



IES INDOOR REPORT

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

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #13537338.12 and #13257153.18

[TESTLAB]

[ISSUE DATE] 9-FEB-2021

[MANUFAC] H E Williams Inc

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

[MORE]

[LUMINAIRE] White formed aluminum housing, wide distrib anodized aluminum reflector trim w/clear cover glass 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	2000
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	71
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	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	0.738	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	331.75	N.A.	16.60
0-30	569.59	N.A.	28.50
0-40	730.72	N.A.	36.50
0-60	878.37	N.A.	43.90
0-80	887.57	N.A.	44.40
0-90	887.68	N.A.	44.40
10-90	788.02	N.A.	39.40
20-40	398.97	N.A.	19.90
20-50	495.76	N.A.	24.80
40-70	156.43	N.A.	7.80
60-80	9.20	N.A.	0.50
70-80	0.42	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.	2.90
90-150	342.26	N.A.	17.10
90-180	1112.7	N.A.	55.60
110-180	1107.99	N.A.	55.40
0-180	2000.38	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	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	106	106	106	106	97	97	97	97	80	80	80	65	65	65	51	51	51	44
1	98	95	92	89	90	87	85	82	73	71	70	60	59	58	48	47	47	41
2	91	85	80	76	84	79	75	71	67	64	61	55	53	52	45	44	43	38
3	85	77	71	66	78	71	66	62	61	57	54	51	48	46	42	40	39	35
4	79	70	63	58	73	65	59	55	56	51	48	47	44	42	39	37	36	32
5	73	64	57	52	68	59	53	49	51	47	43	44	40	38	36	34	33	30
6	68	58	51	46	63	54	48	44	47	43	39	40	37	35	34	32	30	28
7	64	53	47	42	59	50	44	40	44	39	36	38	34	32	32	30	28	26
8	60	49	43	38	56	46	40	36	41	36	33	35	32	30	30	28	26	24
9	56	46	39	35	52	43	37	33	38	33	30	33	30	27	29	26	25	23
10	53	43	36	32	49	40	35	31	36	31	28	31	28	26	27	25	23	21

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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	2.8	3.5	3.9	4.5	5.9	3.1	3.8	4.2	4.8	6.2
	3H	2.6	3.2	3.7	4.3	5.6	2.9	3.5	4.0	4.6	5.9
	4H	2.5	3.1	3.6	4.1	5.5	2.8	3.4	3.9	4.4	5.8
	6H	2.4	2.9	3.5	4.0	5.4	2.7	3.2	3.8	4.3	5.7
	8H	2.4	2.8	3.4	3.9	5.3	2.6	3.1	3.7	4.2	5.6
	12H	2.4	2.7	3.3	3.8	5.2	2.6	3.1	3.7	4.1	5.5

UGR Viewed Endwise

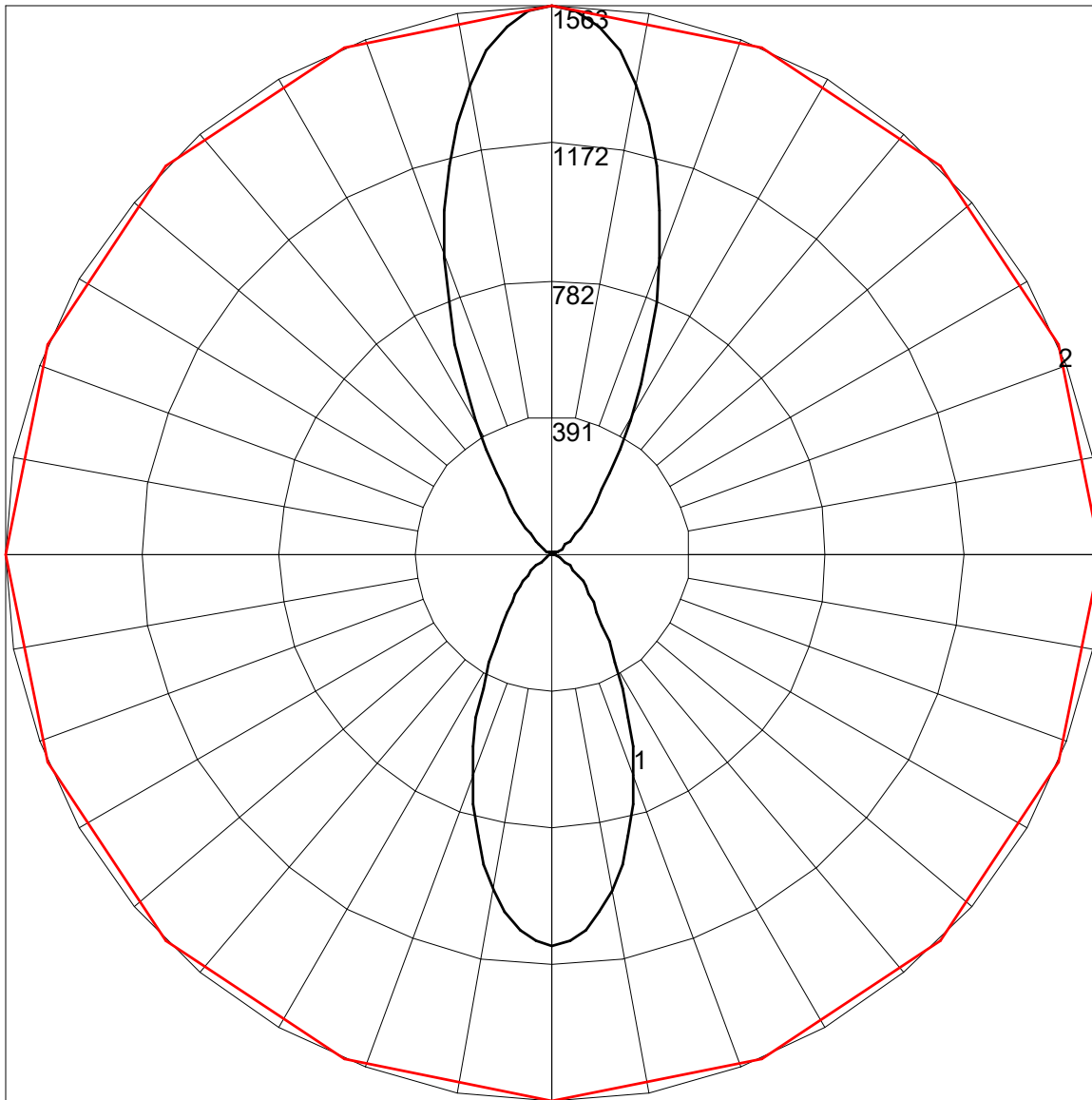
4H	2H	2.6	3.1	3.7	4.2	5.6	2.9	3.4	4.0	4.5	5.9
	3H	2.4	2.8	3.4	3.9	5.3	2.7	3.1	3.7	4.2	5.6
	4H	2.4	2.7	3.3	3.7	5.2	2.6	3.0	3.6	4.0	5.5
	6H	2.4	2.5	3.2	3.6	5.0	2.5	2.8	3.5	3.9	5.3
	8H	2.4	2.4	3.2	3.5	4.9	2.4	2.7	3.5	3.8	5.2
	12H	2.4	2.4	3.1	3.4	4.8	2.4	2.6	3.4	3.7	5.1
8H	4H	2.4	2.4	3.2	3.5	4.9	2.4	2.7	3.5	3.8	5.2
	6H	2.4	2.4	3.1	3.4	4.8	2.4	2.5	3.4	3.7	5.1
	8H	2.4	2.4	3.0	3.2	4.7	2.4	2.5	3.3	3.5	5.0
	12H	2.4	2.4	3.0	3.1	4.6	2.4	2.4	3.3	3.4	4.9
12H	4H	2.4	2.4	3.1	3.4	4.8	2.4	2.6	3.4	3.7	5.1
	6H	2.4	2.4	3.0	3.2	4.7	2.4	2.4	3.3	3.5	5.0
	8H	2.4	2.4	3.0	3.1	4.6	2.4	2.4	3.3	3.4	4.9

Maximum UGR = 6.2

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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.)