



IES INDOOR REPORT

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

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #13257153.18 & #13257153.20

[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-RM-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	2327
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	101
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	37383	43482	37524
55	22904	26002	23287
65	17669	16345	17527
75	10182	9334	9950
85	4580	4580	4811

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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	3190.414	3190.414	3190.414	3190.414	3190.414	3190.414	3190.414	3190.414	3190.414
2.5	3147.039	3134.188	3139.007	3149.449	3155.072	3149.449	3139.007	3134.188	3147.039
5.0	3013.704	3001.655	3008.081	3016.114	3017.720	3016.114	3008.081	3001.655	3013.704
7.5	2812.094	2806.472	2813.701	2813.701	2812.094	2813.701	2813.701	2806.472	2812.094
10.0	2521.326	2522.130	2535.784	2526.949	2520.523	2526.949	2535.784	2522.130	2521.326
12.5	2109.271	2115.697	2135.778	2128.549	2114.894	2128.549	2135.778	2115.697	2109.271
15.0	1604.846	1624.926	1653.039	1647.416	1625.729	1647.416	1653.039	1624.926	1604.846
17.5	1123.713	1161.465	1199.216	1188.774	1158.252	1188.774	1199.216	1161.465	1123.713
20.0	772.382	815.274	861.058	839.371	807.242	839.371	861.058	815.274	772.382
22.5	569.888	603.383	650.131	617.359	589.728	617.359	650.131	603.383	569.888
25.0	455.027	481.775	523.382	486.674	459.285	486.674	523.382	481.775	455.027
27.5	372.375	399.846	439.846	400.650	371.251	400.650	439.846	399.846	372.375
30.0	300.326	329.804	372.616	330.367	302.173	330.367	372.616	329.804	300.326
32.5	242.012	267.635	311.491	269.803	245.466	269.803	311.491	267.635	242.012
35.0	196.549	217.594	256.551	220.887	201.529	220.887	256.551	217.594	196.549
37.5	168.034	179.923	209.723	184.019	169.962	184.019	209.723	179.923	168.034
40.0	145.946	153.738	173.015	155.745	146.268	155.745	173.015	153.738	145.946
42.5	125.384	132.933	144.902	133.576	125.544	133.576	144.902	132.933	125.384
45.0	106.347	114.380	123.697	114.540	106.748	114.540	123.697	114.380	106.347
47.5	89.239	97.110	105.062	97.351	89.720	97.351	105.062	97.110	89.239
50.0	74.218	81.447	87.953	81.848	75.022	81.848	87.953	81.447	74.218
52.5	62.089	68.033	72.853	68.596	63.053	68.596	72.853	68.033	62.089
55.0	52.853	56.869	60.001	57.591	53.736	57.591	60.001	56.869	52.853
57.5	45.864	48.113	49.479	48.595	46.506	48.595	49.479	48.113	45.864
60.0	40.402	41.125	40.884	41.366	40.402	41.366	40.884	41.125	40.402
62.5	35.182	35.182	33.816	35.101	35.020	35.101	33.816	35.182	35.182
65.0	30.041	29.639	27.791	29.478	29.800	29.478	27.791	29.639	30.041
67.5	24.981	24.498	22.571	24.257	24.740	24.257	22.571	24.498	24.981
70.0	20.081	19.599	17.912	19.358	19.840	19.358	17.912	19.599	20.081
72.5	15.342	14.940	13.655	14.699	15.181	14.699	13.655	14.940	15.342
75.0	10.602	10.602	9.719	10.282	10.361	10.282	9.719	10.602	10.602
77.5	5.060	6.266	6.426	6.104	5.944	6.104	6.426	6.266	5.060
80.0	3.695	3.775	4.016	3.856	3.856	3.856	4.016	3.775	3.695
82.5	2.570	2.651	2.651	2.651	2.651	2.651	2.651	2.651	2.570
85.0	1.606	1.687	1.606	1.606	1.687	1.606	1.606	1.687	1.606
87.5	0.723	0.723	0.723	0.803	0.803	0.803	0.723	0.723	0.723
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	714.81	N.A.	30.70
0-30	949.55	N.A.	40.80
0-40	1093.09	N.A.	47.00
0-60	1234.63	N.A.	53.10
0-80	1274.99	N.A.	54.80
0-90	1276.88	N.A.	54.90
10-90	1004.6	N.A.	43.20
20-40	378.28	N.A.	16.30
20-50	467.62	N.A.	20.10
40-70	170.72	N.A.	7.30
60-80	40.36	N.A.	1.70
70-80	11.18	N.A.	0.50
80-90	1.89	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.	3.10
90-150	376.21	N.A.	16.20
90-180	1049.84	N.A.	45.10
110-180	1049.21	N.A.	45.10
0-180	2326.73	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	272.28
10-20	442.53
20-30	234.74
30-40	143.54
40-50	89.35
50-60	52.19
60-70	29.18
70-80	11.18
80-90	1.89
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	87	79	77	76	68	67	66	57	57	56	51
2	95	89	84	81	88	84	80	76	73	70	68	63	61	60	54	53	52	48
3	89	82	76	71	83	77	72	68	68	64	61	59	57	55	51	50	48	45
4	83	75	69	64	78	71	65	61	63	59	56	56	53	50	49	47	45	42
5	78	69	63	58	74	66	60	56	59	55	51	52	49	47	46	44	43	40
6	74	64	58	53	70	61	56	52	55	51	48	50	46	44	44	42	40	38
7	70	60	54	49	66	57	52	48	52	48	44	47	44	41	42	40	38	36
8	66	56	50	46	63	54	48	45	49	45	42	45	41	39	40	38	36	34
9	63	53	47	43	60	51	46	42	47	42	39	43	39	37	39	36	35	33
10	60	50	44	41	57	48	43	39	44	40	37	41	37	35	37	35	33	31

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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	14.6	15.3	15.6	16.3	17.5	14.7	15.4	15.7	16.4	17.6
	3H	15.7	16.3	16.7	17.3	18.5	15.7	16.4	16.7	17.3	18.6
	4H	15.9	16.5	16.9	17.5	18.7	16.0	16.5	16.9	17.5	18.8
	6H	15.9	16.5	16.9	17.4	18.7	16.0	16.5	16.9	17.5	18.7
	8H	15.9	16.4	16.9	17.4	18.7	15.9	16.4	16.9	17.4	18.7
	12H	15.9	16.3	16.9	17.3	18.6	15.9	16.4	16.9	17.4	18.6

UGR Viewed Endwise

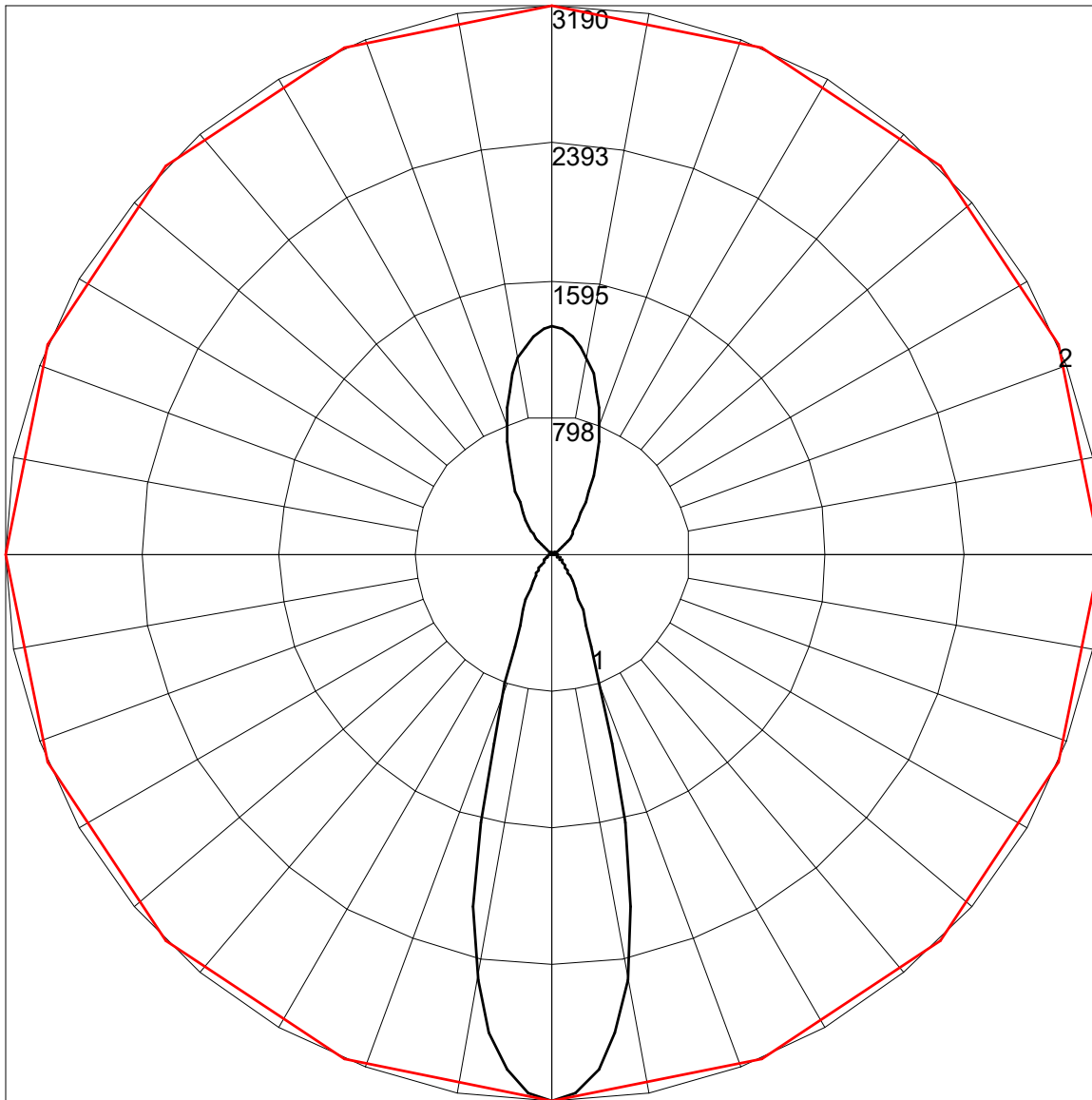
4H	2H	14.9	15.5	15.9	16.4	17.7	14.9	15.5	15.9	16.5	17.7
	3H	16.1	16.6	17.1	17.6	18.8	16.1	16.6	17.1	17.6	18.9
	4H	16.4	16.8	17.4	17.8	19.1	16.4	16.8	17.4	17.8	19.1
	6H	16.4	16.8	17.4	17.8	19.1	16.4	16.8	17.4	17.8	19.1
	8H	16.4	16.8	17.4	17.8	19.1	16.4	16.8	17.4	17.8	19.1
	12H	16.4	16.7	17.4	17.7	19.0	16.4	16.7	17.4	17.7	19.0
8H	4H	16.4	16.7	17.4	17.7	19.0	16.4	16.7	17.4	17.7	19.0
	6H	16.5	16.7	17.5	17.8	19.1	16.5	16.8	17.5	17.8	19.1
	8H	16.5	16.7	17.5	17.8	19.1	16.5	16.7	17.5	17.8	19.1
	12H	16.5	16.7	17.5	17.7	19.1	16.5	16.7	17.5	17.7	19.1
12H	4H	16.3	16.7	17.4	17.7	19.0	16.3	16.7	17.4	17.7	19.0
	6H	16.4	16.7	17.5	17.7	19.0	16.4	16.7	17.5	17.7	19.0
	8H	16.4	16.7	17.5	17.7	19.0	16.5	16.7	17.5	17.7	19.1

Maximum UGR = 19.1

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POLAR GRAPH



Maximum Candela = 3190.414 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.)