



IES INDOOR REPORT

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

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #13537338.12 and #13257153.16

[TESTLAB]

[ISSUE DATE] 9-FEB-2021

[MANUFAC] H E Williams Inc

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

[MORE]

[LUMINAIRE] White formed aluminum housing, wide 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

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	2418
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	2152	2194	2106
55	1111	885	1087
65	602	405	604
75	208	138	210
85	33	23	33

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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	1501.827	1501.827	1501.827	1501.827	1501.827	1501.827	1501.827	1501.827	1501.827
2.5	1499.406	1505.862	1498.599	1492.950	1491.336	1492.950	1498.599	1505.862	1499.406
5.0	1484.880	1491.336	1484.880	1478.424	1476.810	1478.424	1484.880	1491.336	1484.880
7.5	1463.898	1469.547	1463.091	1457.442	1454.214	1457.442	1463.091	1469.547	1463.898
10.0	1435.653	1442.109	1435.653	1429.197	1426.776	1429.197	1435.653	1442.109	1435.653
12.5	1396.917	1404.180	1397.724	1392.075	1388.847	1392.075	1397.724	1404.180	1396.917
15.0	1344.462	1352.532	1347.690	1342.041	1337.199	1342.041	1347.690	1352.532	1344.462
17.5	1275.060	1283.937	1281.516	1275.867	1269.411	1275.867	1281.516	1283.937	1275.060
20.0	1182.255	1194.360	1197.588	1189.518	1178.220	1189.518	1197.588	1194.360	1182.255
22.5	1061.205	1078.959	1091.871	1076.538	1057.977	1076.538	1091.871	1078.959	1061.205
25.0	908.682	938.541	965.172	937.734	907.068	937.734	965.172	938.541	908.682
27.5	738.324	778.755	818.298	776.818	734.773	776.818	818.298	778.755	738.324
30.0	571.275	614.450	659.965	607.671	560.300	607.671	659.965	614.450	571.275
32.5	414.717	459.829	508.006	450.467	397.367	450.467	508.006	459.829	414.717
35.0	277.366	329.740	375.336	318.039	263.808	318.039	375.336	329.740	277.366
37.5	184.319	225.395	273.734	217.002	174.715	217.002	273.734	225.395	184.319
40.0	129.443	156.719	201.346	149.941	123.148	149.941	201.346	156.719	129.443
42.5	99.907	114.917	149.779	110.398	95.952	110.398	149.779	114.917	99.907
45.0	82.475	91.352	112.254	88.609	80.700	88.609	112.254	91.352	82.475
47.5	70.612	76.504	87.640	75.212	69.483	75.212	87.640	76.504	70.612
50.0	61.171	65.690	71.258	64.883	60.202	64.883	71.258	65.690	61.171
52.5	53.181	56.974	59.557	56.248	52.294	56.248	59.557	56.974	53.181
55.0	46.483	49.388	50.195	48.743	45.515	48.743	50.195	49.388	46.483
57.5	40.834	42.771	42.367	42.206	40.108	42.206	42.367	42.771	40.834
60.0	35.911	36.880	35.589	36.557	35.508	36.557	35.589	36.880	35.911
62.5	31.069	31.473	29.778	31.392	31.069	31.392	29.778	31.473	31.069
65.0	26.550	26.470	24.533	26.550	26.631	26.550	24.533	26.470	26.550
67.5	22.112	21.789	19.933	21.950	22.192	21.950	19.933	21.789	22.112
70.0	17.835	17.431	15.817	17.673	17.996	17.673	15.817	17.431	17.835
72.5	13.558	13.315	12.024	13.477	13.800	13.477	12.024	13.315	13.558
75.0	9.361	9.442	8.635	9.603	9.442	9.603	8.635	9.442	9.361
77.5	4.761	5.568	5.730	5.649	5.165	5.649	5.730	5.568	4.761
80.0	3.470	3.470	3.551	3.389	3.389	3.389	3.551	3.470	3.470
82.5	2.421	2.421	2.340	2.340	2.340	2.340	2.340	2.421	2.421
85.0	1.453	1.453	1.453	1.453	1.453	1.453	1.453	1.453	1.453
87.5	0.646	0.646	0.646	0.646	0.646	0.646	0.646	0.646	0.646
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	514.55	N.A.	21.30
0-30	933.94	N.A.	38.60
0-40	1146.42	N.A.	47.40
0-60	1267.27	N.A.	52.40
0-80	1303.28	N.A.	53.90
0-90	1304.97	N.A.	54.00
10-90	1164.9	N.A.	48.20
20-40	631.87	N.A.	26.10
20-50	708.60	N.A.	29.30
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	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.	46.00
110-180	1107.99	N.A.	45.80
0-180	2417.66	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	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	94	92	94	91	88	86	78	77	75	67	66	65	56	56	55	50
2	94	88	83	79	88	83	78	75	72	69	66	62	60	58	53	52	50	46
3	88	80	74	70	82	75	70	66	66	62	59	58	55	53	50	48	46	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	53	57	52	49	50	47	44	44	42	40	37
6	72	62	55	51	67	59	53	49	53	48	45	47	43	41	41	39	37	35
7	68	57	51	46	64	55	49	44	49	45	41	44	40	38	39	37	35	32
8	64	53	47	42	60	51	45	41	46	41	38	41	38	35	37	34	32	30
9	60	50	43	39	57	48	42	38	43	39	35	39	35	33	35	32	31	29
10	57	47	40	36	54	45	39	35	41	36	33	37	33	31	33	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	3.1	3.3	3.6	4.2	5.5	3.1	3.2	3.5	4.1	5.4
	3H	3.3	3.9	4.3	4.9	6.1	3.3	3.9	4.2	4.8	6.1
	4H	3.4	4.0	4.4	5.0	6.2	3.4	3.9	4.3	4.9	6.2
	6H	3.3	3.9	4.3	4.8	6.1	3.3	3.8	4.3	4.8	6.1
	8H	3.3	3.8	4.3	4.8	6.0	3.2	3.8	4.2	4.7	6.0
	12H	3.2	3.7	4.2	4.7	6.0	3.2	3.7	4.2	4.7	5.9

UGR Viewed Endwise

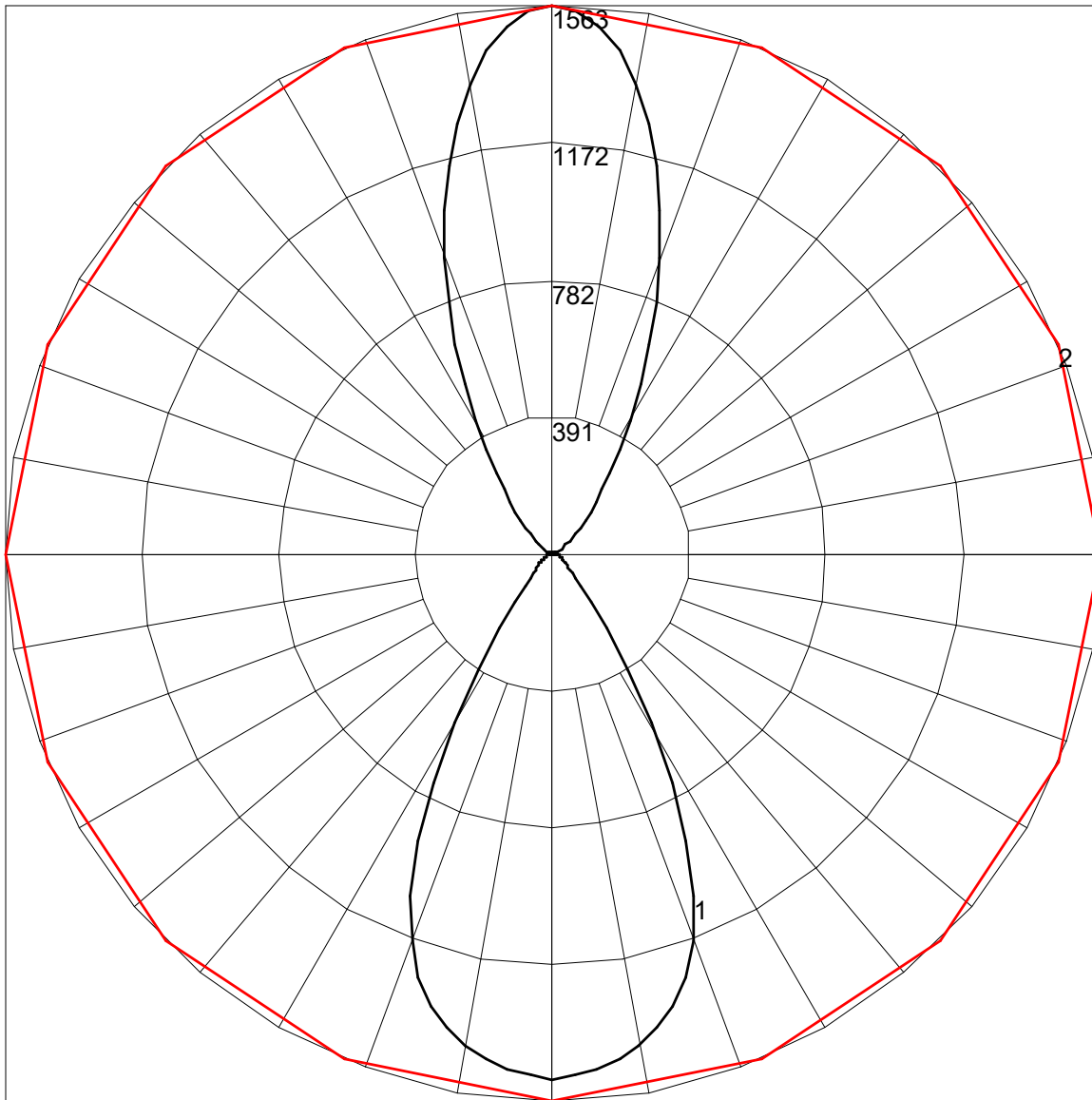
4H	2H	3.1	3.3	3.7	4.2	5.5	3.1	3.2	3.6	4.1	5.4
	3H	3.5	4.0	4.5	5.0	6.2	3.4	3.9	4.4	4.9	6.2
	4H	3.6	4.1	4.6	5.0	6.3	3.6	4.0	4.6	5.0	6.3
	6H	3.6	4.0	4.6	5.0	6.2	3.5	3.9	4.5	4.9	6.2
	8H	3.5	3.9	4.5	4.9	6.2	3.5	3.8	4.5	4.8	6.1
	12H	3.5	3.8	4.5	4.8	6.1	3.4	3.7	4.4	4.8	6.1
8H	4H	3.5	3.9	4.5	4.9	6.2	3.5	3.8	4.5	4.8	6.1
	6H	3.5	3.8	4.5	4.8	6.1	3.5	3.8	4.5	4.8	6.1
	8H	3.5	3.7	4.5	4.7	6.1	3.4	3.7	4.5	4.7	6.0
	12H	3.4	3.6	4.4	4.7	6.0	3.4	3.6	4.4	4.6	6.0
12H	4H	3.5	3.8	4.5	4.8	6.1	3.4	3.7	4.4	4.8	6.1
	6H	3.4	3.7	4.5	4.7	6.1	3.4	3.7	4.4	4.7	6.0
	8H	3.4	3.6	4.4	4.6	6.0	3.4	3.6	4.4	4.6	6.0

Maximum UGR = 6.3

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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.)