



IES INDOOR REPORT

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

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #13257153.18 & #13257153.26

[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-RS-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	2424
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	26253	31832	25925
55	16183	18205	15778
65	11531	11531	12079
75	6276	7173	7173
85	2664	5325	5325

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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	13396.643	13396.643	13396.643	13396.643	13396.643	13396.643	13396.643	13396.643	13396.643
2.5	12155.003	12164.339	12164.339	12173.675	12155.003	12173.675	12164.339	12164.339	12155.003
5.0	9252.553	9260.955	9142.392	9021.962	8972.484	9021.962	9142.392	9260.955	9252.553
7.5	5964.540	5969.208	5754.489	5535.101	5463.217	5535.101	5754.489	5969.208	5964.540
10.0	3385.103	3380.435	3159.181	2956.597	2888.447	2956.597	3159.181	3380.435	3385.103
12.5	1783.107	1789.642	1644.940	1521.709	1467.563	1521.709	1644.940	1789.642	1783.107
15.0	993.312	998.913	936.365	867.281	834.606	867.281	936.365	998.913	993.312
17.5	636.691	646.960	626.421	590.946	568.540	590.946	626.421	646.960	636.691
20.0	466.782	483.586	487.320	459.313	436.908	459.313	487.320	483.586	466.782
22.5	371.558	389.296	404.233	376.226	354.754	376.226	404.233	389.296	371.558
25.0	302.475	324.880	343.552	315.545	295.006	315.545	343.552	324.880	302.475
27.5	252.996	271.667	295.006	265.132	245.527	265.132	295.006	271.667	252.996
30.0	206.318	227.790	254.863	220.321	198.849	220.321	254.863	227.790	206.318
32.5	170.842	187.646	218.454	181.111	164.307	181.111	218.454	187.646	170.842
35.0	142.835	156.839	183.912	150.304	137.234	150.304	183.912	156.839	142.835
37.5	122.297	132.566	153.105	127.898	121.363	127.898	153.105	132.566	122.297
40.0	105.493	112.961	127.898	111.094	104.559	111.094	127.898	112.961	105.493
42.5	88.689	97.091	107.360	95.224	87.755	95.224	107.360	97.091	88.689
45.0	74.685	82.154	90.556	81.220	73.752	81.220	90.556	82.154	74.685
47.5	61.615	68.150	74.685	67.217	60.682	67.217	74.685	68.150	61.615
50.0	51.346	56.947	62.549	56.014	50.412	56.014	62.549	56.947	51.346
52.5	42.944	47.612	51.346	46.678	42.010	46.678	51.346	47.612	42.944
55.0	37.343	40.143	42.010	39.210	36.409	39.210	42.010	40.143	37.343
57.5	31.741	33.608	33.608	32.675	31.741	32.675	33.608	33.608	31.741
60.0	28.007	28.940	28.007	28.007	28.007	28.007	28.007	28.940	28.007
62.5	23.339	24.273	23.339	24.273	24.273	24.273	23.339	24.273	23.339
65.0	19.605	20.538	19.605	20.538	20.538	20.538	19.605	20.538	19.605
67.5	15.871	16.804	15.871	16.804	16.804	16.804	15.871	16.804	15.871
70.0	13.070	13.070	12.136	14.003	14.003	14.003	12.136	13.070	13.070
72.5	10.269	10.269	9.336	10.269	10.269	10.269	9.336	10.269	10.269
75.0	6.535	7.469	7.469	7.469	7.469	7.469	7.469	7.469	6.535
77.5	3.734	3.734	4.668	4.668	3.734	4.668	4.668	3.734	3.734
80.0	2.801	2.801	2.801	2.801	2.801	2.801	2.801	2.801	2.801
82.5	1.867	1.867	1.867	1.867	2.801	1.867	1.867	1.867	1.867
85.0	0.934	0.934	1.867	1.867	1.867	1.867	1.867	0.934	0.934
87.5	0.934	0.934	0.934	0.934	0.934	0.934	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	994.50	N.A.	41.00
0-30	1144.34	N.A.	47.20
0-40	1245.16	N.A.	51.40
0-60	1344.94	N.A.	55.50
0-80	1372.8	N.A.	56.60
0-90	1374.38	N.A.	56.70
10-90	699.41	N.A.	28.90
20-40	250.66	N.A.	10.30
20-50	314.37	N.A.	13.00
40-70	119.86	N.A.	4.90
60-80	27.86	N.A.	1.10
70-80	7.78	N.A.	0.30
80-90	1.59	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.	43.30
110-180	1049.21	N.A.	43.30
0-180	2424.23	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	674.97
10-20	319.52
20-30	149.84
30-40	100.82
40-50	63.71
50-60	36.07
60-70	20.07
70-80	7.78
80-90	1.59
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 RW	80				70				50			30			10			0
	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	103	99	97	94	96	93	91	89	81	80	78	70	69	68	60	60	59	54
2	97	92	87	84	90	86	83	80	76	73	71	67	65	63	58	57	56	52
3	91	85	80	76	86	80	76	72	71	68	66	63	61	60	56	55	53	50
4	87	79	74	70	82	75	70	67	68	64	61	61	58	56	54	52	51	48
5	83	74	69	65	78	71	66	62	64	61	58	58	56	53	52	51	49	47
6	79	70	65	60	74	67	62	59	61	58	55	56	53	51	51	49	48	45
7	75	67	61	57	71	64	59	55	59	55	52	54	51	49	49	48	46	44
8	72	64	58	54	69	61	56	53	57	53	50	52	49	47	48	46	45	43
9	69	61	55	52	66	59	54	51	55	51	48	51	48	46	47	45	44	42
10	67	58	53	50	64	56	52	49	53	49	47	49	47	45	46	44	43	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	12.0	12.7	13.0	13.7	14.9	UGR Viewed Endwise			
	3H	13.0	13.6	14.0	14.6	15.8	11.9	12.6	12.8	13.5
	4H	13.2	13.8	14.2	14.7	16.0	13.0	13.6	13.9	14.5
	6H	13.2	13.7	14.2	14.7	15.9	13.2	13.8	14.2	14.7
	8H	13.2	13.7	14.2	14.6	15.9	13.2	13.8	14.2	14.7
	12H	13.1	13.6	14.1	14.6	15.8	13.2	13.7	14.2	14.6

4H	2H	12.3	12.9	13.3	13.8	15.0	12.1	12.7	13.1	13.7
	3H	13.4	13.9	14.4	14.9	16.1	13.4	13.9	14.4	14.8
	4H	13.7	14.1	14.7	15.1	16.3	13.7	14.1	14.7	15.1
	6H	13.7	14.1	14.7	15.1	16.3	13.8	14.1	14.8	15.1
	8H	13.7	14.0	14.7	15.0	16.3	13.8	14.1	14.8	15.1
	12H	13.7	14.0	14.7	15.0	16.2	13.8	14.1	14.8	15.1

8H	4H	13.7	14.0	14.7	15.0	16.3	13.7	14.1	14.7	15.0
	6H	13.8	14.0	14.8	15.1	16.3	13.8	14.1	14.8	15.1
	8H	13.8	14.0	14.8	15.0	16.3	13.8	14.1	14.9	15.1
	12H	13.8	14.0	14.8	15.0	16.3	13.9	14.1	14.9	15.1

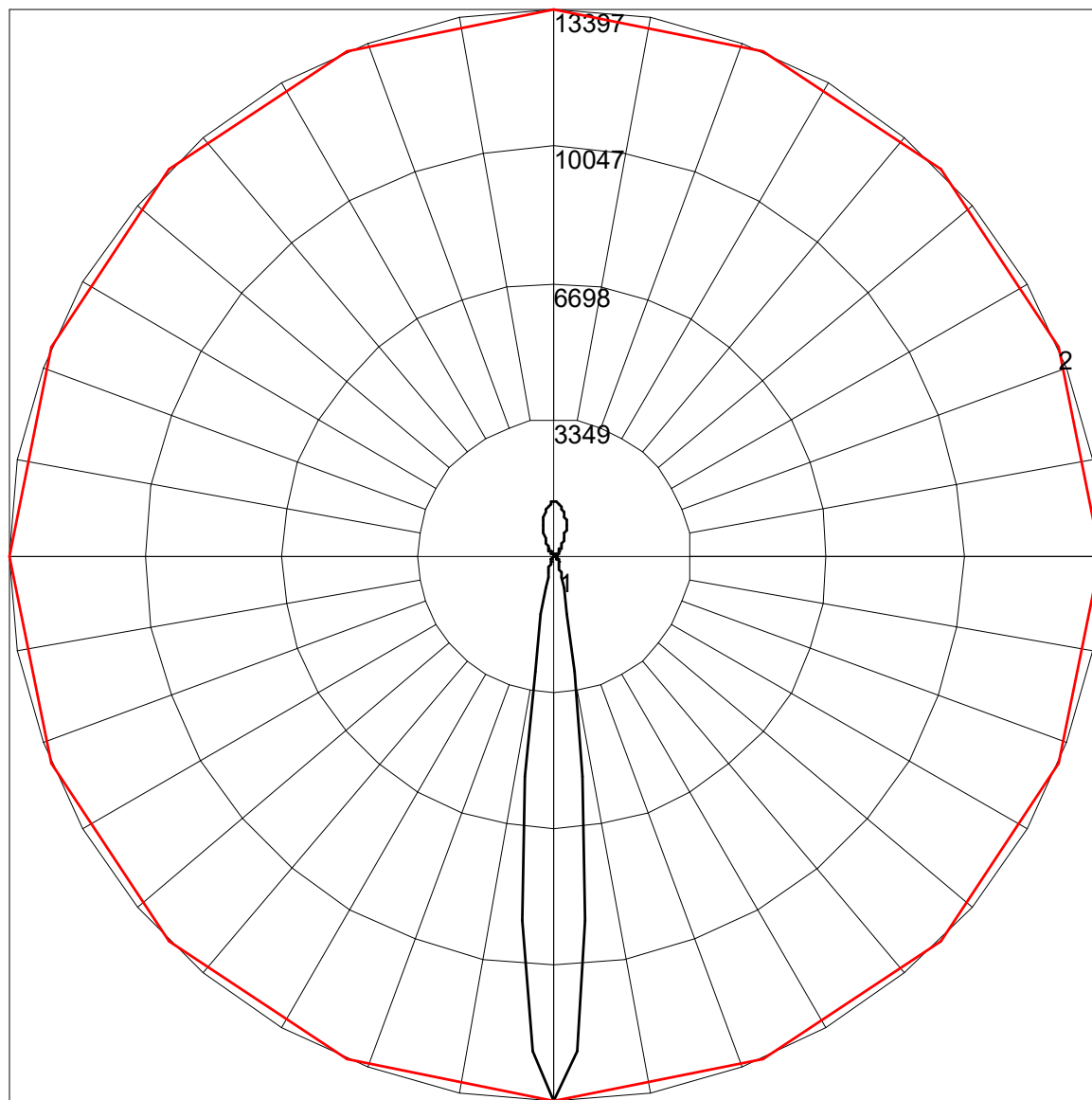
12H	4H	13.6	13.9	14.6	14.9	16.2	13.6	14.0	14.7	15.0
	6H	13.7	14.0	14.7	15.0	16.3	13.8	14.0	14.8	15.0
	8H	13.7	14.0	14.8	15.0	16.3	13.8	14.0	14.8	15.0

Maximum UGR = 16.5

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POLAR GRAPH



Maximum Candela = 13396.643 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.)