.444	3.383	3.444	2.276	1.599	1.230
105.0	1.415	1.845	2.460	3.629	3.506	3.629	2.460	1.845	1.415
107.5	1.661	2.091	2.706	3.813	3.752	3.813	2.706	2.091	1.661
110.0	1.907	2.399	3.137	3.998	3.998	3.998	3.137	2.399	1.907
112.5	2.276	2.768	4.305	4.305	4.305	4.305	4.305	2.768	2.276
115.0	2.706	4.428	7.749	7.073	4.797	7.073	7.749	4.428	2.706
117.5	4.367	8.733	14.760	12.792	10.025	12.792	14.760	8.733	4.367
120.0	12.485	18.512	25.092	22.632	16.913	22.632	25.092	18.512	12.485
122.5	23.309	32.718	38.807	35.363	29.520	35.363	38.807	32.718	23.309
125.0	40.467	50.123	53.874	50.922	44.711	50.922	53.874	50.123	40.467
127.5	61.070	68.634	69.680	68.019	63.222	68.019	69.680	68.634	61.070
130.0	82.103	86.838	86.838	86.100	83.763	86.100	86.838	86.838	82.103
132.5	105.596	106.149	105.842	105.719	107.195	105.719	105.842	106.149	105.596

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<b>135.0</b>	130.442	127.367	127.244	127.490	132.164	127.490	127.244	127.367	130.442
<b>137.5</b>	157.256	152.090	153.012	152.828	159.224	152.828	153.012	152.090	157.256
<b>140.0</b>	187.637	183.024	187.821	185.115	190.220	185.115	187.821	183.024	187.637
<b>142.5</b>	225.705	223.553	235.545	228.350	230.810	228.350	235.545	223.553	225.705
<b>145.0</b>	274.844	280.133	299.013	284.930	282.654	284.930	299.013	280.133	274.844
<b>147.5</b>	342.555	356.393	377.180	359.960	351.965	359.960	377.180	356.393	342.555
<b>150.0</b>	434.805	452.025	468.630	453.378	441.140	453.378	468.630	452.025	434.805
<b>152.5</b>	554.792	563.463	568.937	555.468	545.628	555.468	568.937	563.463	554.792
<b>155.0</b>	685.725	686.340	677.730	664.815	655.590	664.815	677.730	686.340	685.725
<b>157.5</b>	816.105	814.875	797.040	784.125	775.515	784.125	797.040	814.875	816.105
<b>160.0</b>	940.950	939.105	923.115	910.815	902.820	910.815	923.115	939.105	940.950
<b>162.5</b>	1064.565	1060.260	1046.115	1033.200	1024.590	1033.200	1046.115	1060.260	1064.565
<b>165.0</b>	1177.725	1178.340	1167.885	1153.740	1146.360	1153.740	1167.885	1178.340	1177.725
<b>167.5</b>	1281.045	1281.045	1274.895	1265.055	1258.905	1265.055	1274.895	1281.045	1281.045
<b>170.0</b>	1381.905	1378.830	1374.525	1368.375	1364.685	1368.375	1374.525	1378.830	1381.905
<b>172.5</b>	1462.470	1458.780	1456.320	1452.630	1450.785	1452.630	1456.320	1458.780	1462.470
<b>175.0</b>	1521.510	1518.435	1515.975	1514.130	1514.130	1514.130	1515.975	1518.435	1521.510
<b>177.5</b>	1555.950	1553.490	1551.030	1552.260	1551.645	1552.260	1551.030	1553.490	1555.950
<b>180.0</b>	1563.000	1563.000	1563.000	1563.000	1563.000	1563.000	1563.000	1563.000	1563.000

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Zone	Lumens	%Lamp	%Fixt
0-20	342.90	N.A.	16.90
0-30	589.36	N.A.	29.00
0-40	757.57	N.A.	37.30
0-60	907.57	N.A.	44.70
0-80	916.16	N.A.	45.20
0-90	916.28	N.A.	45.20
10-90	813.16	N.A.	40.10
20-40	414.67	N.A.	20.40
20-50	514.34	N.A.	25.30
40-70	158.17	N.A.	7.80
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	4.71	N.A.	0.20
90-120	12.54	N.A.	0.60
90-130	57.45	N.A.	2.80
90-150	342.26	N.A.	16.90
90-180	1112.7	N.A.	54.80
110-180	1107.99	N.A.	54.60
0-180	2028.97	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	1.93
100-110	2.78
110-120	7.83
120-130	44.91
130-140	100.48
140-150	184.34
150-160	308.42
160-170	321.81
170-180	140.19

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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	106	106	106	106	97	97	97	97	81	81	81	66	66	66	52	52	52	45
1	99	95	92	89	90	88	85	83	73	72	70	61	59	58	49	48	47	42
2	92	86	81	76	84	79	75	71	67	64	61	56	54	52	45	44	43	39
3	85	77	71	66	78	72	66	62	61	57	54	51	49	47	42	41	40	35
4	79	70	63	58	73	65	60	55	56	52	49	48	45	42	40	38	36	33
5	74	64	57	52	68	60	54	49	52	47	44	44	41	39	37	35	33	30
6	69	58	52	47	64	55	49	44	48	43	40	41	38	35	35	33	31	28
7	64	54	47	42	60	50	44	40	44	40	36	38	35	32	33	30	29	26
8	60	50	43	38	56	47	41	37	41	37	33	36	32	30	31	28	27	24
9	57	46	40	35	53	43	38	34	38	34	31	34	30	28	29	27	25	23
10	53	43	37	32	50	40	35	31	36	32	28	32	28	26	28	25	23	22

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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	2.6	3.3	3.6	4.3	5.6	2.9	3.6	3.9	4.6	5.9
	3H	2.5	3.0	3.4	4.0	5.4	2.7	3.3	3.7	4.3	5.7
	4H	2.5	2.8	3.3	3.9	5.2	2.6	3.2	3.6	4.2	5.6
	6H	2.5	2.7	3.2	3.7	5.1	2.5	3.0	3.5	4.0	5.4
	8H	2.5	2.6	3.2	3.6	5.0	2.5	2.9	3.5	4.0	5.3
	12H	2.5	2.5	3.1	3.5	4.9	2.5	2.8	3.4	3.9	5.3

### UGR Viewed Endwise

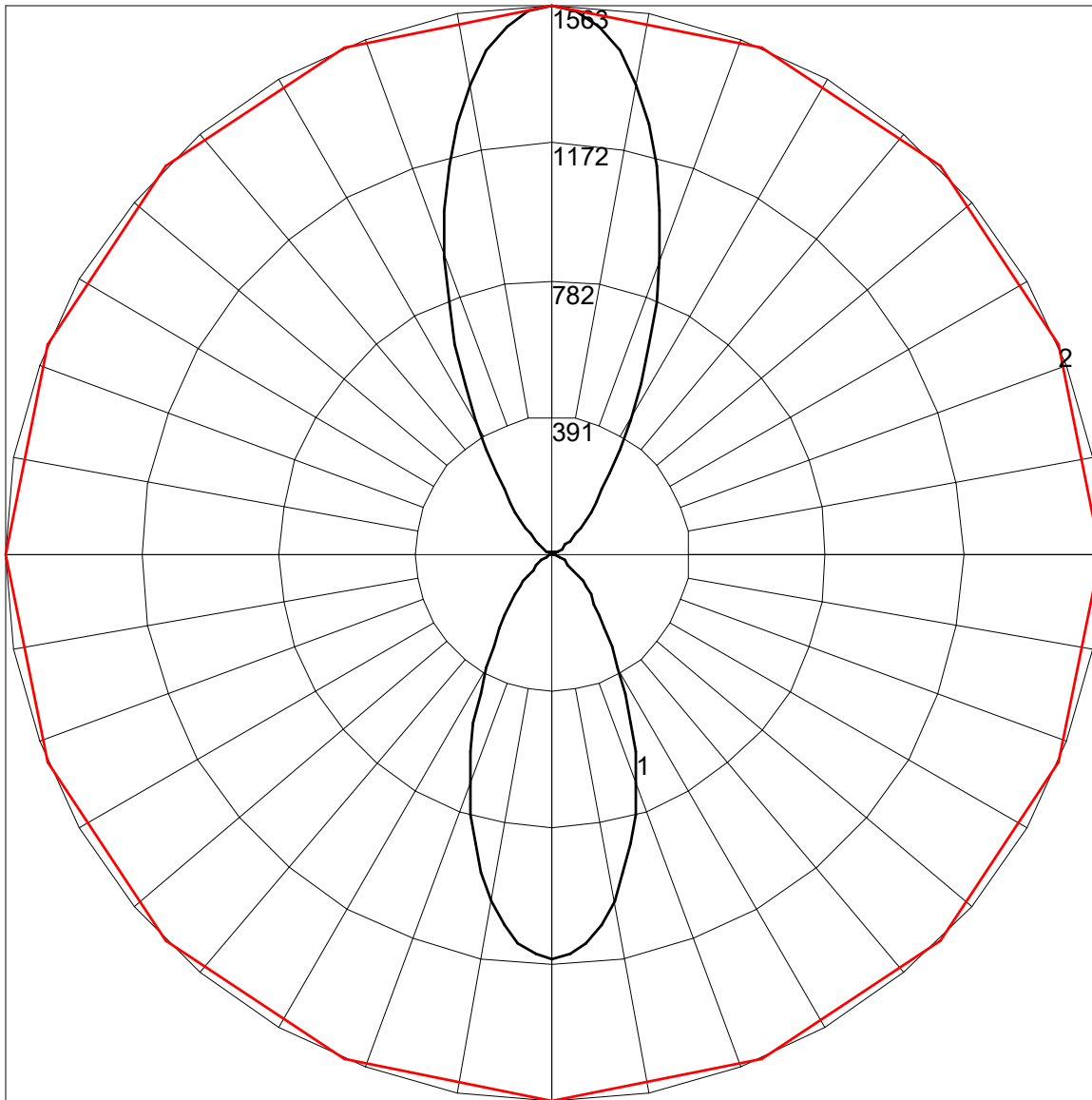
4H	2H	2.5	2.9	3.4	3.9	5.3	2.6	3.2	3.7	4.2	5.6
	3H	2.5	2.6	3.2	3.7	5.0	2.5	2.9	3.5	4.0	5.3
	4H	2.5	2.5	3.1	3.5	4.9	2.5	2.8	3.4	3.8	5.2
	6H	2.5	2.5	3.0	3.3	4.7	2.5	2.6	3.3	3.6	5.1
	8H	2.5	2.5	2.9	3.2	4.7	2.5	2.5	3.2	3.6	5.0
	12H	2.5	2.5	2.9	3.1	4.6	2.5	2.5	3.2	3.5	4.9
8H	4H	2.5	2.5	2.9	3.2	4.7	2.5	2.5	3.2	3.6	5.0
	6H	2.5	2.5	2.8	3.1	4.5	2.5	2.5	3.1	3.4	4.8
	8H	2.5	2.5	2.8	3.0	4.4	2.5	2.5	3.1	3.3	4.7
	12H	2.5	2.5	2.7	2.9	4.4	2.5	2.5	3.0	3.2	4.7
12H	4H	2.5	2.5	2.9	3.1	4.6	2.5	2.5	3.2	3.5	4.9
	6H	2.5	2.5	2.8	3.0	4.4	2.5	2.5	3.1	3.3	4.7
	8H	2.5	2.5	2.7	2.9	4.4	2.5	2.5	3.0	3.2	4.7

Maximum UGR = 5.9

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## POLAR GRAPH



Maximum Candela = 1563 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.)