



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4CSDI-P12-835U-P12-835D-XXX-POE PR-LM-WHU-RN-WHD-WM_IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #13257153.19 & #13257153.23

[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-RN-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	2730
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	119
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	38474	46530	38784
55	22813	26285	23299
65	17814	16305	17530
75	10003	9311	9542
85	4572	4572	4572

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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	4507.855	4507.855	4507.855	4507.855	4507.855	4507.855	4507.855	4507.855	4507.855
2.5	4383.660	4350.809	4347.604	4348.405	4350.008	4348.405	4347.604	4350.809	4383.660
5.0	3947.778	3917.330	3909.318	3907.715	3905.312	3907.715	3909.318	3917.330	3947.778
7.5	3267.513	3247.482	3251.488	3258.700	3258.700	3258.700	3251.488	3247.482	3267.513
10.0	2498.310	2485.490	2506.322	2527.155	2535.167	2527.155	2506.322	2485.490	2498.310
12.5	1786.796	1781.989	1814.840	1842.083	1850.095	1842.083	1814.840	1781.989	1786.796
15.0	1237.937	1240.341	1267.584	1296.429	1303.640	1296.429	1267.584	1240.341	1237.937
17.5	874.168	879.777	903.814	923.045	922.243	923.045	903.814	879.777	874.168
20.0	659.111	670.490	691.402	694.126	686.834	694.126	691.402	670.490	659.111
22.5	534.757	550.542	572.416	558.634	543.650	558.634	572.416	550.542	534.757
25.0	448.141	471.537	498.220	471.297	448.301	471.297	498.220	471.537	448.141
27.5	370.500	402.389	440.930	401.027	370.420	401.027	440.930	402.389	370.500
30.0	299.749	333.241	385.163	334.603	303.034	334.603	385.163	333.241	299.749
32.5	243.981	271.304	327.071	275.551	249.671	275.551	327.071	271.304	243.981
35.0	203.839	223.069	272.507	228.999	209.047	228.999	272.507	223.069	203.839
37.5	178.599	188.455	224.832	193.102	179.721	193.102	224.832	188.455	178.599
40.0	155.684	163.856	187.413	165.299	155.283	165.299	187.413	163.856	155.684
42.5	132.047	141.742	158.247	142.062	132.126	142.062	158.247	141.742	132.047
45.0	109.451	120.108	132.367	120.669	110.333	120.669	132.367	120.108	109.451
47.5	89.581	99.997	110.172	100.878	91.103	100.878	110.172	99.997	89.581
50.0	73.395	82.289	90.782	83.651	74.997	83.651	90.782	82.289	73.395
52.5	61.295	67.947	74.276	69.469	62.738	69.469	74.276	67.947	61.295
55.0	52.642	57.129	60.655	58.332	53.764	58.332	60.655	57.129	52.642
57.5	46.313	48.636	49.597	49.518	46.873	49.518	49.597	48.636	46.313
60.0	40.944	41.825	40.784	42.226	40.864	42.226	40.784	41.825	40.944
62.5	35.736	35.816	33.813	35.736	35.255	35.736	33.813	35.816	35.736
65.0	30.288	30.127	27.723	29.887	29.806	29.887	27.723	30.127	30.288
67.5	25.079	24.679	22.435	24.438	24.679	24.438	22.435	24.679	25.079
70.0	20.031	19.630	17.787	19.311	19.630	19.311	17.787	19.630	20.031
72.5	15.143	14.823	13.541	14.582	14.823	14.582	13.541	14.823	15.143
75.0	10.416	10.416	9.695	10.256	9.936	10.256	9.695	10.416	10.416
77.5	5.048	6.089	6.490	6.170	5.689	6.170	6.490	6.089	5.048
80.0	3.846	3.766	4.087	3.846	3.766	3.846	4.087	3.766	3.846
82.5	2.644	2.644	2.644	2.724	2.644	2.724	2.644	2.644	2.644
85.0	1.603	1.603	1.603	1.683	1.603	1.683	1.603	1.603	1.603
87.5	0.721	0.721	0.721	0.721	0.721	0.721	0.721	0.721	0.721
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	696.85	N.A.	25.50
0-30	917.10	N.A.	33.60
0-40	1066.2	N.A.	39.10
0-60	1212.84	N.A.	44.40
0-80	1253.34	N.A.	45.90
0-90	1255.22	N.A.	46.00
10-90	927.42	N.A.	34.00
20-40	369.35	N.A.	13.50
20-50	463.31	N.A.	17.00
40-70	176.05	N.A.	6.40
60-80	40.49	N.A.	1.50
70-80	11.09	N.A.	0.40
80-90	1.89	N.A.	0.10
90-110	27.04	N.A.	1.00
90-120	71.55	N.A.	2.60
90-130	139.97	N.A.	5.10
90-150	391.97	N.A.	14.40
90-180	1474.53	N.A.	54.00
110-180	1447.48	N.A.	53.00
0-180	2729.75	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	327.81
10-20	369.05
20-30	220.24
30-40	149.11
40-50	93.97
50-60	52.68
60-70	29.40
70-80	11.09
80-90	1.89
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	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	106	106	106	106	97	97	97	97	81	81	81	66	66	66	52	52	52	46
1	99	96	93	90	91	88	86	83	74	73	71	61	60	59	50	49	48	43
2	92	86	82	78	85	80	76	73	68	65	63	57	55	54	47	46	45	40
3	86	79	73	68	79	73	68	64	63	59	56	53	51	49	44	43	42	38
4	81	72	66	61	74	67	62	58	58	54	51	50	47	45	42	40	39	36
5	76	66	60	55	70	62	56	52	54	50	47	47	44	42	40	38	37	34
6	71	61	55	50	66	58	52	48	51	46	43	44	41	39	38	36	35	32
7	67	57	51	46	62	54	48	44	48	43	40	42	39	37	36	34	33	30
8	63	53	47	43	59	50	45	41	45	41	38	40	37	34	35	33	31	29
9	60	50	44	40	56	48	42	38	43	38	35	38	35	33	33	31	30	28
10	57	47	41	37	54	45	40	36	40	36	34	36	33	31	32	30	29	27

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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	14.9	15.5	16.9	14.0	14.6	15.0	15.6	17.0
	3H	14.9	15.5	15.9	16.5	17.9	14.9	15.5	16.0	16.6	17.9
	4H	15.1	15.7	16.2	16.7	18.1	15.1	15.7	16.2	16.7	18.1
	6H	15.1	15.6	16.2	16.6	18.0	15.1	15.7	16.2	16.7	18.1
	8H	15.1	15.6	16.1	16.6	18.0	15.1	15.6	16.2	16.6	18.0
	12H	15.0	15.5	16.1	16.5	17.9	15.1	15.5	16.1	16.6	18.0

UGR Viewed Endwise

4H	2H	14.1	14.6	15.1	15.7	17.0	14.2	14.7	15.2	15.7	17.1
	3H	15.3	15.7	16.3	16.8	18.2	15.3	15.8	16.4	16.8	18.2
	4H	15.5	16.0	16.6	17.0	18.4	15.6	16.0	16.6	17.0	18.4
	6H	15.6	15.9	16.6	17.0	18.4	15.6	16.0	16.7	17.0	18.4
	8H	15.6	15.9	16.6	17.0	18.4	15.6	15.9	16.7	17.0	18.4
	12H	15.5	15.8	16.6	16.9	18.3	15.5	15.9	16.6	16.9	18.3

8H	4H	15.5	15.9	16.6	16.9	18.4	15.6	15.9	16.6	17.0	18.4
	6H	15.6	15.9	16.7	17.0	18.4	15.6	15.9	16.7	17.0	18.4
	8H	15.6	15.9	16.7	16.9	18.4	15.6	15.9	16.7	17.0	18.4
	12H	15.6	15.8	16.7	16.9	18.4	15.6	15.8	16.7	16.9	18.4

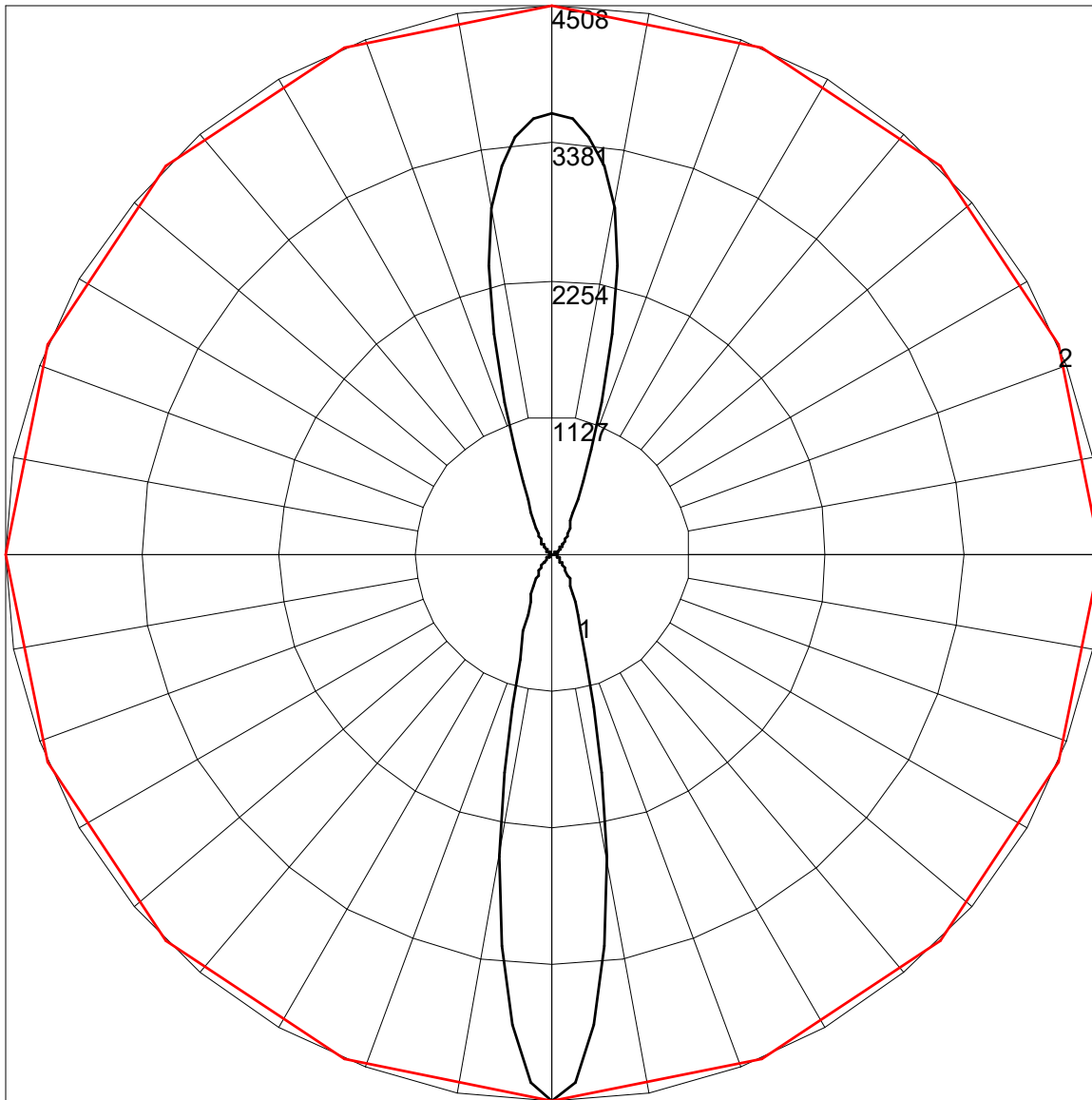
12H	4H	15.5	15.8	16.6	16.9	18.3	15.5	15.8	16.6	16.9	18.3
	6H	15.6	15.8	16.7	16.9	18.3	15.6	15.8	16.7	16.9	18.4
	8H	15.6	15.8	16.7	16.9	18.3	15.6	15.8	16.7	16.9	18.4

Maximum UGR = 18.4

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POLAR GRAPH



Maximum Candela = 4507.855 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.)