



IES INDOOR REPORT

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

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #13257153.18 & #13257153.25

[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-LS-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	2419
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	105
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	24953	29221	25281
55	18214	20238	18619
65	15382	15382	15382
75	10764	11661	11661
85	7991	7991	7991

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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	13207.152	13207.152	13207.152	13207.152	13207.152	13207.152	13207.152	13207.152	13207.152
2.5	11796.770	11852.812	11992.916	12123.680	12161.041	12123.680	11992.916	11852.812	11796.770
5.0	8774.256	8900.350	9046.992	9151.603	9214.183	9151.603	9046.992	8900.350	8774.256
7.5	5489.281	5646.197	5744.270	5807.784	5875.034	5807.784	5744.270	5646.197	5489.281
10.0	3012.239	3147.673	3199.979	3240.142	3270.031	3240.142	3199.979	3147.673	3012.239
12.5	1582.243	1665.371	1685.920	1711.139	1701.798	1711.139	1685.920	1665.371	1582.243
15.0	900.403	943.368	958.312	960.180	946.170	960.180	958.312	943.368	900.403
17.5	594.042	621.128	638.875	622.062	601.514	622.062	638.875	621.128	594.042
20.0	438.993	462.344	488.496	467.014	438.059	467.014	488.496	462.344	438.993
22.5	348.392	370.809	400.698	370.809	338.118	370.809	400.698	370.809	348.392
25.0	274.604	300.757	336.250	299.823	272.736	299.823	336.250	300.757	274.604
27.5	218.562	244.715	283.944	244.715	215.760	244.715	283.944	244.715	218.562
30.0	179.333	198.948	237.243	196.146	175.597	196.146	237.243	198.948	179.333
32.5	149.444	163.455	196.146	163.455	150.378	163.455	196.146	163.455	149.444
35.0	129.830	139.170	159.719	139.170	129.830	139.170	159.719	139.170	129.830
37.5	113.951	120.490	132.632	120.490	113.017	120.490	132.632	120.490	113.951
40.0	98.073	105.545	112.083	105.545	98.073	105.545	112.083	105.545	98.073
42.5	83.128	91.535	96.205	91.535	84.062	91.535	96.205	91.535	83.128
45.0	70.986	78.458	83.128	79.392	71.920	79.392	83.128	78.458	70.986
47.5	60.712	67.250	70.986	67.250	62.580	67.250	70.986	67.250	60.712
50.0	53.240	58.844	61.646	58.844	54.174	58.844	61.646	58.844	53.240
52.5	46.701	51.372	53.240	52.306	48.569	52.306	53.240	51.372	46.701
55.0	42.031	44.833	46.701	45.767	42.965	45.767	46.701	44.833	42.031
57.5	37.361	40.163	40.163	40.163	38.295	40.163	40.163	40.163	37.361
60.0	34.559	35.493	35.493	36.427	34.559	36.427	35.493	35.493	34.559
62.5	29.889	31.757	30.823	30.823	29.889	30.823	30.823	31.757	29.889
65.0	26.153	27.087	26.153	27.087	26.153	27.087	26.153	27.087	26.153
67.5	21.483	23.351	22.417	23.351	22.417	23.351	22.417	23.351	21.483
70.0	17.747	19.615	18.681	19.615	18.681	19.615	18.681	19.615	17.747
72.5	14.944	14.944	14.944	15.878	15.878	15.878	14.944	14.944	14.944
75.0	11.208	12.142	12.142	12.142	12.142	12.142	12.142	12.142	11.208
77.5	8.406	9.340	9.340	9.340	9.340	9.340	9.340	9.340	8.406
80.0	6.538	6.538	6.538	7.472	7.472	7.472	6.538	6.538	6.538
82.5	3.736	4.670	4.670	4.670	4.670	4.670	4.670	4.670	3.736
85.0	2.802	2.802	2.802	2.802	2.802	2.802	2.802	2.802	2.802
87.5	0.934	0.934	0.934	1.868	0.934	1.868	0.934	0.934	0.934
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	992.49	N.A.	41.00
0-30	1134.24	N.A.	46.90
0-40	1225.08	N.A.	50.60
0-60	1326.77	N.A.	54.80
0-80	1366.39	N.A.	56.50
0-90	1369.64	N.A.	56.60
10-90	700.33	N.A.	28.90
20-40	232.59	N.A.	9.60
20-50	293.54	N.A.	12.10
40-70	128.26	N.A.	5.30
60-80	39.61	N.A.	1.60
70-80	13.05	N.A.	0.50
80-90	3.26	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.	2.90
90-150	376.21	N.A.	15.50
90-180	1049.84	N.A.	43.40
110-180	1049.21	N.A.	43.40
0-180	2419.48	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	669.31
10-20	323.19
20-30	141.75
30-40	90.84
40-50	60.95
50-60	40.75
60-70	26.57
70-80	13.05
80-90	3.26
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	109	109	109	109	101	101	101	101	87	87	87	74	74	74	62	62	62	57
1	102	99	97	94	95	93	91	89	81	79	78	70	69	68	60	59	59	54
2	97	91	87	83	90	86	82	79	76	73	71	66	65	63	58	57	56	52
3	91	85	79	75	86	80	76	72	71	68	65	63	61	59	56	54	53	50
4	87	79	73	69	81	75	70	66	67	64	61	60	58	56	54	52	51	48
5	82	74	68	64	78	71	66	62	64	60	57	58	55	53	52	50	49	46
6	78	70	64	60	74	67	62	58	61	57	54	56	53	51	50	49	47	45
7	75	66	61	57	71	64	59	55	58	55	52	54	51	49	49	47	46	44
8	72	63	58	54	68	61	56	53	56	52	50	52	49	47	48	46	44	43
9	69	60	55	52	66	58	54	50	54	51	48	50	48	46	47	45	43	42
10	67	58	53	49	64	56	52	48	52	49	46	49	46	44	46	44	42	41

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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	13.3	14.0	14.2	14.9	16.1	UGR Viewed Endwise	13.3	14.0	14.3	15.0	16.2
	3H	14.6	15.2	15.5	16.1	17.4		14.7	15.3	15.6	16.2	17.4
	4H	15.0	15.6	15.9	16.5	17.7		15.1	15.7	16.0	16.6	17.8
	6H	15.2	15.7	16.2	16.7	17.9		15.4	15.9	16.3	16.8	18.1
	8H	15.2	15.7	16.2	16.7	17.9		15.4	15.9	16.4	16.9	18.1
	12H	15.2	15.7	16.2	16.7	17.9		15.5	15.9	16.4	16.9	18.1

4H	2H	13.7	14.3	14.6	15.2	16.4	13.7	14.3	14.7	15.2	16.4
	3H	15.1	15.6	16.1	16.6	17.8	15.2	15.7	16.2	16.7	17.9
	4H	15.6	16.1	16.6	17.1	18.3	15.7	16.2	16.7	17.2	18.4
	6H	16.0	16.4	17.0	17.3	18.6	16.1	16.5	17.1	17.5	18.8
	8H	16.0	16.4	17.0	17.4	18.7	16.2	16.6	17.2	17.6	18.8
	12H	16.1	16.4	17.1	17.4	18.7	16.3	16.6	17.3	17.6	18.9

8H	4H	15.8	16.1	16.8	17.1	18.4	15.9	16.2	16.9	17.2	18.5
	6H	16.2	16.5	17.2	17.5	18.8	16.4	16.7	17.4	17.7	18.9
	8H	16.3	16.6	17.4	17.6	18.9	16.5	16.8	17.6	17.8	19.1
	12H	16.4	16.7	17.5	17.7	19.0	16.6	16.9	17.7	17.9	19.2

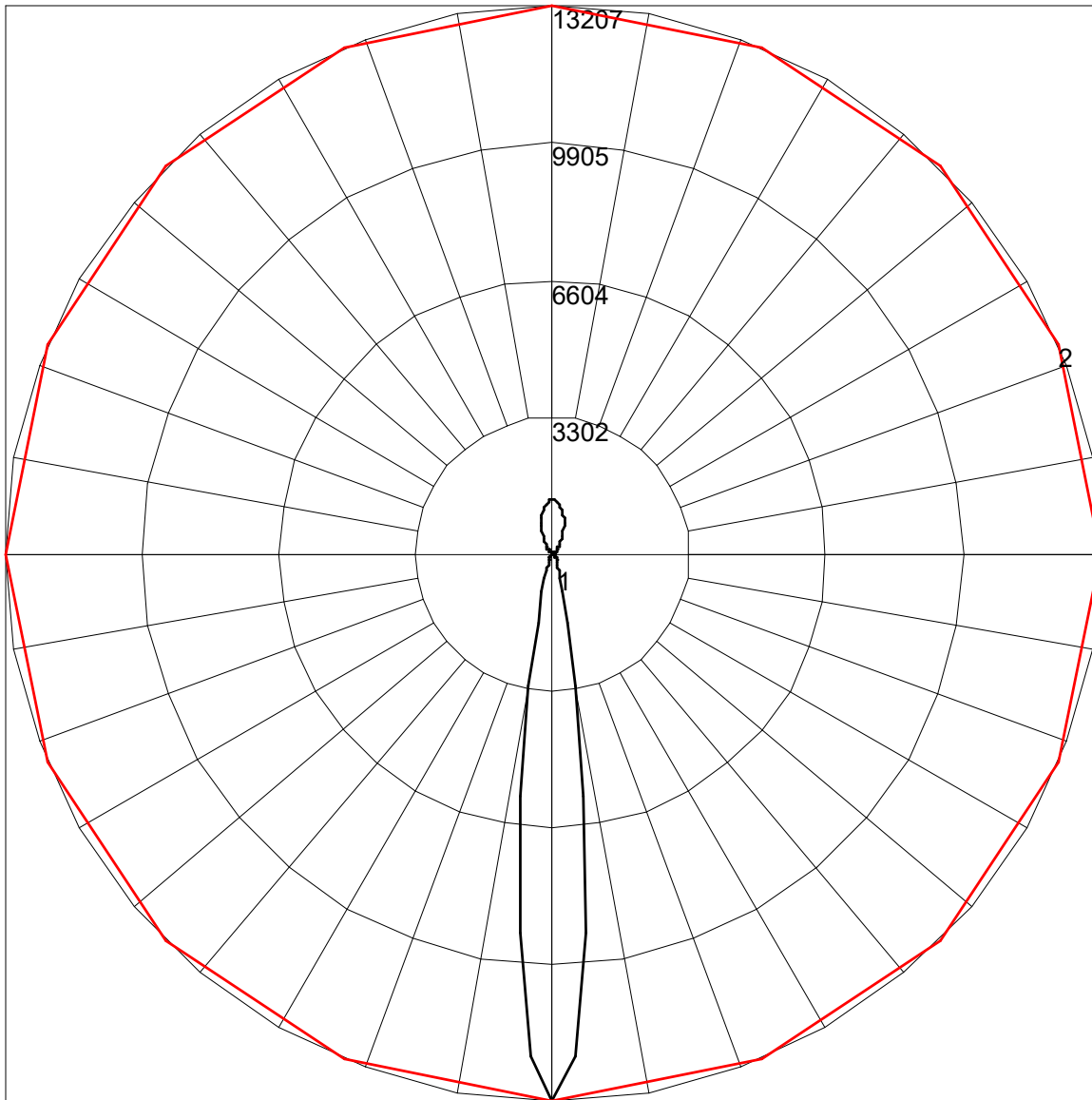
12H	4H	15.8	16.1	16.8	17.1	18.3	15.8	16.2	16.9	17.2	18.4
	6H	16.2	16.5	17.2	17.5	18.8	16.4	16.6	17.4	17.6	18.9
	8H	16.4	16.6	17.4	17.6	18.9	16.6	16.8	17.6	17.8	19.1

Maximum UGR = 19.2

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POLAR GRAPH



Maximum Candela = 13207.152 Located At Horizontal Angle = 0, Vertical Angle = 0

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

2 - Horizontal Cone Through Vertical Angle (0) (Through Max. Cd.)