



IES INDOOR REPORT

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

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #13257153.19

[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-LM-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	2770
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	120
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	37397	42110	37566
55	27105	29714	27662
65	22808	22950	22808
75	17427	17042	17812
85	10304	9160	10991

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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	3184.311	3184.311	3184.311	3184.311	3184.311	3184.311	3184.311	3184.311	3184.311
2.5	3144.166	3132.122	3134.531	3143.363	3147.377	3143.363	3134.531	3132.122	3144.166
5.0	3017.307	3007.672	3013.293	3019.716	3022.927	3019.716	3013.293	3007.672	3017.307
7.5	2837.457	2827.019	2831.034	2832.640	2831.837	2832.640	2831.034	2827.019	2837.457
10.0	2570.091	2564.470	2571.696	2562.061	2550.018	2562.061	2571.696	2564.470	2570.091
12.5	2154.990	2167.034	2187.909	2163.822	2138.129	2163.822	2187.909	2167.034	2154.990
15.0	1630.695	1662.008	1706.970	1675.657	1637.921	1675.657	1706.970	1662.008	1630.695
17.5	1129.684	1175.449	1238.878	1204.354	1159.391	1204.354	1238.878	1175.449	1129.684
20.0	764.765	814.143	883.193	843.048	796.640	843.048	883.193	814.143	764.765
22.5	552.076	594.308	657.577	611.250	568.214	611.250	657.577	594.308	552.076
25.0	426.984	463.194	522.770	470.099	429.713	470.099	522.770	463.194	426.984
27.5	336.256	371.663	430.115	374.072	334.569	374.072	430.115	371.663	336.256
30.0	265.680	297.716	355.124	299.322	267.447	299.322	355.124	297.716	265.680
32.5	217.988	239.425	288.001	243.279	221.601	243.279	288.001	239.425	217.988
35.0	186.273	199.602	231.477	203.616	188.281	203.616	231.477	199.602	186.273
37.5	163.150	171.821	189.726	174.390	163.150	174.390	189.726	171.821	163.150
40.0	142.596	150.143	160.098	151.347	142.596	151.347	160.098	150.143	142.596
42.5	123.326	131.355	137.617	132.158	123.566	132.158	137.617	131.355	123.326
45.0	106.385	114.414	119.793	115.297	106.867	115.297	119.793	114.414	106.385
47.5	91.852	99.078	104.458	100.202	92.735	100.202	104.458	99.078	91.852
50.0	79.728	85.830	90.568	87.115	80.933	87.115	90.568	85.830	79.728
52.5	70.173	74.911	78.684	76.436	71.539	76.436	78.684	74.911	70.173
55.0	62.546	66.159	68.567	67.524	63.831	67.524	68.567	66.159	62.546
57.5	56.284	58.612	59.897	59.816	57.327	59.816	59.897	58.612	56.284
60.0	50.743	52.028	52.349	52.911	50.904	52.911	52.349	52.028	50.743
62.5	44.721	45.846	45.445	46.248	44.721	46.248	45.445	45.846	44.721
65.0	38.780	39.583	39.021	39.744	38.780	39.744	39.021	39.583	38.780
67.5	33.160	33.481	33.000	33.882	33.240	33.882	33.000	33.481	33.160
70.0	27.861	27.941	27.459	28.422	28.021	28.422	27.459	27.941	27.861
72.5	22.802	22.802	22.321	23.284	23.124	23.284	22.321	22.802	22.802
75.0	18.146	18.146	17.745	18.467	18.547	18.467	17.745	18.146	18.146
77.5	13.890	13.810	13.489	14.051	14.211	14.051	13.489	13.810	13.890
80.0	10.036	9.876	9.635	10.117	10.438	10.117	9.635	9.876	10.036
82.5	6.584	6.343	6.182	6.584	6.905	6.584	6.182	6.343	6.584
85.0	3.613	3.372	3.212	3.532	3.854	3.532	3.212	3.372	3.613
87.5	0.643	0.884	0.963	1.044	1.124	1.044	0.963	0.884	0.643
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	724.07	N.A.	26.10
0-30	951.33	N.A.	34.30
0-40	1083.88	N.A.	39.10
0-60	1232.9	N.A.	44.50
0-80	1291.46	N.A.	46.60
0-90	1295.77	N.A.	46.80
10-90	1021.95	N.A.	36.90
20-40	359.80	N.A.	13.00
20-50	448.70	N.A.	16.20
40-70	188.13	N.A.	6.80
60-80	58.57	N.A.	2.10
70-80	19.45	N.A.	0.70
80-90	4.31	N.A.	0.20
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.	14.10
90-180	1474.53	N.A.	53.20
110-180	1447.48	N.A.	52.20
0-180	2770.3	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	273.83
10-20	450.24
20-30	227.25
30-40	132.55
40-50	88.90
50-60	60.13
60-70	39.11
70-80	19.45
80-90	4.31
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	98	98	98	98	82	82	82	67	67	67	53	53	53	47
1	99	96	92	90	91	88	86	83	74	73	71	62	61	60	50	49	49	43
2	92	86	81	77	85	80	76	72	68	65	63	57	55	54	47	46	45	40
3	86	78	73	68	79	73	68	64	63	59	56	53	51	49	44	43	42	38
4	80	72	65	61	74	67	62	57	58	54	51	50	47	45	42	40	39	35
5	75	66	59	55	70	62	56	52	54	50	47	47	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	39	36	36	34	33	30
8	63	53	47	42	59	50	45	41	45	40	37	40	36	34	35	33	31	29
9	60	50	44	39	56	47	42	38	42	38	35	38	34	32	33	31	29	28
10	57	47	41	37	53	45	39	36	40	36	33	36	33	31	32	30	28	26

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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	15.8	16.2	16.8	18.2	15.3	16.0	16.3	17.0	18.3
	3H	16.5	17.1	17.5	18.1	19.5	16.6	17.2	17.6	18.2	19.6
	4H	16.9	17.5	18.0	18.5	19.9	17.0	17.6	18.1	18.6	20.0
	6H	17.2	17.7	18.2	18.7	20.1	17.3	17.8	18.3	18.8	20.2
	8H	17.2	17.7	18.3	18.8	20.1	17.4	17.9	18.4	18.9	20.3
	12H	17.2	17.7	18.3	18.7	20.1	17.4	17.8	18.4	18.9	20.3

UGR Viewed Endwise

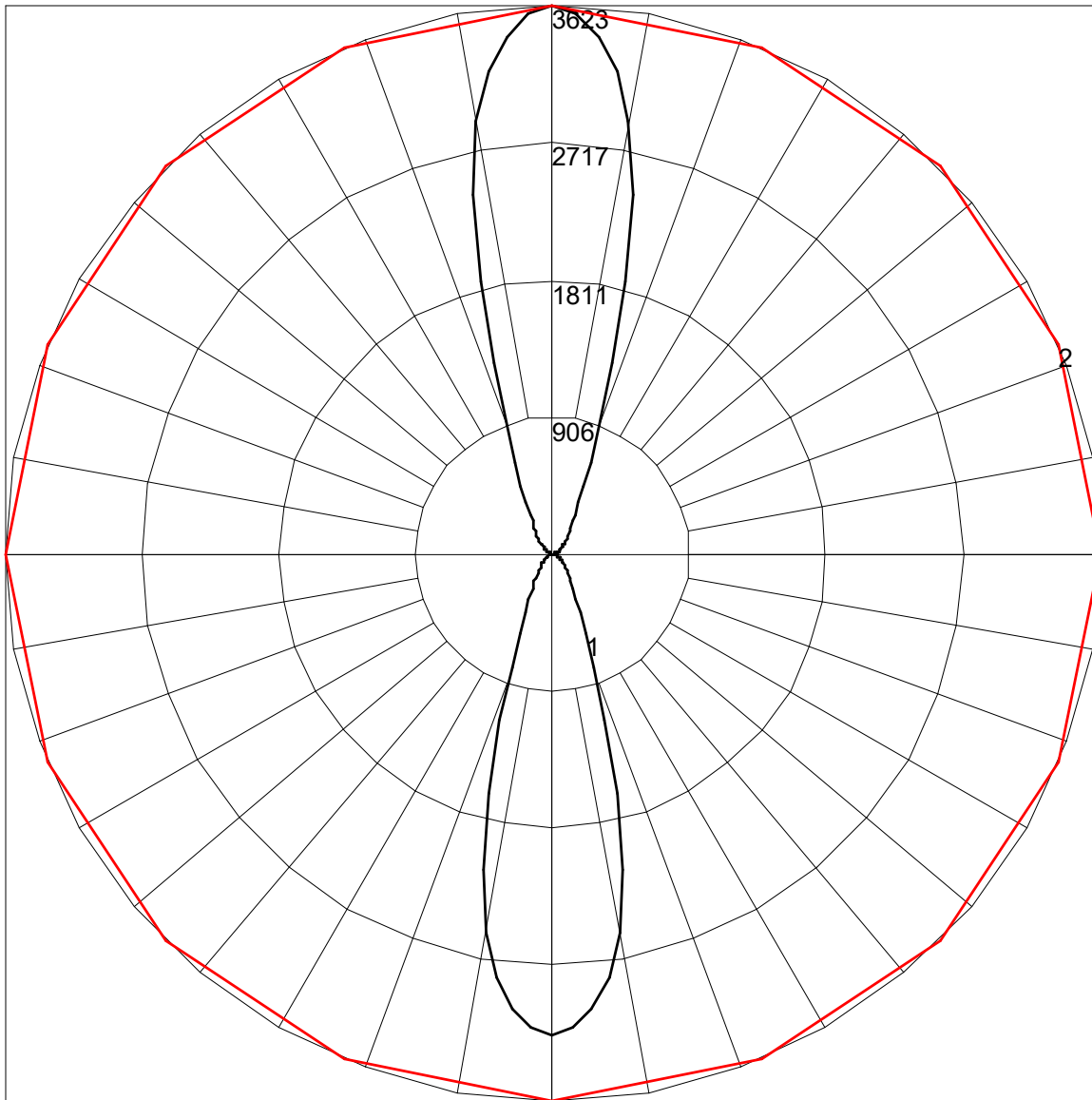
4H	2H	15.5	16.1	16.6	17.1	18.5	15.6	16.2	16.7	17.2	18.6
	3H	17.1	17.5	18.1	18.6	20.0	17.2	17.6	18.2	18.7	20.0
	4H	17.6	18.0	18.7	19.1	20.5	17.7	18.1	18.8	19.2	20.6
	6H	18.0	18.3	19.0	19.4	20.8	18.1	18.4	19.1	19.5	20.9
	8H	18.0	18.4	19.1	19.4	20.9	18.2	18.5	19.2	19.6	21.0
	12H	18.1	18.4	19.2	19.5	20.9	18.2	18.5	19.3	19.6	21.0
8H	4H	17.7	18.1	18.8	19.1	20.5	17.8	18.2	18.9	19.2	20.6
	6H	18.2	18.5	19.3	19.6	21.0	18.3	18.6	19.4	19.7	21.1
	8H	18.3	18.6	19.4	19.7	21.1	18.4	18.7	19.5	19.8	21.2
	12H	18.4	18.6	19.5	19.7	21.2	18.5	18.7	19.6	19.8	21.3
12H	4H	17.7	18.0	18.8	19.1	20.5	17.8	18.1	18.9	19.2	20.6
	6H	18.2	18.4	19.3	19.5	20.9	18.3	18.5	19.4	19.6	21.0
	8H	18.4	18.6	19.5	19.6	21.1	18.5	18.7	19.6	19.8	21.2

Maximum UGR = 21.3

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POLAR GRAPH



Maximum Candela = 3622.807 Located At Horizontal Angle = 0, Vertical Angle = 180

1 - Vertical Plane Through Horizontal Angles (90 - 270)

2 - Horizontal Cone Through Vertical Angle (180) (Through Max. Cd.)