



## IES INDOOR REPORT

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

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #13537338.12 and #13257153.19

[TESTLAB]

[ISSUE DATE] 9-FEB-2021

[MANUFAC] H E Williams Inc

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

[MORE]

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

[MORE] medium distrib white painted flush 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

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	2413
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	86
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	2787	2350	2800
55	1500	1213	1531
65	882	646	882
75	404	285	413
85	81	51	87

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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	3196.596	3196.596	3196.596	3196.596	3196.596	3196.596	3196.596	3196.596	3196.596
2.5	3156.296	3144.206	3146.624	3155.490	3159.520	3155.490	3146.624	3144.206	3156.296
5.0	3028.948	3019.276	3024.918	3031.366	3034.590	3031.366	3024.918	3019.276	3028.948
7.5	2848.404	2837.926	2841.956	2843.568	2842.762	2843.568	2841.956	2837.926	2848.404
10.0	2580.006	2574.364	2581.618	2571.946	2559.856	2571.946	2581.618	2574.364	2580.006
12.5	2163.304	2175.394	2196.350	2172.170	2146.378	2172.170	2196.350	2175.394	2163.304
15.0	1636.986	1668.420	1713.556	1682.122	1644.240	1682.122	1713.556	1668.420	1636.986
17.5	1134.042	1179.984	1243.658	1209.000	1163.864	1209.000	1243.658	1179.984	1134.042
20.0	767.715	817.284	886.600	846.300	799.713	846.300	886.600	817.284	767.715
22.5	554.206	596.601	660.114	613.608	570.406	613.608	660.114	596.601	554.206
25.0	428.631	464.981	524.787	471.913	431.371	471.913	524.787	464.981	428.631
27.5	337.553	373.097	431.774	375.515	335.860	375.515	431.774	373.097	337.553
30.0	266.705	298.865	356.494	300.477	268.479	300.477	356.494	298.865	266.705
32.5	218.829	240.349	289.112	244.218	222.456	244.218	289.112	240.349	218.829
35.0	186.992	200.372	232.370	204.402	189.007	204.402	232.370	200.372	186.992
37.5	163.779	172.484	190.458	175.063	163.779	175.063	190.458	172.484	163.779
40.0	143.146	150.722	160.716	151.931	143.146	151.931	160.716	150.722	143.146
42.5	123.802	131.862	138.148	132.668	124.043	132.668	138.148	131.862	123.802
45.0	106.795	114.855	120.255	115.742	107.279	115.742	120.255	114.855	106.795
47.5	92.206	99.460	104.861	100.589	93.093	100.589	104.861	99.460	92.206
50.0	80.036	86.161	90.917	87.451	81.245	87.451	90.917	86.161	80.036
52.5	70.444	75.200	78.988	76.731	71.815	76.731	78.988	75.200	70.444
55.0	62.787	66.414	68.832	67.785	64.077	67.785	68.832	66.414	62.787
57.5	56.501	58.838	60.128	60.047	57.548	60.047	60.128	58.838	56.501
60.0	50.939	52.229	52.551	53.115	51.100	53.115	52.551	52.229	50.939
62.5	44.894	46.023	45.620	46.426	44.894	46.426	45.620	46.023	44.894
65.0	38.930	39.736	39.172	39.897	38.930	39.897	39.172	39.736	38.930
67.5	33.288	33.610	33.127	34.013	33.368	34.013	33.127	33.610	33.288
70.0	27.968	28.049	27.565	28.532	28.129	28.532	27.565	28.049	27.968
72.5	22.890	22.890	22.407	23.374	23.213	23.374	22.407	22.890	22.890
75.0	18.216	18.216	17.813	18.538	18.619	18.538	17.813	18.216	18.216
77.5	13.944	13.863	13.541	14.105	14.266	14.105	13.541	13.863	13.944
80.0	10.075	9.914	9.672	10.156	10.478	10.156	9.672	9.914	10.075
82.5	6.609	6.367	6.206	6.609	6.932	6.609	6.206	6.367	6.609
85.0	3.627	3.385	3.224	3.546	3.869	3.546	3.224	3.385	3.627
87.5	0.645	0.887	0.967	1.048	1.128	1.048	0.967	0.887	0.645
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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135.0	130.442	127.367	127.244	127.490	132.164	127.490	127.244	127.367	130.442
137.5	157.256	152.090	153.012	152.828	159.224	152.828	153.012	152.090	157.256
140.0	187.637	183.024	187.821	185.115	190.220	185.115	187.821	183.024	187.637
142.5	225.705	223.553	235.545	228.350	230.810	228.350	235.545	223.553	225.705
145.0	274.844	280.133	299.013	284.930	282.654	284.930	299.013	280.133	274.844
147.5	342.555	356.393	377.180	359.960	351.965	359.960	377.180	356.393	342.555
150.0	434.805	452.025	468.630	453.378	441.140	453.378	468.630	452.025	434.805
152.5	554.792	563.463	568.937	555.468	545.628	555.468	568.937	563.463	554.792
155.0	685.725	686.340	677.730	664.815	655.590	664.815	677.730	686.340	685.725
157.5	816.105	814.875	797.040	784.125	775.515	784.125	797.040	814.875	816.105
160.0	940.950	939.105	923.115	910.815	902.820	910.815	923.115	939.105	940.950
162.5	1064.565	1060.260	1046.115	1033.200	1024.590	1033.200	1046.115	1060.260	1064.565
165.0	1177.725	1178.340	1167.885	1153.740	1146.360	1153.740	1167.885	1178.340	1177.725
167.5	1281.045	1281.045	1274.895	1265.055	1258.905	1265.055	1274.895	1281.045	1281.045
170.0	1381.905	1378.830	1374.525	1368.375	1364.685	1368.375	1374.525	1378.830	1381.905
172.5	1462.470	1458.780	1456.320	1452.630	1450.785	1452.630	1456.320	1458.780	1462.470
175.0	1521.510	1518.435	1515.975	1514.130	1514.130	1514.130	1515.975	1518.435	1521.510
177.5	1555.950	1553.490	1551.030	1552.260	1551.645	1552.260	1551.030	1553.490	1555.950
180.0	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	726.87	N.A.	30.10
0-30	955.00	N.A.	39.60
0-40	1088.06	N.A.	45.10
0-60	1237.66	N.A.	51.30
0-80	1296.45	N.A.	53.70
0-90	1300.77	N.A.	53.90
10-90	1025.89	N.A.	42.50
20-40	361.19	N.A.	15.00
20-50	450.43	N.A.	18.70
40-70	188.86	N.A.	7.80
60-80	58.79	N.A.	2.40
70-80	19.53	N.A.	0.80
80-90	4.33	N.A.	0.20
90-110	4.71	N.A.	0.20
90-120	12.54	N.A.	0.50
90-130	57.45	N.A.	2.40
90-150	342.26	N.A.	14.20
90-180	1112.7	N.A.	46.10
110-180	1107.99	N.A.	45.90
0-180	2413.47	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	274.89
10-20	451.98
20-30	228.13
30-40	133.06
40-50	89.24
50-60	60.36
60-70	39.26
70-80	19.53
80-90	4.33
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	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	78	77	75	67	66	65	56	56	55	50
2	94	89	84	80	88	83	79	75	72	69	67	62	60	59	53	52	51	47
3	88	81	75	70	82	76	71	67	67	63	60	58	56	53	50	49	47	43
4	83	74	68	63	77	70	65	60	62	58	55	54	52	49	48	46	44	41
5	78	69	62	57	73	65	59	55	58	54	50	51	48	46	45	43	41	39
6	73	64	57	53	69	60	55	51	54	50	47	48	45	43	43	41	39	37
7	69	59	53	49	65	57	51	47	51	47	43	46	43	40	41	39	37	35
8	66	56	49	45	62	53	48	44	48	44	41	44	40	38	39	37	35	33
9	62	52	46	42	59	50	45	41	46	41	38	42	38	36	38	35	34	32
10	59	50	44	40	56	47	42	39	44	39	36	40	37	34	36	34	32	30

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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	4.8	5.5	5.7	6.4	7.7	4.9	5.6	5.9	6.6	7.8
	3H	5.7	6.3	6.7	7.3	8.5	5.8	6.4	6.8	7.4	8.7
	4H	5.9	6.5	6.9	7.5	8.7	6.0	6.6	7.0	7.6	8.9
	6H	6.0	6.5	7.0	7.5	8.8	6.1	6.7	7.1	7.6	8.9
	8H	6.0	6.5	7.0	7.5	8.8	6.1	6.6	7.1	7.6	8.9
	12H	5.9	6.4	6.9	7.4	8.7	6.1	6.5	7.1	7.5	8.8

### UGR Viewed Endwise

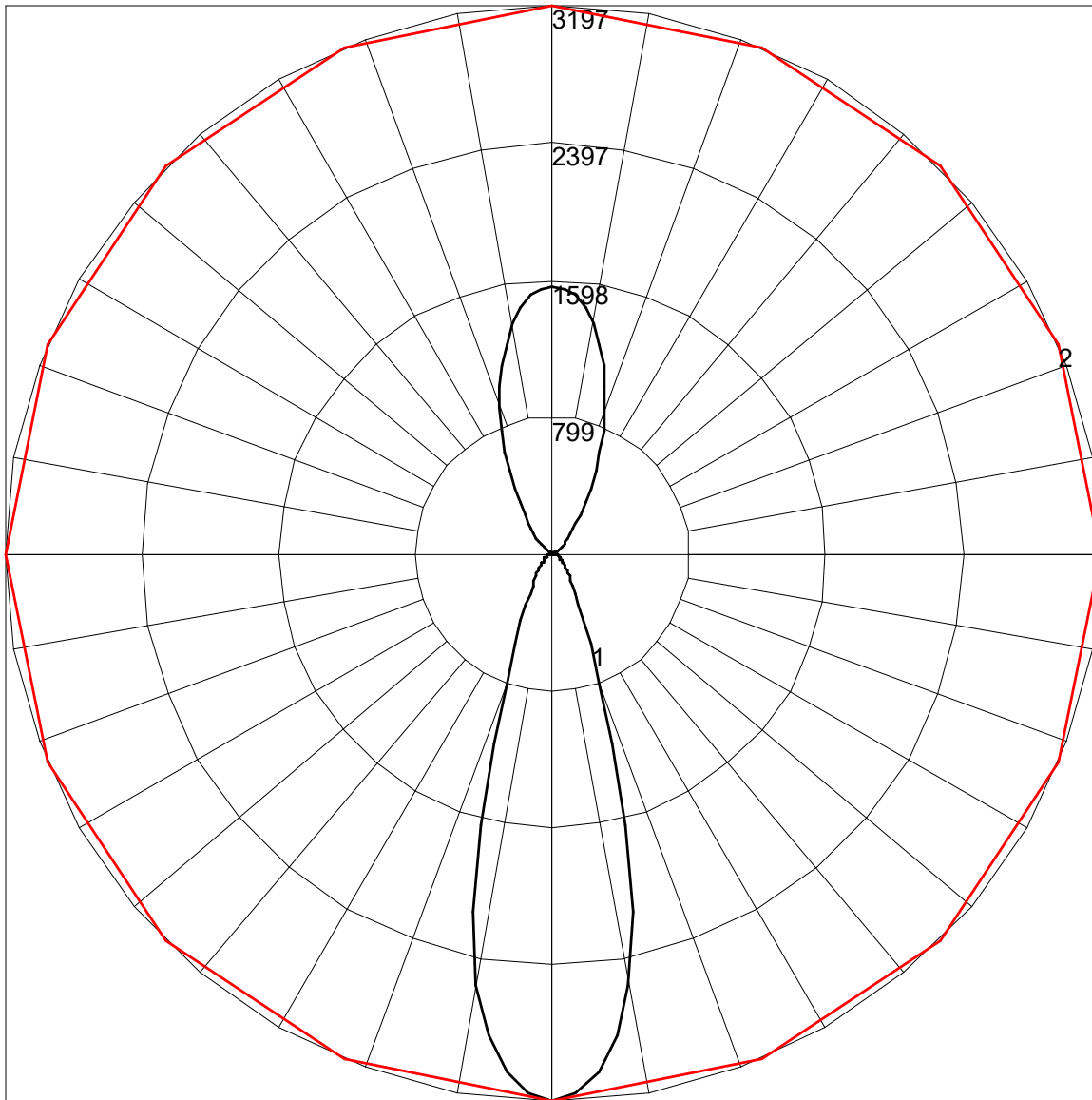
4H	2H	5.0	5.6	6.0	6.5	7.8	5.1	5.7	6.1	6.6	7.9
	3H	6.0	6.5	7.0	7.5	8.8	6.1	6.6	7.1	7.6	8.9
	4H	6.3	6.8	7.3	7.7	9.0	6.4	6.9	7.4	7.8	9.2
	6H	6.4	6.8	7.4	7.8	9.1	6.5	6.9	7.6	7.9	9.2
	8H	6.4	6.8	7.5	7.8	9.1	6.5	6.9	7.6	7.9	9.2
	12H	6.4	6.7	7.4	7.7	9.0	6.5	6.8	7.5	7.8	9.2
8H	4H	6.3	6.7	7.3	7.7	9.0	6.4	6.8	7.4	7.8	9.1
	6H	6.5	6.8	7.5	7.8	9.1	6.6	6.9	7.6	7.9	9.2
	8H	6.5	6.7	7.5	7.8	9.1	6.6	6.8	7.6	7.9	9.2
	12H	6.5	6.7	7.5	7.7	9.1	6.6	6.8	7.6	7.8	9.2
12H	4H	6.2	6.6	7.3	7.6	8.9	6.3	6.7	7.4	7.7	9.0
	6H	6.4	6.7	7.5	7.7	9.1	6.5	6.8	7.6	7.8	9.2
	8H	6.4	6.7	7.5	7.7	9.1	6.5	6.8	7.6	7.8	9.2

Maximum UGR = 9.2

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## POLAR GRAPH



Maximum Candela = 3196.596 Located At Horizontal Angle = 0, Vertical Angle = 0

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

# 2 - Horizontal Cone Through Vertical Angle (0) (Through Max. Cd.)