



IES INDOOR REPORT

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

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #13257153.19 and #13257153.18

[TESTLAB]

[ISSUE DATE] 8-FEB-2021

[MANUFAC] H E Williams Inc

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

[MORE]

[LUMINAIRE] White formed aluminum housing, medium distrib white painted flush prismatic lens trim 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	2369
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	84
Total Luminaire Watts	28.2
Ballast Factor	1.00
CIE Type	Semi-Indirect
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-LM-WHU-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	0.734	1.010	1.102	1.193	1.285	1.193	1.102	1.010	0.734
95.0	4.131	3.856	3.672	4.039	4.406	4.039	3.672	3.856	4.131
97.5	7.528	7.252	7.069	7.528	7.895	7.528	7.069	7.252	7.528
100.0	11.475	11.291	11.016	11.567	11.934	11.567	11.016	11.291	11.475
102.5	15.881	15.790	15.422	16.065	16.249	16.065	15.422	15.790	15.881
105.0	20.747	20.747	20.288	21.114	21.206	21.114	20.288	20.747	20.747
107.5	26.071	26.071	25.520	26.622	26.438	26.622	25.520	26.071	26.071
110.0	31.855	31.946	31.396	32.497	32.038	32.497	31.396	31.946	31.855
112.5	37.913	38.281	37.730	38.740	38.005	38.740	37.730	38.281	37.913
115.0	44.339	45.257	44.615	45.441	44.339	45.441	44.615	45.257	44.339
117.5	51.133	52.418	51.959	52.877	51.133	52.877	51.959	52.418	51.133
120.0	58.018	59.486	59.854	60.496	58.201	60.496	59.854	59.486	58.018
122.5	64.352	67.014	68.483	68.391	65.545	68.391	68.483	67.014	64.352
125.0	71.512	75.643	78.397	77.204	72.981	77.204	78.397	75.643	71.512
127.5	80.233	85.649	89.964	87.394	81.794	87.394	89.964	85.649	80.233
130.0	91.157	98.134	103.550	99.603	92.534	99.603	103.550	98.134	91.157
132.5	105.019	113.281	119.432	114.566	106.029	114.566	119.432	113.281	105.019

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CANDELA TABULATION - (Cont.)

135.0	121.635	130.815	136.966	131.825	122.186	131.825	136.966	130.815	121.635
137.5	141.005	150.185	157.345	151.103	141.280	151.103	157.345	150.185	141.005
140.0	163.037	171.666	183.049	173.043	163.037	173.043	183.049	171.666	163.037
142.5	186.538	196.452	216.923	199.390	186.538	199.390	216.923	196.452	186.538
145.0	212.976	228.215	264.659	232.805	215.271	232.805	264.659	228.215	212.976
147.5	249.237	273.748	329.287	278.154	253.368	278.154	329.287	273.748	249.237
150.0	303.766	340.394	406.031	342.230	305.786	342.230	406.031	340.394	303.766
152.5	384.458	424.942	491.773	427.696	382.531	427.696	491.773	424.942	384.458
155.0	488.192	529.594	597.710	537.489	491.314	537.489	597.710	529.594	488.192
157.5	631.217	679.504	751.842	698.873	649.669	698.873	751.842	679.504	631.217
160.0	874.395	930.852	1009.800	963.900	910.840	963.900	1009.800	930.852	874.395
162.5	1291.626	1343.952	1416.474	1377.000	1325.592	1377.000	1416.474	1343.952	1291.626
165.0	1864.458	1900.260	1951.668	1915.866	1872.720	1915.866	1951.668	1900.260	1864.458
167.5	2463.912	2477.682	2501.550	2474.010	2444.634	2474.010	2501.550	2477.682	2463.912
170.0	2938.518	2932.092	2940.354	2929.338	2915.568	2929.338	2940.354	2932.092	2938.518
172.5	3244.213	3232.279	3236.869	3238.705	3237.787	3238.705	3236.869	3232.279	3244.213
175.0	3449.844	3438.828	3445.254	3452.598	3456.270	3452.598	3445.254	3438.828	3449.844
177.5	3594.888	3581.118	3583.872	3593.970	3598.560	3593.970	3583.872	3581.118	3594.888
180.0	3640.000	3640.000	3640.000	3640.000	3640.000	3640.000	3640.000	3640.000	3640.000

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Zone	Lumens	%Lamp	%Fixt
0-20	331.75	N.A.	14.00
0-30	569.59	N.A.	24.00
0-40	730.72	N.A.	30.80
0-60	878.37	N.A.	37.10
0-80	887.57	N.A.	37.50
0-90	887.68	N.A.	37.50
10-90	788.02	N.A.	33.30
20-40	398.97	N.A.	16.80
20-50	495.76	N.A.	20.90
40-70	156.43	N.A.	6.60
60-80	9.20	N.A.	0.40
70-80	0.42	N.A.	0.00
80-90	0.11	N.A.	0.00
90-110	27.17	N.A.	1.10
90-120	71.89	N.A.	3.00
90-130	140.63	N.A.	5.90
90-150	393.83	N.A.	16.60
90-180	1481.52	N.A.	62.50
110-180	1454.35	N.A.	61.40
0-180	2369.2	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	4.93
100-110	22.24
110-120	44.72
120-130	68.75
130-140	101.64
140-150	151.55
150-160	259.83
160-170	514.79
170-180	313.08

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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	104	104	104	104	94	94	94	94	76	76	76	60	60	60	45	45	45	37
1	97	93	90	87	88	85	82	80	69	67	66	55	54	53	42	41	41	35
2	89	83	78	74	81	76	72	68	63	60	57	50	49	47	39	38	37	32
3	83	75	69	64	75	69	63	59	57	53	50	46	44	42	36	35	34	29
4	77	68	61	56	70	62	56	52	52	48	45	43	40	38	34	32	31	27
5	71	61	54	49	65	57	51	46	48	43	40	39	36	34	32	30	28	25
6	66	56	49	44	61	52	46	41	44	39	36	37	33	31	30	28	26	23
7	62	51	44	39	57	48	42	37	41	36	33	34	31	29	28	26	24	22
8	58	47	40	36	53	44	38	34	38	33	30	32	29	26	26	24	23	20
9	54	44	37	33	50	41	35	31	35	31	28	30	27	24	25	23	21	19
10	51	40	34	30	47	38	32	28	33	28	25	28	25	23	23	21	20	18

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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	13.1	13.8	14.2	14.8	16.3	13.4	14.1	14.5	15.1	16.6
	3H	12.9	13.5	14.0	14.6	16.0	13.2	13.8	14.3	14.9	16.3
	4H	12.8	13.4	13.9	14.4	15.9	13.1	13.7	14.2	14.7	16.2
	6H	12.7	13.2	13.8	14.3	15.8	13.0	13.5	14.1	14.6	16.1
	8H	12.6	13.1	13.8	14.2	15.7	12.9	13.4	14.1	14.5	16.0
	12H	12.6	13.0	13.7	14.1	15.6	12.9	13.3	14.0	14.4	15.9

UGR Viewed Endwise

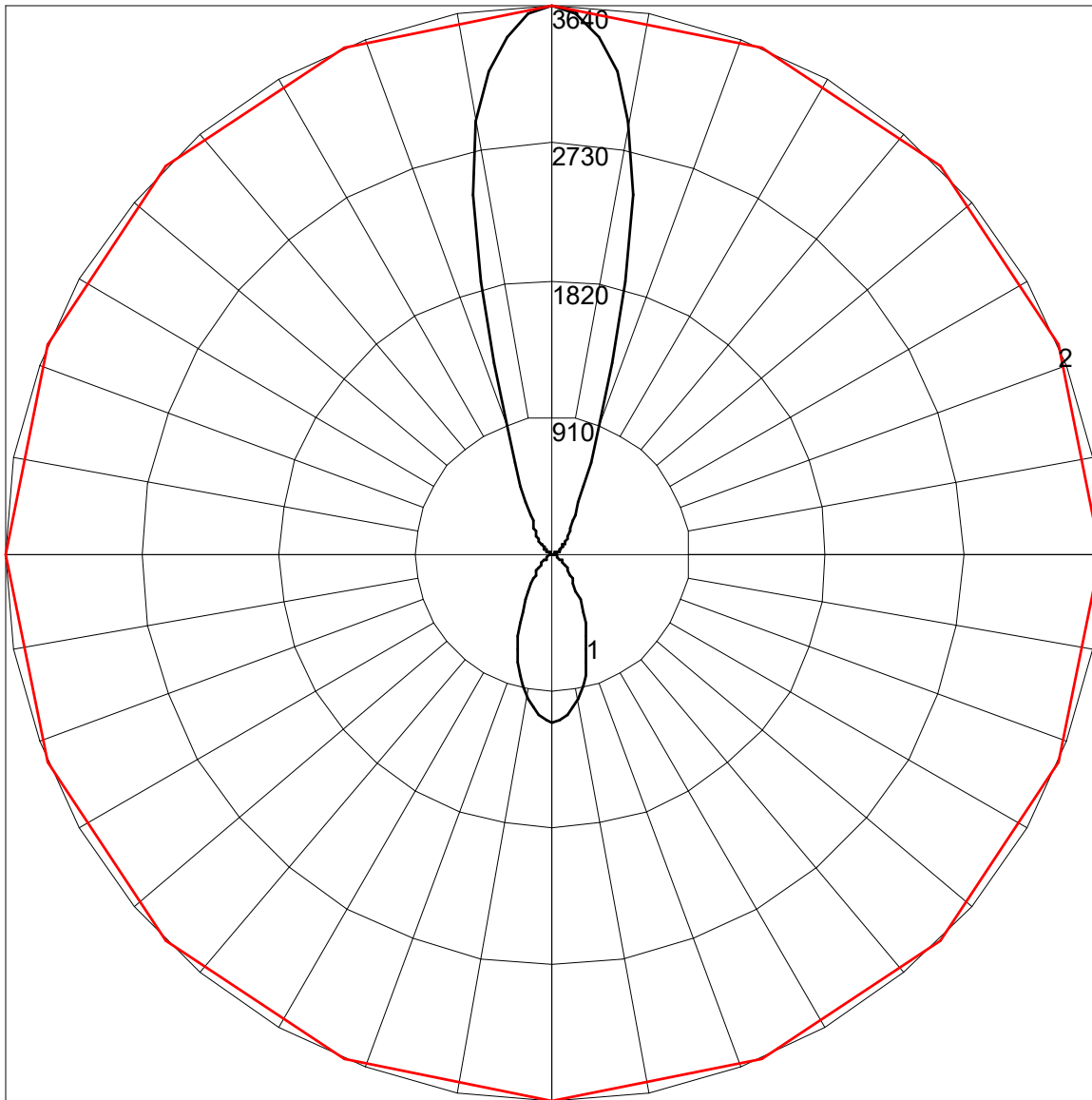
4H	2H	12.9	13.5	14.0	14.5	16.0	13.2	13.8	14.3	14.8	16.3
	3H	12.7	13.2	13.8	14.3	15.7	13.0	13.5	14.1	14.6	16.0
	4H	12.6	13.0	13.7	14.1	15.6	12.9	13.3	14.0	14.4	15.9
	6H	12.5	12.8	13.6	14.0	15.5	12.8	13.1	13.9	14.2	15.8
	8H	12.4	12.7	13.5	13.9	15.4	12.7	13.0	13.8	14.2	15.7
	12H	12.4	12.6	13.5	13.8	15.3	12.6	12.9	13.8	14.1	15.6
8H	4H	12.4	12.7	13.5	13.9	15.4	12.7	13.0	13.8	14.2	15.7
	6H	12.3	12.6	13.4	13.7	15.2	12.6	12.9	13.7	14.0	15.5
	8H	12.3	12.5	13.4	13.6	15.1	12.5	12.8	13.7	13.9	15.4
	12H	12.2	12.4	13.3	13.5	15.1	12.5	12.7	13.6	13.8	15.4
12H	4H	12.4	12.6	13.5	13.8	15.3	12.6	12.9	13.8	14.1	15.6
	6H	12.2	12.5	13.4	13.6	15.1	12.5	12.8	13.7	13.9	15.4
	8H	12.2	12.4	13.3	13.5	15.1	12.5	12.7	13.6	13.8	15.4

Maximum UGR = 16.6

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POLAR GRAPH



Maximum Candela = 3640 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.)