



IES INDOOR REPORT

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

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #13257153.19 & w13257153.26

[TESTLAB] UL Verification Services Inc.

[ISSUE DATE] 20-APR-2021

[MANUFAC] H E Williams Inc

[LUMCAT] 4CSDI-P12-835U-P12-835D-PoE PR-LM-WHU-RS-WHD-WM

[LUMINAIRE] Aluminum housing, optics, and trim enclosure

[LAMP] Two white LEDs

[OTHER] 25.1 C, 120.077 V, 0.14532 A, 17.3136 W, 0.992212 PF, 60.0001

[MORE] Hz

[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	2849
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	124
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	0.731	1.005	1.097	1.187	1.279	1.187	1.097	1.005	0.731
95.0	4.111	3.838	3.655	4.020	4.385	4.020	3.655	3.838	4.111
97.5	7.492	7.218	7.036	7.492	7.858	7.492	7.036	7.218	7.492
100.0	11.421	11.238	10.964	11.512	11.878	11.512	10.964	11.238	11.421
102.5	15.806	15.715	15.349	15.989	16.172	15.989	15.349	15.715	15.806
105.0	20.649	20.649	20.192	21.014	21.106	21.014	20.192	20.649	20.649
107.5	25.948	25.948	25.399	26.496	26.313	26.496	25.399	25.948	25.948
110.0	31.705	31.795	31.248	32.343	31.887	32.343	31.248	31.795	31.705
112.5	37.734	38.100	37.552	38.557	37.825	38.557	37.552	38.100	37.734
115.0	44.130	45.043	44.404	45.226	44.130	45.226	44.404	45.043	44.130
117.5	50.891	52.170	51.714	52.627	50.891	52.627	51.714	52.170	50.891
120.0	57.744	59.205	59.571	60.210	57.926	60.210	59.571	59.205	57.744
122.5	64.048	66.697	68.160	68.068	65.235	68.068	68.160	66.697	64.048
125.0	71.174	75.286	78.027	76.839	72.636	76.839	78.027	75.286	71.174
127.5	79.854	85.244	89.539	86.981	81.408	86.981	89.539	85.244	79.854
130.0	90.726	97.670	103.061	99.133	92.097	99.133	103.061	97.670	90.726
132.5	104.523	112.746	118.868	114.025	105.528	114.025	118.868	112.746	104.523

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135.0	121.060	130.197	136.319	131.202	121.609	131.202	136.319	130.197	121.060
137.5	140.339	149.476	156.602	150.389	140.613	150.389	156.602	149.476	140.339
140.0	162.267	170.855	182.184	172.226	162.267	172.226	182.184	170.855	162.267
142.5	185.657	195.524	215.898	198.448	185.657	198.448	215.898	195.524	185.657
145.0	211.970	227.137	263.409	231.705	214.254	231.705	263.409	227.137	211.970
147.5	248.060	272.455	327.732	276.840	252.171	276.840	327.732	272.455	248.060
150.0	302.331	338.786	404.113	340.614	304.342	340.614	404.113	338.786	302.331
152.5	382.642	422.935	489.450	425.676	380.724	425.676	489.450	422.935	382.642
155.0	485.886	527.093	594.887	534.950	488.993	534.950	594.887	527.093	485.886
157.5	628.236	676.294	748.291	695.572	646.600	695.572	748.291	676.294	628.236
160.0	870.265	926.455	1005.030	959.347	906.538	959.347	1005.030	926.455	870.265
162.5	1285.525	1337.604	1409.783	1370.496	1319.331	1370.496	1409.783	1337.604	1285.525
165.0	1855.651	1891.284	1942.449	1906.817	1863.874	1906.817	1942.449	1891.284	1855.651
167.5	2452.274	2465.979	2489.734	2462.324	2433.087	2462.324	2489.734	2465.979	2452.274
170.0	2924.638	2918.243	2926.466	2915.502	2901.797	2915.502	2926.466	2918.243	2924.638
172.5	3228.889	3217.012	3221.580	3223.407	3222.494	3223.407	3221.580	3217.012	3228.889
175.0	3433.549	3422.585	3428.981	3436.290	3439.945	3436.290	3428.981	3422.585	3433.549
177.5	3577.908	3564.203	3566.944	3576.994	3581.563	3576.994	3566.944	3564.203	3577.908
180.0	3622.807	3622.807	3622.807	3622.807	3622.807	3622.807	3622.807	3622.807	3622.807

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Zone	Lumens	%Lamp	%Fixt
0-20	994.50	N.A.	34.90
0-30	1144.34	N.A.	40.20
0-40	1245.16	N.A.	43.70
0-60	1344.94	N.A.	47.20
0-80	1372.8	N.A.	48.20
0-90	1374.38	N.A.	48.20
10-90	699.41	N.A.	24.60
20-40	250.66	N.A.	8.80
20-50	314.37	N.A.	11.00
40-70	119.86	N.A.	4.20
60-80	27.86	N.A.	1.00
70-80	7.78	N.A.	0.30
80-90	1.59	N.A.	0.10
90-110	27.04	N.A.	0.90
90-120	71.55	N.A.	2.50
90-130	139.97	N.A.	4.90
90-150	391.97	N.A.	13.80
90-180	1474.53	N.A.	51.80
110-180	1447.48	N.A.	50.80
0-180	2848.91	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	4.90
100-110	22.14
110-120	44.51
120-130	68.42
130-140	101.16
140-150	150.84
150-160	258.60
160-170	512.36
170-180	311.60

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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	107	107	107	107	98	98	98	98	82	82	82	68	68	68	55	55	55	48
1	100	97	94	92	92	90	87	85	76	75	73	64	63	62	52	52	51	46
2	94	89	84	80	87	83	79	76	71	68	66	60	59	57	50	50	49	44
3	89	82	76	72	82	76	72	68	66	63	61	57	55	53	49	47	46	43
4	84	76	70	66	78	71	66	62	62	59	56	54	52	50	47	45	44	41
5	79	71	65	60	74	67	62	58	59	55	53	52	49	47	45	44	43	40
6	75	66	60	56	70	63	58	54	56	52	50	50	47	45	44	42	41	39
7	72	63	57	53	67	59	54	51	53	50	47	48	45	43	43	41	40	38
8	68	59	54	50	64	57	52	48	51	47	45	46	44	42	42	40	39	37
9	66	56	51	47	62	54	49	46	49	46	43	45	42	40	41	39	37	36
10	63	54	49	45	60	52	47	44	47	44	41	43	41	39	40	38	37	35

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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	11.3	11.9	12.3	12.9	14.2	11.1	11.8	12.1	12.8	14.1
	3H	12.2	12.8	13.3	13.8	15.2	12.2	12.8	13.2	13.8	15.1
	4H	12.4	13.0	13.5	14.0	15.3	12.4	13.0	13.5	14.0	15.3
	6H	12.4	12.9	13.5	13.9	15.3	12.4	13.0	13.5	14.0	15.3
	8H	12.4	12.9	13.5	13.9	15.3	12.4	12.9	13.5	14.0	15.3
	12H	12.4	12.8	13.4	13.8	15.2	12.4	12.9	13.5	13.9	15.3

UGR Viewed Endwise

4H	2H	11.5	12.1	12.6	13.1	14.4	11.4	11.9	12.4	12.9	14.3
	3H	12.6	13.1	13.7	14.1	15.5	12.6	13.1	13.7	14.1	15.5
	4H	12.9	13.3	14.0	14.4	15.7	12.9	13.4	14.0	14.4	15.8
	6H	12.9	13.3	14.0	14.3	15.7	13.0	13.3	14.0	14.4	15.8
	8H	12.9	13.3	14.0	14.3	15.7	13.0	13.3	14.0	14.4	15.8
	12H	12.9	13.2	13.9	14.2	15.6	13.0	13.3	14.1	14.4	15.7

8H	4H	12.9	13.2	14.0	14.3	15.7	12.9	13.3	14.0	14.3	15.7
	6H	13.0	13.3	14.1	14.3	15.7	13.0	13.3	14.1	14.4	15.8
	8H	13.0	13.2	14.1	14.3	15.7	13.1	13.3	14.1	14.4	15.8
	12H	13.0	13.2	14.1	14.2	15.7	13.1	13.3	14.2	14.4	15.8

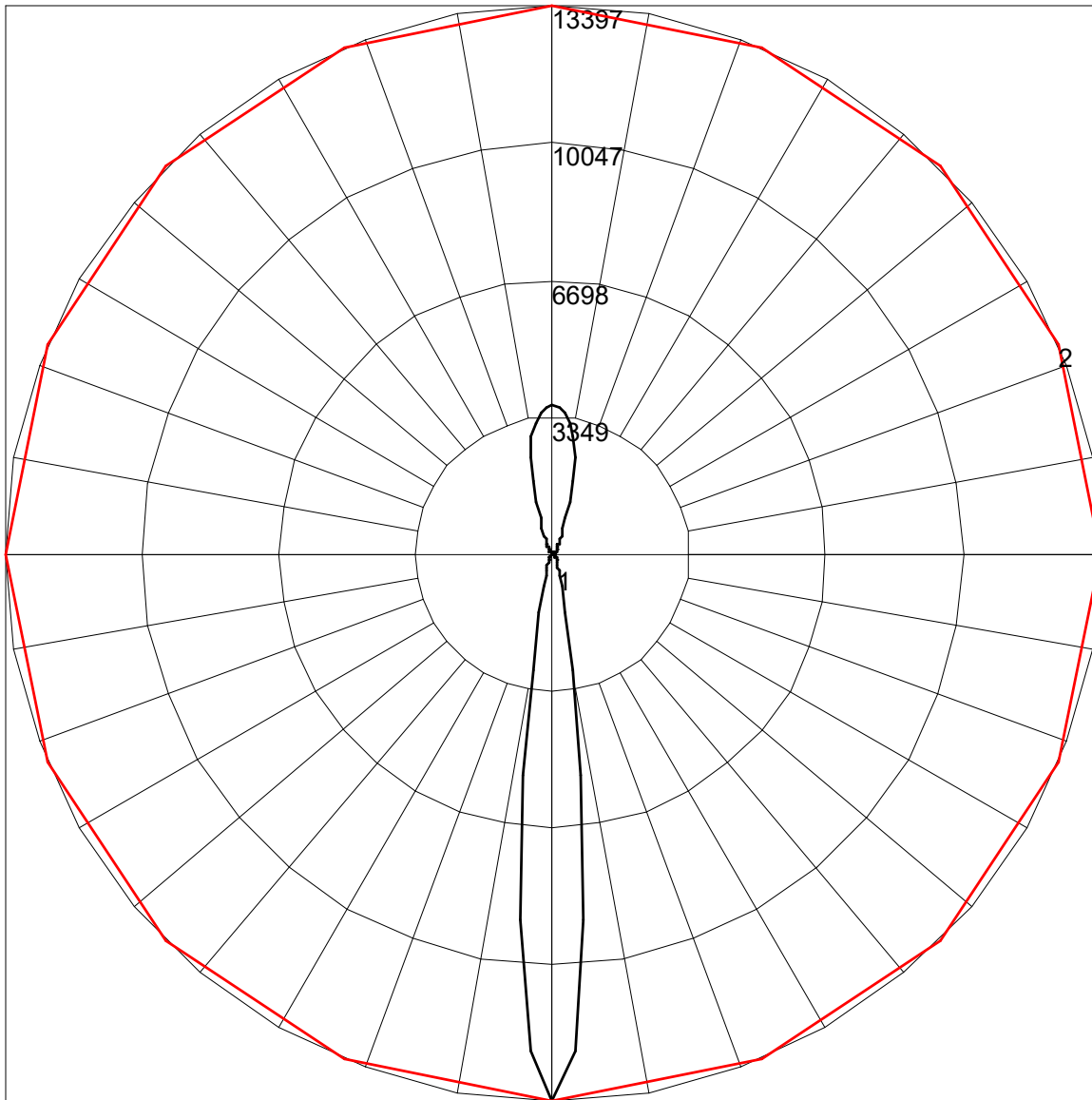
12H	4H	12.8	13.2	13.9	14.2	15.6	12.9	13.2	13.9	14.2	15.6
	6H	12.9	13.2	14.0	14.2	15.7	13.0	13.2	14.1	14.3	15.7
	8H	13.0	13.2	14.1	14.2	15.7	13.0	13.3	14.1	14.3	15.8

Maximum UGR = 15.8

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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.)