



IES INDOOR REPORT

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

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #13257153.18

[TESTLAB]

[ISSUE DATE] 8-FEB-2021

[MANUFAC] H E Williams Inc

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

[MORE]

[LUMINAIRE] White formed aluminum housing, medium 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

[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	1984
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	70
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-OM-CSD-WM_.IES****LUMINANCE DATA (cd/sq.m)**

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	44851	40402	47032
55	24170	23507	25184
65	759	5546	806
75	387	387	387
85	231	231	231

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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	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100
95.0	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100
97.5	0.199	0.199	0.199	0.199	0.199	0.199	0.199	0.199	0.199
100.0	0.199	0.199	0.199	0.199	0.299	0.199	0.199	0.199	0.199
102.5	0.299	0.299	0.299	0.299	0.398	0.299	0.299	0.299	0.299
105.0	0.498	0.498	0.498	0.498	0.498	0.498	0.498	0.498	0.498
107.5	0.597	0.597	0.597	0.597	0.697	0.597	0.597	0.597	0.597
110.0	0.896	0.796	1.095	0.896	0.896	0.896	1.095	0.796	0.896
112.5	1.194	1.095	3.682	1.194	1.294	1.194	3.682	1.095	1.194
115.0	1.592	4.975	11.642	5.373	1.692	5.373	11.642	4.975	1.592
117.5	11.144	19.701	23.681	20.000	10.348	20.000	23.681	19.701	11.144
120.0	29.950	37.014	37.213	38.407	30.149	38.407	37.213	37.014	29.950
122.5	49.153	53.233	51.740	55.720	51.044	55.720	51.740	53.233	49.153
125.0	68.854	69.750	66.964	73.232	71.740	73.232	66.964	69.750	68.854
127.5	90.147	86.963	82.784	91.341	93.829	91.341	82.784	86.963	90.147
130.0	111.938	105.868	99.600	110.744	116.813	110.744	99.600	105.868	111.938
132.5	134.126	126.863	118.803	132.236	140.594	132.236	118.803	126.863	134.126

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135.0	157.509	150.444	141.887	156.016	165.170	156.016	141.887	150.444	157.509
137.5	183.478	178.006	171.837	183.777	191.836	183.777	171.837	178.006	183.478
140.0	214.821	212.134	211.836	217.408	222.880	217.408	211.836	212.134	214.821
142.5	253.228	254.919	263.476	258.999	260.193	258.999	263.476	254.919	253.228
145.0	300.888	308.550	324.967	310.938	306.560	310.938	324.967	308.550	300.888
147.5	362.280	376.409	395.115	377.006	366.558	377.006	395.115	376.409	362.280
150.0	441.084	459.491	473.322	458.098	443.074	458.098	473.322	459.491	441.084
152.5	536.504	552.225	557.897	549.539	534.614	549.539	557.897	552.225	536.504
155.0	638.094	647.646	649.636	645.059	633.915	645.059	649.636	647.646	638.094
157.5	735.206	742.867	745.255	740.877	731.027	740.877	745.255	742.867	735.206
160.0	831.223	839.084	843.263	838.288	829.532	838.288	843.263	839.084	831.223
162.5	930.126	937.489	943.260	936.793	930.226	936.793	943.260	937.489	930.126
165.0	1028.830	1033.805	1040.770	1033.805	1027.835	1033.805	1040.770	1033.805	1028.830
167.5	1122.360	1125.345	1129.325	1124.350	1121.365	1124.350	1129.325	1125.345	1122.360
170.0	1206.935	1207.930	1206.935	1206.935	1205.940	1206.935	1206.935	1207.930	1206.935
172.5	1276.585	1276.585	1274.595	1274.595	1275.590	1274.595	1274.595	1276.585	1276.585
175.0	1330.315	1331.310	1329.320	1329.320	1330.315	1329.320	1329.320	1331.310	1330.315
177.5	1368.125	1368.125	1365.140	1366.135	1367.130	1366.135	1365.140	1368.125	1368.125
180.0	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	331.75	N.A.	16.70
0-30	569.59	N.A.	28.70
0-40	730.72	N.A.	36.80
0-60	878.37	N.A.	44.30
0-80	887.57	N.A.	44.70
0-90	887.68	N.A.	44.80
10-90	788.02	N.A.	39.70
20-40	398.97	N.A.	20.10
20-50	495.76	N.A.	25.00
40-70	156.43	N.A.	7.90
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	0.66	N.A.	0.00
90-120	11.49	N.A.	0.60
90-130	74.28	N.A.	3.70
90-150	392.69	N.A.	19.80
90-180	1095.83	N.A.	55.20
110-180	1095.17	N.A.	55.20
0-180	1983.51	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	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	106	106	106	106	97	97	97	97	80	80	80	65	65	65	51	51	51	45
1	98	95	92	89	90	87	85	82	73	71	70	60	59	58	48	48	47	41
2	91	85	80	76	84	79	75	71	67	64	61	55	54	52	45	44	43	38
3	85	77	71	66	78	71	66	62	61	57	54	51	49	47	42	40	39	35
4	79	70	63	58	73	65	59	55	56	52	48	47	44	42	39	37	36	32
5	73	64	57	52	68	59	53	49	51	47	44	44	41	38	37	35	33	30
6	69	58	51	46	63	54	48	44	47	43	39	41	37	35	34	32	31	28
7	64	54	47	42	59	50	44	40	44	39	36	38	35	32	32	30	28	26
8	60	49	43	38	56	46	41	36	41	36	33	35	32	30	30	28	26	24
9	57	46	39	35	53	43	37	33	38	34	30	33	30	28	29	26	25	23
10	53	43	36	32	50	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	14.0	14.7	15.0	15.7	17.0	14.3	15.0	15.3	16.0	17.3
	3H	13.8	14.4	14.8	15.4	16.8	14.1	14.7	15.1	15.7	17.1
	4H	13.7	14.2	14.7	15.3	16.7	14.0	14.5	15.0	15.6	17.0
	6H	13.6	14.1	14.6	15.1	16.5	13.9	14.4	14.9	15.4	16.8
	8H	13.5	14.0	14.6	15.0	16.4	13.8	14.3	14.9	15.3	16.7
	12H	13.5	13.9	14.5	15.0	16.4	13.8	14.2	14.8	15.3	16.7

UGR Viewed Endwise

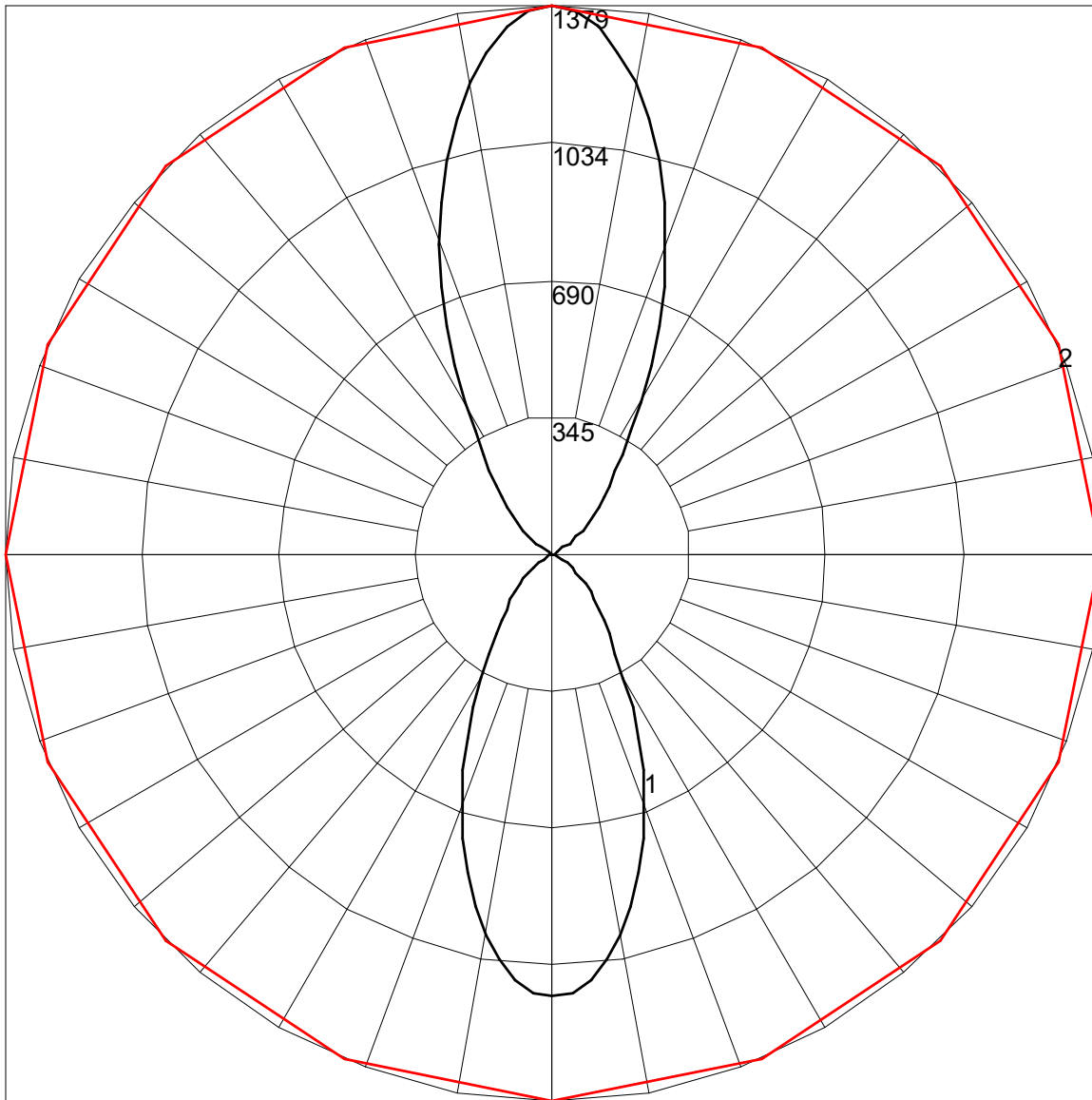
4H	2H	13.8	14.3	14.8	15.4	16.8	14.1	14.6	15.1	15.7	17.1
	3H	13.6	14.0	14.7	15.1	16.5	13.9	14.3	14.9	15.4	16.8
	4H	13.5	13.9	14.5	14.9	16.4	13.8	14.2	14.8	15.2	16.7
	6H	13.4	13.7	14.4	14.8	16.2	13.7	14.0	14.7	15.1	16.5
	8H	13.3	13.6	14.4	14.7	16.1	13.6	13.9	14.7	15.0	16.4
	12H	13.2	13.5	14.3	14.6	16.0	13.5	13.8	14.6	14.9	16.3
8H	4H	13.3	13.6	14.4	14.7	16.1	13.6	13.9	14.7	15.0	16.4
	6H	13.2	13.4	14.3	14.6	16.0	13.5	13.7	14.6	14.8	16.3
	8H	13.1	13.4	14.2	14.4	15.9	13.4	13.6	14.5	14.7	16.2
	12H	13.0	13.3	14.2	14.3	15.8	13.3	13.5	14.5	14.6	16.1
12H	4H	13.2	13.5	14.3	14.6	16.0	13.5	13.8	14.6	14.9	16.3
	6H	13.1	13.3	14.2	14.4	15.9	13.4	13.6	14.5	14.7	16.2
	8H	13.0	13.3	14.2	14.3	15.8	13.3	13.5	14.5	14.6	16.1

Maximum UGR = 17.3

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POLAR GRAPH



Maximum Candela = 1379 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.)