



IES INDOOR REPORT

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

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #13257153.19 & #13257153.22

[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-LN-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	2728
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	37669	42821	37077
55	27488	29085	26551
65	22327	22139	22233
75	16922	16075	16383
85	10050	8681	9366

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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	4517.023	4517.023	4517.023	4517.023	4517.023	4517.023	4517.023	4517.023	4517.023
2.5	4353.641	4350.438	4354.442	4361.650	4362.451	4361.650	4354.442	4350.438	4353.641
5.0	3926.767	3917.957	3919.559	3918.758	3915.554	3918.758	3919.559	3917.957	3926.767
7.5	3275.643	3271.638	3263.629	3256.421	3252.417	3256.421	3263.629	3271.638	3275.643
10.0	2539.624	2533.217	2523.606	2508.389	2505.186	2508.389	2523.606	2533.217	2539.624
12.5	1851.659	1840.447	1830.836	1810.814	1805.207	1810.814	1830.836	1840.447	1851.659
15.0	1299.845	1293.438	1284.629	1259.801	1245.385	1259.801	1284.629	1293.438	1299.845
17.5	916.219	917.821	915.418	886.586	868.966	886.586	915.418	917.821	916.219
20.0	676.833	687.885	695.733	664.899	646.399	664.899	695.733	687.885	676.833
22.5	525.144	546.928	570.795	535.235	510.648	535.235	570.795	546.928	525.144
25.0	418.625	449.219	491.666	443.373	409.175	443.373	491.666	449.219	418.625
27.5	331.328	368.009	424.472	362.963	324.201	362.963	424.472	368.009	331.328
30.0	268.379	297.611	357.838	292.325	261.410	292.325	357.838	297.611	268.379
32.5	225.691	245.392	292.966	239.707	219.844	239.707	292.966	245.392	225.691
35.0	194.135	208.472	237.064	204.468	191.894	204.468	237.064	208.472	194.135
37.5	169.629	180.281	195.818	178.679	169.228	178.679	195.818	180.281	169.629
40.0	147.204	156.894	165.544	156.574	146.643	156.574	165.544	156.894	147.204
42.5	125.740	135.751	141.598	135.431	124.779	135.431	141.598	135.751	125.740
45.0	107.159	116.610	121.816	115.809	105.477	115.809	121.816	116.610	107.159
47.5	91.942	100.111	104.757	98.670	89.299	98.670	104.757	100.111	91.942
50.0	80.009	86.496	89.860	84.494	77.045	84.494	89.860	86.496	80.009
52.5	70.798	75.604	77.366	73.522	68.076	73.522	77.366	75.604	70.798
55.0	63.430	66.714	67.115	64.953	61.268	64.953	67.115	66.714	63.430
57.5	57.023	59.025	58.465	57.745	55.581	57.745	58.465	59.025	57.023
60.0	50.697	51.977	50.937	51.257	49.736	51.257	50.937	51.977	50.697
62.5	44.049	45.250	44.049	45.090	43.889	45.090	44.049	45.250	44.049
65.0	37.962	38.763	37.642	38.843	37.802	38.843	37.642	38.763	37.962
67.5	32.436	32.837	31.716	32.677	32.036	32.677	31.716	32.837	32.436
70.0	27.070	27.311	26.349	27.070	26.670	27.070	26.349	27.311	27.070
72.5	22.184	22.105	21.384	21.944	21.624	21.944	21.384	22.105	22.184
75.0	17.620	17.379	16.738	17.219	17.059	17.219	16.738	17.379	17.620
77.5	13.455	13.215	12.654	12.974	12.895	12.974	12.654	13.215	13.455
80.0	9.691	9.451	9.050	9.291	9.291	9.291	9.050	9.451	9.691
82.5	6.407	6.087	5.766	6.007	6.087	6.007	5.766	6.087	6.407
85.0	3.524	3.204	3.044	3.204	3.284	3.204	3.044	3.204	3.524
87.5	0.560	0.881	1.041	1.201	1.282	1.201	1.041	0.881	0.560
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	699.31	N.A.	25.60
0-30	908.87	N.A.	33.30
0-40	1044.03	N.A.	38.30
0-60	1193.23	N.A.	43.70
0-80	1249.82	N.A.	45.80
0-90	1253.88	N.A.	46.00
10-90	925.33	N.A.	33.90
20-40	344.73	N.A.	12.60
20-50	434.74	N.A.	15.90
40-70	187.32	N.A.	6.90
60-80	56.60	N.A.	2.10
70-80	18.48	N.A.	0.70
80-90	4.05	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.	53.10
0-180	2728.4	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	328.55
10-20	370.76
20-30	209.56
30-40	135.16
40-50	90.02
50-60	59.18
60-70	38.12
70-80	18.48
80-90	4.05
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	106	106	106	106	97	97	97	97	81	81	81	66	66	66	52	52	52	46
1	99	95	92	90	91	88	85	83	74	72	71	61	60	59	49	49	48	43
2	92	86	81	77	85	80	76	72	68	65	63	57	55	53	47	45	44	40
3	86	78	72	68	79	73	68	64	62	59	56	53	51	49	44	43	41	37
4	80	72	65	60	74	67	61	57	58	54	51	49	47	45	42	40	39	35
5	75	66	59	55	70	62	56	52	54	50	47	46	44	41	40	38	36	33
6	71	61	54	50	66	57	52	47	50	46	43	44	41	39	38	36	34	32
7	67	57	50	46	62	54	48	44	47	43	40	42	38	36	36	34	32	30
8	63	53	47	42	59	50	45	41	45	40	37	39	36	34	35	32	31	29
9	60	50	44	40	56	47	42	38	42	38	35	38	35	32	33	31	30	28
10	57	47	41	37	53	45	39	36	40	36	33	36	33	31	32	30	28	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	15.2	15.9	16.2	16.9	18.2	UGR Viewed Endwise	15.1	15.7	16.1	16.7	18.1
	3H	16.5	17.1	17.5	18.1	19.5		16.3	16.9	17.4	18.0	19.3
	4H	16.9	17.4	17.9	18.5	19.8		16.7	17.3	17.8	18.3	19.7
	6H	17.1	17.6	18.2	18.7	20.0		17.0	17.5	18.0	18.5	19.9
	8H	17.2	17.7	18.2	18.7	20.1		17.0	17.5	18.1	18.6	19.9
	12H	17.2	17.6	18.2	18.7	20.1		17.0	17.5	18.1	18.5	19.9

4H	2H	15.5	16.1	16.6	17.1	18.5	15.4	16.0	16.5	17.0	18.4
	3H	17.0	17.5	18.1	18.5	19.9	16.9	17.4	18.0	18.4	19.8
	4H	17.5	17.9	18.6	19.0	20.4	17.4	17.8	18.5	18.9	20.3
	6H	17.8	18.2	18.9	19.3	20.7	17.7	18.1	18.8	19.2	20.6
	8H	17.9	18.3	19.0	19.3	20.7	17.8	18.2	18.9	19.2	20.6
	12H	18.0	18.3	19.0	19.3	20.7	17.8	18.1	18.9	19.2	20.6

8H	4H	17.6	18.0	18.7	19.0	20.4	17.5	17.9	18.6	18.9	20.3
	6H	18.0	18.3	19.1	19.4	20.8	17.9	18.2	19.0	19.3	20.7
	8H	18.2	18.4	19.3	19.5	20.9	18.1	18.3	19.2	19.4	20.8
	12H	18.3	18.5	19.4	19.5	21.0	18.1	18.3	19.2	19.4	20.9

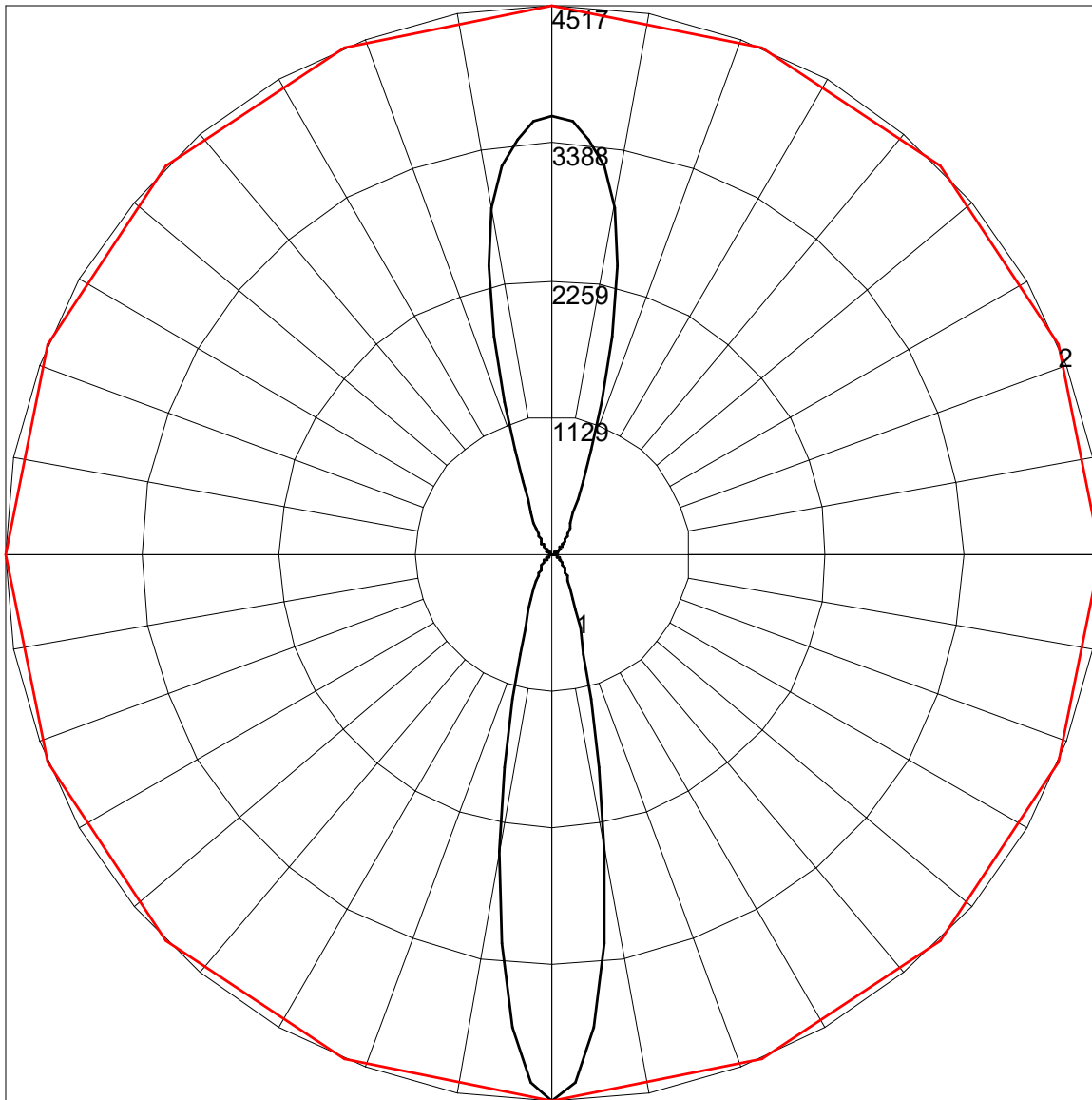
12H	4H	17.6	17.9	18.7	19.0	20.4	17.5	17.8	18.6	18.9	20.3
	6H	18.0	18.3	19.1	19.4	20.8	17.9	18.2	19.0	19.3	20.7
	8H	18.2	18.4	19.3	19.5	21.0	18.1	18.3	19.2	19.4	20.9

Maximum UGR = 21.0

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POLAR GRAPH



Maximum Candela = 4517.023 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.)