



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4CSDI-P12-835U-P12-835D-XXX-POE PR-OM-CSU-RW-WHD-WM_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #13257153.18 & 13257153.16

[TESTLAB] UL Verification Services Inc.

[ISSUE DATE] 20-APR-2021

[MANUFAC] H E Williams Inc

[LUMCAT] 4CSDI-P12-835U-P12-835D-xxx-PoE PR-OM-CSU-RW-WHD-WM

[LUMINAIRE] Aluminum housing, optics, and trim enclosure

[LAMP] Two white LEDs

[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	2352
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	102
Total Luminaire Watts	23
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

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	28925	39369	28302
55	20097	21702	19679
65	15580	14396	15627
75	8969	8274	9047
85	4135	4135	4135

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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	1498.374	1498.374	1498.374	1498.374	1498.374	1498.374	1498.374	1498.374	1498.374
2.5	1495.959	1502.400	1495.154	1489.518	1487.908	1489.518	1495.154	1502.400	1495.959
5.0	1481.466	1487.908	1481.466	1475.025	1473.415	1475.025	1481.466	1487.908	1481.466
7.5	1460.533	1466.169	1459.727	1454.091	1450.871	1454.091	1459.727	1466.169	1460.533
10.0	1432.353	1438.794	1432.353	1425.911	1423.496	1425.911	1432.353	1438.794	1432.353
12.5	1393.706	1400.952	1394.511	1388.875	1385.654	1388.875	1394.511	1400.952	1393.706
15.0	1341.371	1349.423	1344.592	1338.956	1334.125	1338.956	1344.592	1349.423	1341.371
17.5	1272.129	1280.985	1278.570	1272.934	1266.493	1272.934	1278.570	1280.985	1272.129
20.0	1179.537	1191.614	1194.835	1186.783	1175.511	1186.783	1194.835	1191.614	1179.537
22.5	1058.765	1076.479	1089.361	1074.063	1055.545	1074.063	1089.361	1076.479	1058.765
25.0	906.593	936.383	962.953	935.578	904.983	935.578	962.953	936.383	906.593
27.5	736.627	776.965	816.417	775.032	733.084	775.032	816.417	776.965	736.627
30.0	569.962	613.037	658.448	606.274	559.012	606.274	658.448	613.037	569.962
32.5	413.764	458.772	506.838	449.431	396.453	449.431	506.838	458.772	413.764
35.0	276.728	328.982	374.473	317.308	263.202	317.308	374.473	328.982	276.728
37.5	183.895	224.877	273.105	216.503	174.313	216.503	273.105	224.877	183.895
40.0	129.145	156.359	200.883	149.596	122.865	149.596	200.883	156.359	129.145
42.5	99.677	114.653	149.435	110.144	95.731	110.144	149.435	114.653	99.677
45.0	82.285	91.142	111.996	88.405	80.514	88.405	111.996	91.142	82.285
47.5	70.450	76.328	87.439	75.039	69.323	75.039	87.439	76.328	70.450
50.0	61.030	65.539	71.094	64.734	60.064	64.734	71.094	65.539	61.030
52.5	53.059	56.843	59.420	56.119	52.174	56.119	59.420	56.843	53.059
55.0	46.376	49.274	50.080	48.631	45.410	48.631	50.080	49.274	46.376
57.5	40.740	42.673	42.270	42.109	40.016	42.109	42.270	42.673	40.740
60.0	35.828	36.795	35.507	36.473	35.426	36.473	35.507	36.795	35.828
62.5	30.998	31.401	29.710	31.320	30.998	31.320	29.710	31.401	30.998
65.0	26.489	26.409	24.477	26.489	26.570	26.489	24.477	26.409	26.489
67.5	22.061	21.739	19.887	21.900	22.141	21.900	19.887	21.739	22.061
70.0	17.794	17.391	15.781	17.632	17.955	17.632	15.781	17.391	17.794
72.5	13.527	13.284	11.996	13.446	13.768	13.446	11.996	13.284	13.527
75.0	9.339	9.420	8.615	9.581	9.420	9.581	8.615	9.420	9.339
77.5	4.750	5.555	5.717	5.636	5.153	5.636	5.717	5.555	4.750
80.0	3.462	3.462	3.543	3.381	3.381	3.381	3.543	3.462	3.462
82.5	2.415	2.415	2.335	2.335	2.335	2.335	2.335	2.415	2.415
85.0	1.450	1.450	1.450	1.450	1.450	1.450	1.450	1.450	1.450
87.5	0.645	0.645	0.645	0.645	0.645	0.645	0.645	0.645	0.645
90.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
92.5	0.096	0.096	0.096	0.096	0.096	0.096	0.096	0.096	0.096
95.0	0.096	0.096	0.096	0.096	0.096	0.096	0.096	0.096	0.096
97.5	0.191	0.191	0.191	0.191	0.191	0.191	0.191	0.191	0.191
100.0	0.191	0.191	0.191	0.191	0.286	0.191	0.191	0.191	0.191
102.5	0.286	0.286	0.286	0.286	0.381	0.286	0.286	0.286	0.286
105.0	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477
107.5	0.572	0.572	0.572	0.572	0.668	0.572	0.572	0.572	0.572
110.0	0.858	0.763	1.049	0.858	0.858	0.858	1.049	0.763	0.858
112.5	1.144	1.049	3.527	1.144	1.240	1.144	3.527	1.049	1.144
115.0	1.525	4.766	11.153	5.147	1.621	5.147	11.153	4.766	1.525
117.5	10.676	18.874	22.687	19.161	9.914	19.161	22.687	18.874	10.676
120.0	28.693	35.460	35.651	36.795	28.884	36.795	35.651	35.460	28.693
122.5	47.090	50.999	49.568	53.381	48.902	53.381	49.568	50.999	47.090
125.0	65.964	66.823	64.153	70.158	68.729	70.158	64.153	66.823	65.964
127.5	86.363	83.313	79.309	87.507	89.891	87.507	79.309	83.313	86.363
130.0	107.240	101.425	95.420	106.096	111.910	106.096	95.420	101.425	107.240
132.5	128.497	121.538	113.817	126.686	134.693	126.686	113.817	121.538	128.497

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135.0	150.898	144.130	135.932	149.468	158.238	149.468	135.932	144.130	150.898
137.5	175.777	170.535	164.625	176.064	183.784	176.064	164.625	170.535	175.777
140.0	205.805	203.231	202.945	208.283	213.526	208.283	202.945	203.231	205.805
142.5	242.600	244.220	252.418	248.129	249.272	248.129	252.418	244.220	242.600
145.0	288.259	295.600	311.328	297.888	293.693	297.888	311.328	295.600	288.259
147.5	347.075	360.611	378.532	361.183	351.173	361.183	378.532	360.611	347.075
150.0	422.571	440.206	453.456	438.871	424.478	438.871	453.456	440.206	422.571
152.5	513.986	529.048	534.482	526.474	512.176	526.474	534.482	529.048	513.986
155.0	611.313	620.464	622.370	617.985	607.309	617.985	622.370	620.464	611.313
157.5	704.349	711.688	713.976	709.782	700.345	709.782	713.976	711.688	704.349
160.0	796.336	803.867	807.870	803.104	794.716	803.104	807.870	803.867	796.336
162.5	891.088	898.142	903.671	897.475	891.184	897.475	903.671	898.142	891.088
165.0	985.649	990.415	997.088	990.415	984.696	990.415	997.088	990.415	985.649
167.5	1075.254	1078.113	1081.926	1077.160	1074.300	1077.160	1081.926	1078.113	1075.254
170.0	1156.279	1157.232	1156.279	1156.279	1155.326	1156.279	1156.279	1157.232	1156.279
172.5	1223.006	1223.006	1221.099	1221.099	1222.052	1221.099	1221.099	1223.006	1223.006
175.0	1274.480	1275.434	1273.527	1273.527	1274.480	1273.527	1273.527	1275.434	1274.480
177.5	1310.704	1310.704	1307.844	1308.797	1309.750	1308.797	1307.844	1310.704	1310.704
180.0	1321.122	1321.122	1321.122	1321.122	1321.122	1321.122	1321.122	1321.122	1321.122

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Zone	Lumens	%Lamp	%Fixt
0-20	513.36	N.A.	21.80
0-30	931.79	N.A.	39.60
0-40	1143.78	N.A.	48.60
0-60	1264.35	N.A.	53.80
0-80	1300.29	N.A.	55.30
0-90	1301.97	N.A.	55.40
10-90	1162.22	N.A.	49.40
20-40	630.42	N.A.	26.80
20-50	706.97	N.A.	30.10
40-70	146.48	N.A.	6.20
60-80	35.93	N.A.	1.50
70-80	10.03	N.A.	0.40
80-90	1.68	N.A.	0.10
90-110	0.63	N.A.	0.00
90-120	11.01	N.A.	0.50
90-130	71.17	N.A.	3.00
90-150	376.21	N.A.	16.00
90-180	1049.84	N.A.	44.60
110-180	1049.21	N.A.	44.60
0-180	2351.81	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	139.75
10-20	373.62
20-30	418.42
30-40	211.99
40-50	76.55
50-60	44.02
60-70	25.91
70-80	10.03
80-90	1.68
90-100	0.13
100-110	0.50
110-120	10.38
120-130	60.15
130-140	114.47
140-150	190.57
150-160	281.29
160-170	274.48
170-180	117.87

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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	101	101	101	101	86	86	86	73	73	73	61	61	61	55
1	101	98	95	92	94	91	89	86	79	77	76	68	67	66	58	57	56	51
2	95	89	84	80	88	83	79	75	73	70	67	63	61	59	54	53	52	47
3	88	81	75	70	82	76	71	67	67	63	60	59	56	54	51	49	47	44
4	83	74	67	63	77	70	64	60	62	58	54	55	51	49	48	46	44	41
5	77	68	61	56	72	64	58	54	57	53	49	51	48	45	45	43	41	38
6	73	63	56	51	68	59	53	49	53	49	45	48	44	42	42	40	38	35
7	68	58	51	47	64	55	49	45	50	45	42	45	41	39	40	37	35	33
8	64	54	47	43	60	51	46	41	47	42	39	42	39	36	38	35	33	31
9	61	50	44	40	57	48	42	38	44	39	36	40	36	34	36	33	31	29
10	57	47	41	37	54	45	39	36	41	37	34	38	34	32	34	31	29	28

IES INDOOR REPORT

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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	13.8	14.5	14.8	15.4	16.7	13.7	14.4	14.7	15.3	16.6
	3H	14.9	15.5	15.8	16.4	17.7	14.8	15.4	15.8	16.4	17.6
	4H	15.1	15.7	16.1	16.6	17.9	15.1	15.7	16.0	16.6	17.8
	6H	15.1	15.6	16.1	16.6	17.8	15.1	15.6	16.1	16.6	17.8
	8H	15.1	15.6	16.1	16.6	17.8	15.0	15.6	16.0	16.5	17.8
	12H	15.0	15.5	16.0	16.5	17.8	15.0	15.5	16.0	16.5	17.7

UGR Viewed Endwise

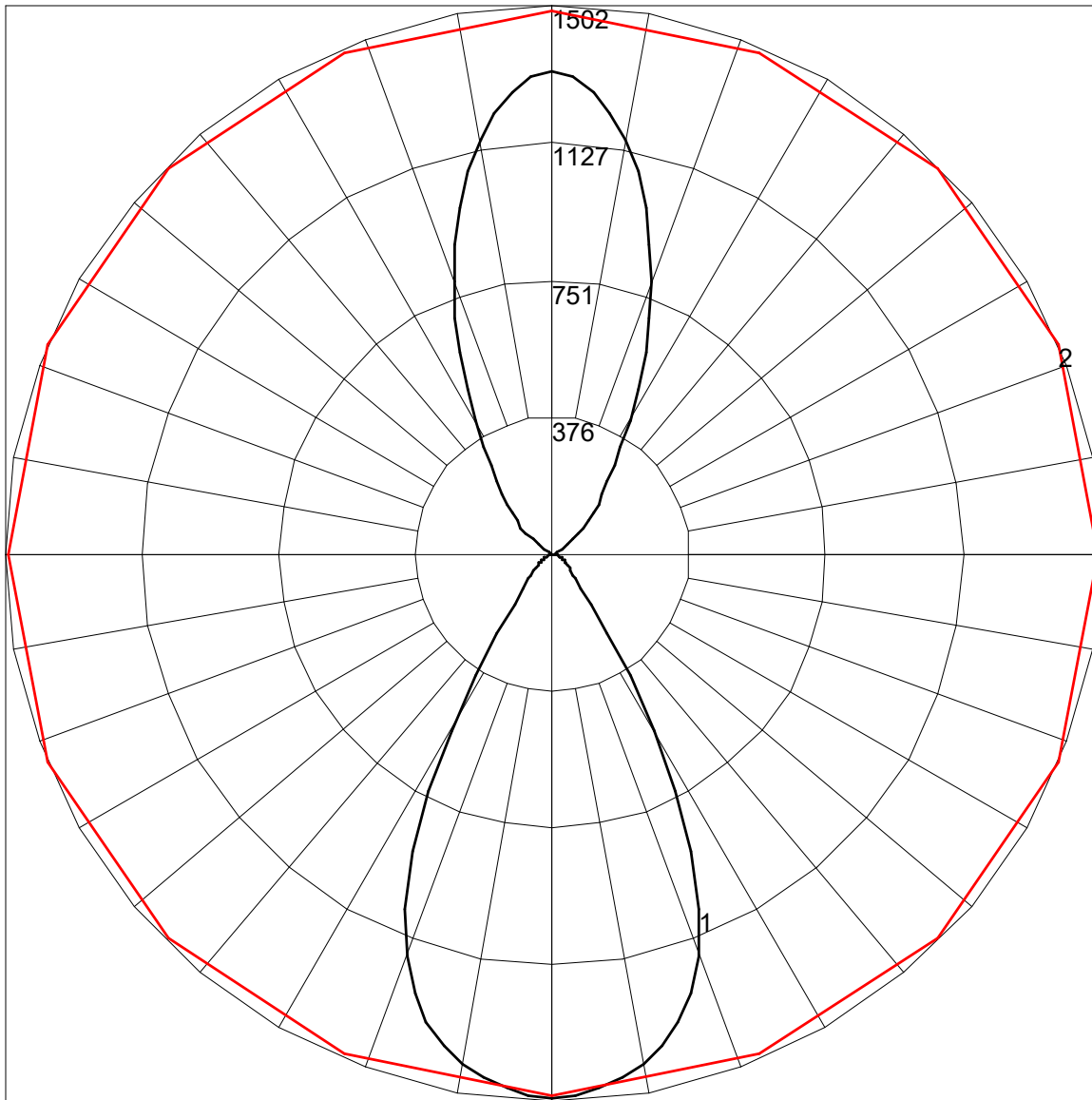
4H	2H	14.0	14.6	15.0	15.6	16.8	14.0	14.5	14.9	15.5	16.7
	3H	15.2	15.7	16.2	16.7	18.0	15.2	15.7	16.2	16.7	17.9
	4H	15.5	16.0	16.5	17.0	18.2	15.5	16.0	16.5	16.9	18.2
	6H	15.6	16.0	16.6	17.0	18.2	15.6	16.0	16.6	17.0	18.2
	8H	15.6	15.9	16.6	16.9	18.2	15.6	15.9	16.6	16.9	18.2
	12H	15.5	15.9	16.6	16.9	18.2	15.5	15.8	16.6	16.9	18.1
8H	4H	15.5	15.9	16.5	16.9	18.2	15.5	15.9	16.5	16.9	18.2
	6H	15.6	15.9	16.6	16.9	18.2	15.6	15.9	16.6	16.9	18.2
	8H	15.6	15.9	16.7	16.9	18.2	15.6	15.9	16.7	16.9	18.2
	12H	15.6	15.9	16.7	16.9	18.2	15.6	15.8	16.7	16.8	18.2
12H	4H	15.5	15.8	16.5	16.8	18.1	15.5	15.8	16.5	16.8	18.1
	6H	15.6	15.8	16.6	16.8	18.2	15.6	15.8	16.6	16.8	18.2
	8H	15.6	15.8	16.6	16.8	18.2	15.6	15.8	16.6	16.8	18.2

Maximum UGR = 18.2

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POLAR GRAPH



Maximum Candela = 1502.4 Located At Horizontal Angle = 22.5, Vertical Angle = 2.5

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

2 - Horizontal Cone Through Vertical Angle (2.5) (Through Max. Cd.)