



IES INDOOR REPORT

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

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #13257153.19 & #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-LM-WHU-LS-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	2844
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	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	0.731	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	992.49	N.A.	34.90
0-30	1134.24	N.A.	39.90
0-40	1225.08	N.A.	43.10
0-60	1326.77	N.A.	46.60
0-80	1366.39	N.A.	48.00
0-90	1369.64	N.A.	48.20
10-90	700.33	N.A.	24.60
20-40	232.59	N.A.	8.20
20-50	293.54	N.A.	10.30
40-70	128.26	N.A.	4.50
60-80	39.61	N.A.	1.40
70-80	13.05	N.A.	0.50
80-90	3.26	N.A.	0.10
90-110	27.04	N.A.	1.00
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.	50.90
0-180	2844.17	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	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	107	107	107	107	98	98	98	98	82	82	82	68	68	68	54	54	54	48
1	100	97	94	91	92	90	87	85	76	75	73	64	63	62	52	52	51	46
2	94	88	84	80	87	82	79	75	71	68	66	60	58	57	50	49	48	44
3	88	81	76	72	82	76	72	68	66	63	60	57	55	53	48	47	46	42
4	83	75	70	65	77	71	66	62	62	59	56	54	52	50	47	45	44	41
5	79	70	64	60	74	66	61	57	59	55	52	52	49	47	45	43	42	39
6	75	66	60	56	70	62	57	54	56	52	49	49	47	45	44	42	41	38
7	71	62	56	52	67	59	54	50	53	49	47	48	45	43	42	41	39	37
8	68	59	53	49	64	56	51	48	51	47	45	46	43	41	41	40	38	36
9	65	56	51	47	62	54	49	45	49	45	43	44	42	40	40	38	37	35
10	63	54	48	45	59	52	47	44	47	44	41	43	41	39	39	38	36	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	12.4	13.1	13.4	14.1	15.4	12.5	13.1	13.5	14.1	15.4
	3H	13.7	14.3	14.7	15.3	16.6	13.8	14.4	14.8	15.4	16.7
	4H	14.1	14.7	15.1	15.7	17.0	14.2	14.8	15.2	15.8	17.1
	6H	14.3	14.8	15.4	15.8	17.2	14.5	15.0	15.5	16.0	17.4
	8H	14.3	14.8	15.4	15.9	17.2	14.5	15.0	15.6	16.1	17.4
	12H	14.4	14.8	15.4	15.8	17.2	14.6	15.0	15.6	16.1	17.4

UGR Viewed Endwise

4H	2H	12.8	13.3	13.8	14.4	15.7	12.8	13.4	13.8	14.4	15.7
	3H	14.3	14.7	15.3	15.8	17.1	14.3	14.8	15.4	15.9	17.2
	4H	14.8	15.2	15.8	16.2	17.6	14.9	15.3	15.9	16.3	17.7
	6H	15.1	15.5	16.2	16.5	17.9	15.3	15.6	16.3	16.7	18.0
	8H	15.2	15.5	16.2	16.6	17.9	15.4	15.7	16.4	16.8	18.1
	12H	15.2	15.5	16.3	16.6	18.0	15.4	15.7	16.5	16.8	18.2

8H	4H	14.9	15.2	16.0	16.3	17.7	15.0	15.3	16.1	16.4	17.8
	6H	15.3	15.6	16.4	16.7	18.1	15.5	15.8	16.6	16.9	18.2
	8H	15.5	15.7	16.6	16.8	18.2	15.7	15.9	16.7	17.0	18.4
	12H	15.6	15.8	16.7	16.8	18.3	15.8	16.0	16.9	17.0	18.5

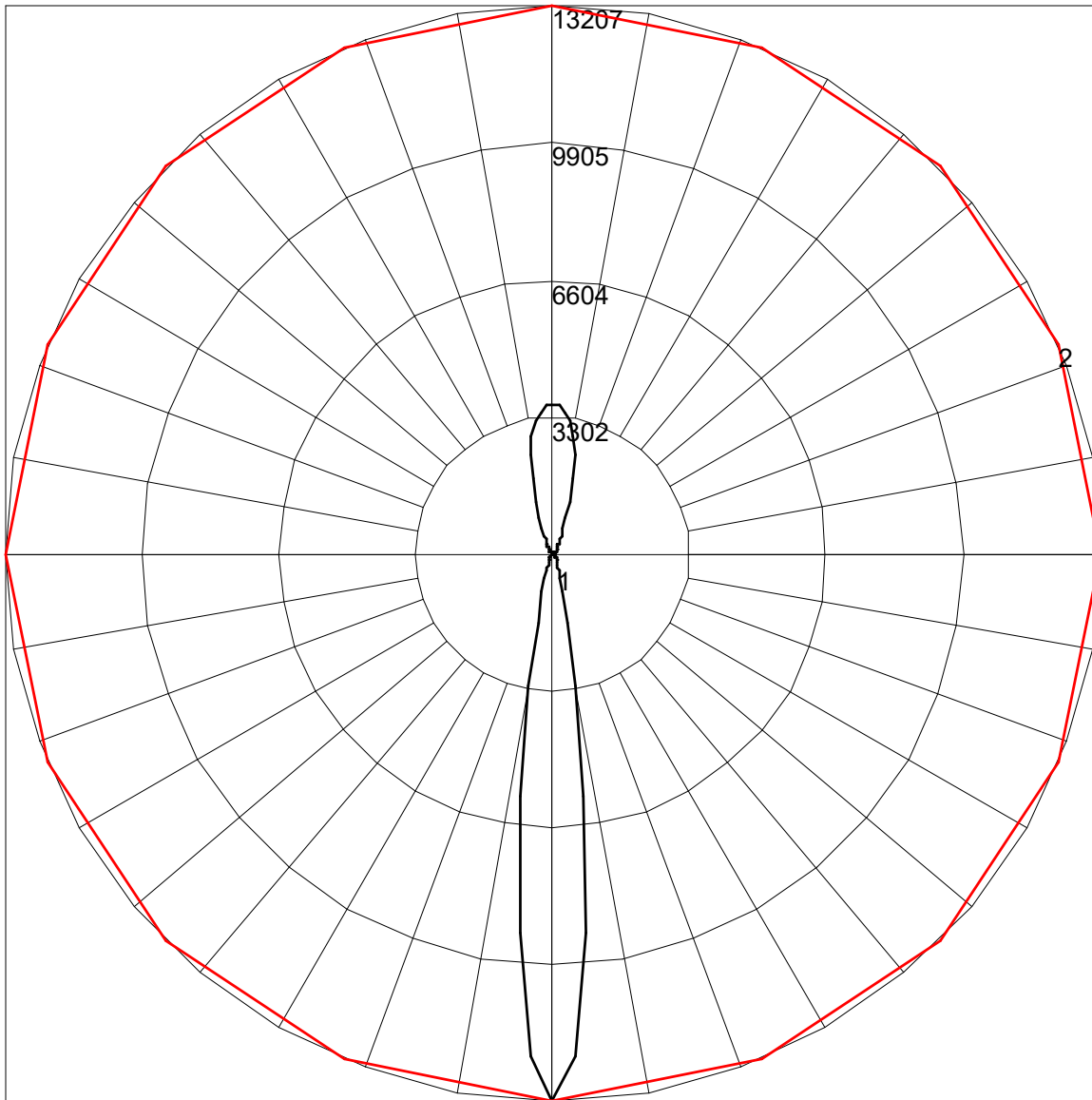
12H	4H	14.9	15.2	15.9	16.2	17.6	15.0	15.3	16.0	16.3	17.7
	6H	15.3	15.6	16.4	16.6	18.1	15.5	15.7	16.6	16.8	18.2
	8H	15.5	15.7	16.6	16.8	18.2	15.7	15.9	16.8	17.0	18.4

Maximum UGR = 18.5

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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.)