



IES INDOOR REPORT

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

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #13537338.13 & #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-LW-WHU-LW-WHD-WM

[LUMINAIRE] White formed aluminum housing, wide distribution reflector

[MORE] trims, frosted lens enclosures

[LAMP] Two white LEDs (one up/one down)

[BALLAST] (2) ERP PHB30W-0700-42 Drivers

[OTHER] 24.8 C, 120 V, 0.1986 A, 23.46 W, 0.983 PF, 60 Hz

[OTHER] This test was performed using the calibrated photodetector met

[MORE] hod of absolute photometry.

[_ CONVERT] 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 w/Sides
Luminous Length (0-180)	0.33 ft
Luminous Width (90-270)	0.33 ft
Luminous Height	1.42 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	2295	2115	2335
55	1379	1101	1402
65	842	622	851
75	397	281	411
85	81	50	87

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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	0.737	1.474	2.272	3.868	3.868	3.868	2.272	1.474	0.737
95.0	2.395	3.193	3.868	5.526	5.649	5.526	3.868	3.193	2.395
97.5	5.465	5.833	6.263	7.982	8.166	7.982	6.263	5.833	5.465
100.0	8.596	9.087	9.456	11.236	11.482	11.236	9.456	9.087	8.596
102.5	12.280	12.894	13.078	14.982	15.289	14.982	13.078	12.894	12.280
105.0	16.210	16.885	17.008	19.157	19.280	19.157	17.008	16.885	16.210
107.5	20.323	21.183	21.367	23.639	23.578	23.639	21.367	21.183	20.323
110.0	24.683	25.727	25.911	28.305	28.244	28.305	25.911	25.727	24.683
112.5	29.349	30.516	30.639	33.340	33.156	33.340	30.639	30.516	29.349
115.0	34.016	35.612	35.796	38.375	37.945	38.375	35.796	35.612	34.016
117.5	38.436	40.524	40.892	43.410	42.612	43.410	40.892	40.524	38.436
120.0	43.041	45.313	45.866	48.015	46.971	48.015	45.866	45.313	43.041
122.5	47.217	49.980	50.716	52.190	50.655	52.190	50.716	49.980	47.217
125.0	50.716	54.155	55.444	56.120	53.971	56.120	54.155	50.716	50.716
127.5	54.400	58.698	60.847	60.356	57.777	60.356	58.698	54.400	54.400
130.0	58.944	64.654	67.479	65.944	62.382	65.944	64.654	58.944	58.944
132.5	65.821	72.820	76.382	73.496	69.382	73.496	72.820	65.821	65.821

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135.0	76.443	84.425	89.521	84.548	80.373	84.548	89.521	84.425	76.443
137.5	92.223	101.433	110.766	100.205	96.214	100.205	110.766	101.433	92.223
140.0	114.572	127.282	146.193	122.800	117.765	122.800	146.193	127.282	114.572
142.5	146.992	167.315	207.348	158.473	149.263	158.473	207.348	167.315	146.992
145.0	195.436	230.004	302.825	215.944	195.436	215.944	302.825	230.004	195.436
147.5	269.669	325.297	437.414	308.228	264.941	308.228	437.414	325.297	269.669
150.0	382.031	464.307	605.097	447.053	376.566	447.053	605.097	464.307	382.031
152.5	551.925	652.682	791.446	632.420	544.864	632.420	791.446	652.682	551.925
155.0	785.920	879.248	992.224	863.898	777.938	863.898	992.224	879.248	785.920
157.5	1072.658	1138.970	1212.036	1130.374	1059.150	1130.374	1212.036	1138.970	1072.658
160.0	1377.816	1410.358	1457.636	1417.112	1371.062	1417.112	1457.636	1410.358	1377.816
162.5	1649.204	1668.238	1692.798	1679.904	1655.958	1679.904	1692.798	1668.238	1649.204
165.0	1881.296	1888.050	1900.330	1896.032	1884.366	1896.032	1900.330	1888.050	1881.296
167.5	2064.882	2059.970	2071.022	2069.180	2064.268	2069.180	2071.022	2059.970	2064.882
170.0	2199.348	2193.208	2192.594	2190.138	2188.296	2190.138	2192.594	2193.208	2199.348
172.5	2276.712	2273.028	2269.344	2263.818	2261.976	2263.818	2269.344	2273.028	2276.712
175.0	2312.938	2310.482	2308.026	2306.184	2304.956	2306.184	2308.026	2310.482	2312.938
177.5	2313.552	2318.464	2320.306	2323.376	2324.604	2323.376	2320.306	2318.464	2313.552
180.0	2322.000	2322.000	2322.000	2322.000	2322.000	2322.000	2322.000	2322.000	2322.000

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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	23.89	N.A.	0.90
90-120	59.88	N.A.	2.20
90-130	108.92	N.A.	3.90
90-150	336.45	N.A.	12.20
90-180	1474.45	N.A.	53.30
110-180	1450.57	N.A.	52.40
0-180	2767.78	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	4.99
100-110	18.90
110-120	35.99
120-130	49.04
130-140	68.05
140-150	159.48
150-160	405.66
160-170	515.63
170-180	216.70

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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	3.7	4.4	4.7	5.4	6.7	3.8	4.5	4.8	5.5	6.8
	3H	4.7	5.3	5.7	6.3	7.7	4.8	5.4	5.8	6.4	7.8
	4H	4.9	5.5	6.0	6.5	7.9	5.0	5.6	6.1	6.6	8.0
	6H	5.0	5.5	6.1	6.6	7.9	5.1	5.7	6.2	6.7	8.1
	8H	5.0	5.5	6.1	6.5	7.9	5.1	5.6	6.2	6.7	8.0
	12H	5.0	5.4	6.0	6.5	7.9	5.1	5.6	6.1	6.6	8.0

UGR Viewed Endwise

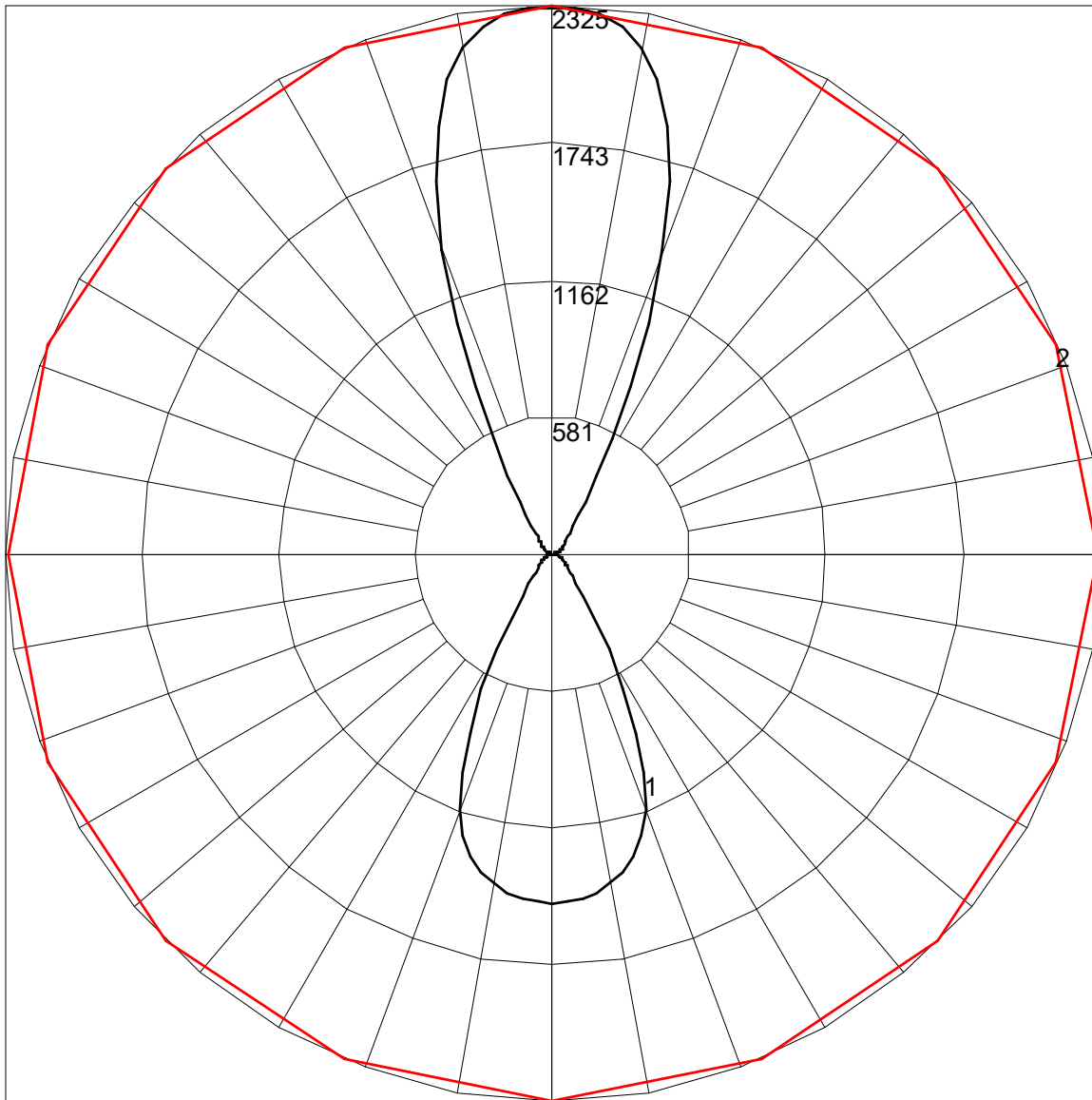
4H	2H	3.9	4.5	5.0	5.5	6.8	4.0	4.5	5.0	5.6	6.9
	3H	5.0	5.5	6.1	6.6	7.9	5.1	5.6	6.2	6.6	8.0
	4H	5.4	5.8	6.4	6.8	8.2	5.4	5.9	6.5	6.9	8.3
	6H	5.5	5.9	6.6	6.9	8.3	5.6	6.0	6.7	7.0	8.4
	8H	5.5	5.8	6.6	6.9	8.3	5.6	5.9	6.7	7.0	8.4
	12H	5.5	5.8	6.5	6.8	8.2	5.6	5.9	6.6	6.9	8.4
8H	4H	5.4	5.7	6.4	6.8	8.2	5.4	5.8	6.5	6.8	8.2
	6H	5.6	5.8	6.6	6.9	8.3	5.6	5.9	6.7	7.0	8.4
	8H	5.6	5.8	6.7	6.9	8.3	5.7	5.9	6.8	7.0	8.4
	12H	5.6	5.8	6.7	6.8	8.3	5.7	5.9	6.8	6.9	8.4
12H	4H	5.3	5.6	6.4	6.7	8.1	5.4	5.7	6.5	6.8	8.2
	6H	5.5	5.7	6.6	6.8	8.3	5.6	5.8	6.7	6.9	8.4
	8H	5.5	5.8	6.6	6.8	8.3	5.6	5.8	6.7	6.9	8.4

Maximum UGR = 8.4

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POLAR GRAPH



Maximum Candela = 2324.604 Located At Horizontal Angle = 90, Vertical Angle = 177.5

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

2 - Horizontal Cone Through Vertical Angle (177.5) (Through Max. Cd.)