



IES INDOOR REPORT

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

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #13257153.19 & #13257153.14

[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-LW-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	2768
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	30911	38051	31449
55	25009	27070	25428
65	21854	22186	22091
75	17184	16875	17803
85	10344	8964	11034

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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	1492.712	1492.712	1492.712	1492.712	1492.712	1492.712	1492.712	1492.712	1492.712
2.5	1519.310	1497.548	1484.652	1480.622	1479.010	1480.622	1484.652	1497.548	1519.310
5.0	1506.414	1484.652	1472.562	1468.532	1466.920	1468.532	1472.562	1484.652	1506.414
7.5	1484.652	1462.890	1452.412	1449.188	1450.800	1449.188	1452.412	1462.890	1484.652
10.0	1456.442	1435.486	1427.426	1425.008	1424.202	1425.008	1427.426	1435.486	1456.442
12.5	1416.948	1398.410	1391.962	1390.350	1387.932	1390.350	1391.962	1398.410	1416.948
15.0	1362.140	1346.020	1343.602	1340.378	1335.542	1340.378	1343.602	1346.020	1362.140
17.5	1288.794	1275.898	1275.092	1270.256	1261.390	1270.256	1275.092	1275.898	1288.794
20.0	1185.626	1182.402	1188.850	1177.566	1155.804	1177.566	1188.850	1182.402	1185.626
22.5	1039.740	1057.472	1079.234	1051.830	1011.530	1051.830	1079.234	1057.472	1039.740
25.0	858.390	897.884	947.856	895.466	836.628	895.466	947.856	897.884	858.390
27.5	658.744	717.018	793.104	717.904	650.764	717.904	793.104	717.018	658.744
30.0	471.510	538.086	627.310	544.695	473.525	544.695	627.310	538.086	471.510
32.5	319.821	380.996	469.817	392.038	328.364	392.038	469.817	380.996	319.821
35.0	217.056	264.126	337.714	276.136	227.534	276.136	337.714	264.126	217.056
37.5	155.719	187.314	240.672	196.986	164.505	196.986	240.672	187.314	155.719
40.0	120.981	140.405	175.144	147.256	126.864	147.256	175.144	140.405	120.981
42.5	100.831	112.759	133.796	117.434	103.974	117.434	133.796	112.759	100.831
45.0	87.935	96.075	108.246	98.735	89.466	98.735	108.246	96.075	87.935
47.5	78.182	84.388	91.481	85.839	78.988	85.839	91.481	84.388	78.182
50.0	70.203	75.200	79.552	76.006	70.928	76.006	79.552	75.200	70.203
52.5	63.432	67.543	70.122	68.429	64.399	68.429	70.122	67.543	63.432
55.0	57.710	61.014	62.465	61.901	58.677	61.901	62.465	61.014	57.710
57.5	52.632	55.130	55.614	55.856	53.518	55.856	55.614	55.130	52.632
60.0	47.876	49.488	49.408	50.133	48.360	50.133	49.408	49.488	47.876
62.5	42.718	44.169	43.524	44.330	42.879	44.330	43.524	44.169	42.718
65.0	37.157	38.527	37.721	38.607	37.560	38.607	37.721	38.527	37.157
67.5	32.079	32.965	32.159	33.207	32.562	33.207	32.159	32.965	32.079
70.0	27.162	27.726	27.001	28.049	27.726	28.049	27.001	27.726	27.162
72.5	22.407	22.729	22.165	23.052	23.052	23.052	22.165	22.729	22.407
75.0	17.893	18.135	17.571	18.377	18.538	18.377	17.571	18.135	17.893
77.5	13.783	13.863	13.380	14.024	14.347	14.024	13.380	13.863	13.783
80.0	9.994	9.994	9.591	10.075	10.478	10.075	9.591	9.994	9.994
82.5	6.609	6.448	6.126	6.529	7.012	6.529	6.126	6.448	6.609
85.0	3.627	3.385	3.143	3.466	3.869	3.466	3.143	3.385	3.627
87.5	0.564	0.725	0.725	0.564	0.564	0.564	0.725	0.725	0.564
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	513.07	N.A.	18.50
0-30	913.28	N.A.	33.00
0-40	1098.34	N.A.	39.70
0-60	1231.98	N.A.	44.50
0-80	1289.1	N.A.	46.60
0-90	1293.33	N.A.	46.70
10-90	1153.72	N.A.	41.70
20-40	585.26	N.A.	21.10
20-50	664.04	N.A.	24.00
40-70	171.44	N.A.	6.20
60-80	57.12	N.A.	2.10
70-80	19.33	N.A.	0.70
80-90	4.23	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.	14.20
90-180	1474.53	N.A.	53.30
110-180	1447.48	N.A.	52.30
0-180	2767.86	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	139.61
10-20	373.46
20-30	400.21
30-40	185.06
40-50	78.78
50-60	54.87
60-70	37.79
70-80	19.33
80-90	4.23
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	98	98	98	98	82	82	82	67	67	67	53	53	53	47
1	99	95	92	89	91	88	85	83	74	72	71	61	60	59	50	49	48	43
2	92	86	81	76	85	79	75	72	68	65	62	57	55	53	46	45	44	40
3	85	78	71	67	79	72	67	63	62	58	55	52	50	48	43	42	40	36
4	79	71	64	59	73	66	60	56	57	53	49	48	46	43	41	39	37	34
5	74	64	58	53	69	60	54	50	52	48	45	45	42	40	38	36	34	31
6	69	59	52	47	64	56	50	45	49	44	41	42	39	36	36	34	32	29
7	65	55	48	43	60	51	45	41	45	41	37	39	36	34	34	32	30	28
8	61	51	44	39	57	48	42	38	42	38	34	37	34	31	32	30	28	26
9	58	47	41	36	54	44	39	35	40	35	32	35	32	29	30	28	26	24
10	54	44	38	33	51	42	36	32	37	33	30	33	30	27	29	27	25	23

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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	14.8	15.4	15.8	16.4	17.8	14.8	15.5	15.9	16.5	17.9
	3H	16.2	16.8	17.2	17.8	19.2	16.3	16.9	17.3	17.9	19.3
	4H	16.7	17.2	17.7	18.3	19.6	16.8	17.3	17.8	18.4	19.7
	6H	16.9	17.5	18.0	18.5	19.9	17.1	17.6	18.1	18.6	20.0
	8H	17.0	17.5	18.1	18.5	19.9	17.1	17.6	18.2	18.7	20.0
	12H	17.0	17.5	18.1	18.5	19.9	17.2	17.6	18.2	18.7	20.1

UGR Viewed Endwise

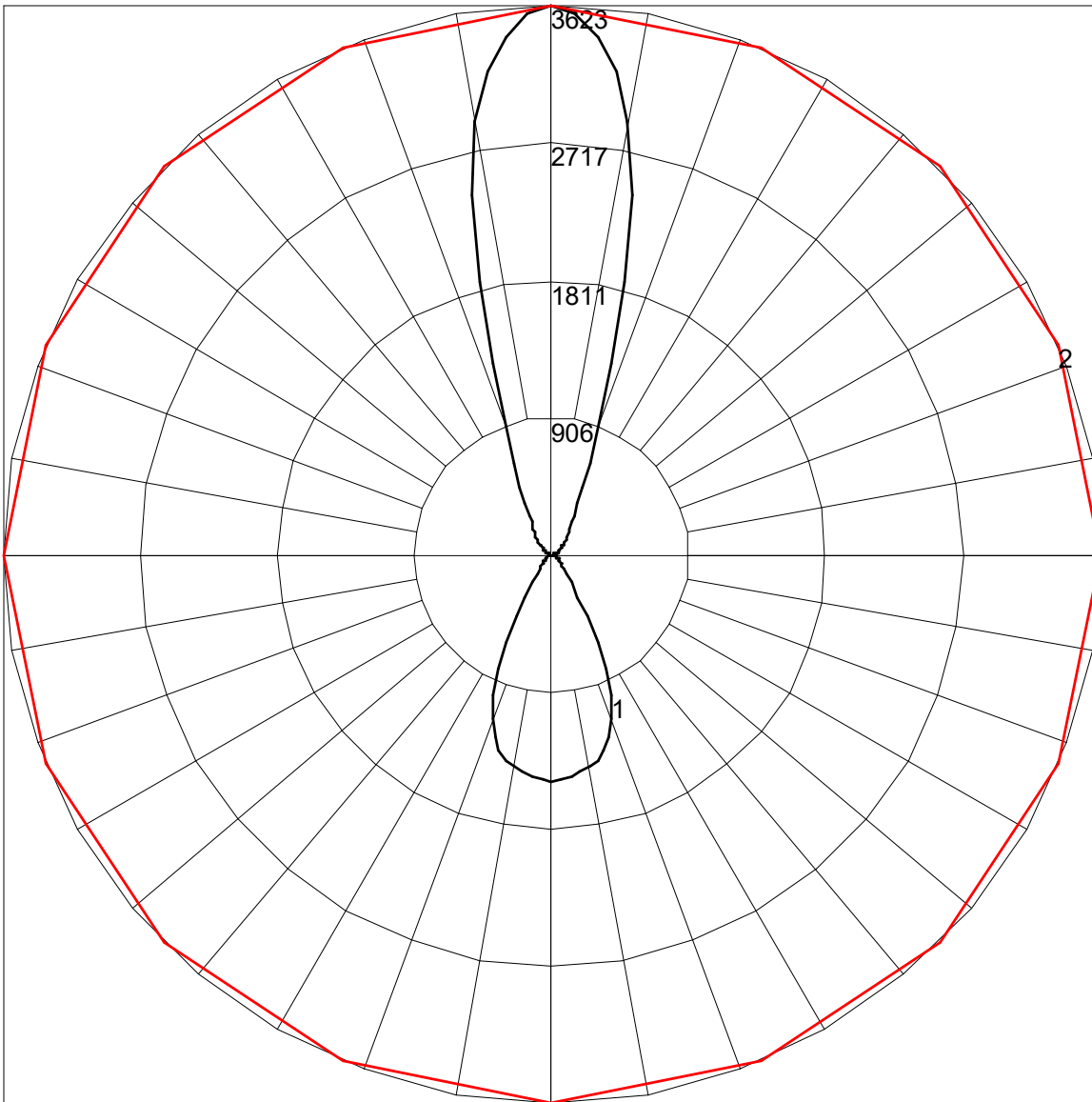
4H	2H	15.2	15.8	16.2	16.8	18.1	15.3	15.8	16.3	16.8	18.2
	3H	16.8	17.3	17.9	18.3	19.7	16.9	17.4	17.9	18.4	19.8
	4H	17.4	17.8	18.5	18.9	20.3	17.5	17.9	18.5	19.0	20.3
	6H	17.8	18.2	18.9	19.2	20.6	17.9	18.3	19.0	19.3	20.7
	8H	17.9	18.2	18.9	19.3	20.7	18.0	18.3	19.1	19.4	20.8
	12H	17.9	18.2	19.0	19.3	20.7	18.0	18.3	19.1	19.4	20.8
8H	4H	17.5	17.9	18.6	18.9	20.3	17.6	18.0	18.7	19.0	20.4
	6H	18.0	18.3	19.1	19.4	20.8	18.1	18.4	19.2	19.5	20.9
	8H	18.2	18.4	19.3	19.5	20.9	18.3	18.5	19.4	19.6	21.0
	12H	18.3	18.5	19.4	19.6	21.0	18.4	18.6	19.5	19.7	21.1
12H	4H	17.5	17.8	18.6	18.9	20.3	17.6	17.9	18.7	19.0	20.4
	6H	18.0	18.3	19.1	19.4	20.8	18.1	18.4	19.2	19.4	20.9
	8H	18.2	18.4	19.3	19.5	21.0	18.3	18.5	19.4	19.6	21.1

Maximum UGR = 21.1

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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.)