



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4CSDI-P12-835U-P12-835D-XXX-POE PR-OW-CSU-RW-WHD-WM_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #13537338.12 & #13257153.16

[TESTLAB] UL Verification Services Inc.

[ISSUE DATE] 20-APR-2021

[MANUFAC] H E Williams Inc

[LUMCAT] 4CSDI-P12-835U-P12-835D-xxx-PoE PR-OW-CSU-RW-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] 24.9 C, 120 V, 0.1984 A, 23.44 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	2411
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	105
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	2147	2189	2101
55	1108	883	1085
65	600	404	602
75	207	138	209
85	33	23	33

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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	1498.374	1498.374	1498.374	1498.374	1498.374	1498.374	1498.374	1498.374	1498.374
2.5	1495.959	1502.400	1495.154	1489.518	1487.908	1489.518	1495.154	1502.400	1495.959
5.0	1481.466	1487.908	1481.466	1475.025	1473.415	1475.025	1481.466	1487.908	1481.466
7.5	1460.533	1466.169	1459.727	1454.091	1450.871	1454.091	1459.727	1466.169	1460.533
10.0	1432.353	1438.794	1432.353	1425.911	1423.496	1425.911	1432.353	1438.794	1432.353
12.5	1393.706	1400.952	1394.511	1388.875	1385.654	1388.875	1394.511	1400.952	1393.706
15.0	1341.371	1349.423	1344.592	1338.956	1334.125	1338.956	1344.592	1349.423	1341.371
17.5	1272.129	1280.985	1278.570	1272.934	1266.493	1272.934	1278.570	1280.985	1272.129
20.0	1179.537	1191.614	1194.835	1186.783	1175.511	1186.783	1194.835	1191.614	1179.537
22.5	1058.765	1076.479	1089.361	1074.063	1055.545	1074.063	1089.361	1076.479	1058.765
25.0	906.593	936.383	962.953	935.578	904.983	935.578	962.953	936.383	906.593
27.5	736.627	776.965	816.417	775.032	733.084	775.032	816.417	776.965	736.627
30.0	569.962	613.037	658.448	606.274	559.012	606.274	658.448	613.037	569.962
32.5	413.764	458.772	506.838	449.431	396.453	449.431	506.838	458.772	413.764
35.0	276.728	328.982	374.473	317.308	263.202	317.308	374.473	328.982	276.728
37.5	183.895	224.877	273.105	216.503	174.313	216.503	273.105	224.877	183.895
40.0	129.145	156.359	200.883	149.596	122.865	149.596	200.883	156.359	129.145
42.5	99.677	114.653	149.435	110.144	95.731	110.144	149.435	114.653	99.677
45.0	82.285	91.142	111.996	88.405	80.514	88.405	111.996	91.142	82.285
47.5	70.450	76.328	87.439	75.039	69.323	75.039	87.439	76.328	70.450
50.0	61.030	65.539	71.094	64.734	60.064	64.734	71.094	65.539	61.030
52.5	53.059	56.843	59.420	56.119	52.174	56.119	59.420	56.843	53.059
55.0	46.376	49.274	50.080	48.631	45.410	48.631	50.080	49.274	46.376
57.5	40.740	42.673	42.270	42.109	40.016	42.109	42.270	42.673	40.740
60.0	35.828	36.795	35.507	36.473	35.426	36.473	35.507	36.795	35.828
62.5	30.998	31.401	29.710	31.320	30.998	31.320	29.710	31.401	30.998
65.0	26.489	26.409	24.477	26.489	26.570	26.489	24.477	26.409	26.489
67.5	22.061	21.739	19.887	21.900	22.141	21.900	19.887	21.739	22.061
70.0	17.794	17.391	15.781	17.632	17.955	17.632	15.781	17.391	17.794
72.5	13.527	13.284	11.996	13.446	13.768	13.446	11.996	13.284	13.527
75.0	9.339	9.420	8.615	9.581	9.420	9.581	8.615	9.420	9.339
77.5	4.750	5.555	5.717	5.636	5.153	5.636	5.717	5.555	4.750
80.0	3.462	3.462	3.543	3.381	3.381	3.381	3.543	3.462	3.462
82.5	2.415	2.415	2.335	2.335	2.335	2.335	2.335	2.415	2.415
85.0	1.450	1.450	1.450	1.450	1.450	1.450	1.450	1.450	1.450
87.5	0.645	0.645	0.645	0.645	0.645	0.645	0.645	0.645	0.645
90.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
92.5	0.735	0.980	1.593	3.003	2.881	3.003	1.593	0.980	0.735
95.0	0.858	1.165	1.716	3.064	3.003	3.064	1.716	1.165	0.858
97.5	0.980	1.287	1.900	3.187	3.064	3.187	1.900	1.287	0.980
100.0	1.103	1.471	2.083	3.309	3.187	3.309	2.083	1.471	1.103
102.5	1.226	1.593	2.268	3.432	3.371	3.432	2.268	1.593	1.226
105.0	1.410	1.838	2.451	3.616	3.493	3.616	2.451	1.838	1.410
107.5	1.655	2.083	2.696	3.799	3.739	3.799	2.696	2.083	1.655
110.0	1.900	2.390	3.126	3.984	3.984	3.984	3.126	2.390	1.900
112.5	2.268	2.758	4.290	4.290	4.290	4.290	4.290	2.758	2.268
115.0	2.696	4.412	7.721	7.048	4.780	7.048	7.721	4.412	2.696
117.5	4.351	8.702	14.707	12.746	9.989	12.746	14.707	8.702	4.351
120.0	12.440	18.445	25.002	22.551	16.852	22.551	25.002	18.445	12.440
122.5	23.225	32.600	38.668	35.236	29.414	35.236	38.668	32.600	23.225
125.0	40.322	49.943	53.680	50.739	44.550	50.739	53.680	49.943	40.322
127.5	60.851	68.387	69.430	67.775	62.995	67.775	69.430	68.387	60.851
130.0	81.808	86.526	86.526	85.791	83.462	85.791	86.526	86.526	81.808
132.5	105.216	105.768	105.462	105.339	106.810	105.339	105.462	105.768	105.216

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135.0	129.973	126.909	126.787	127.032	131.689	127.032	126.787	126.909	129.973
137.5	156.691	151.543	152.462	152.279	158.652	152.279	152.462	151.543	156.691
140.0	186.963	182.366	187.146	184.450	189.536	184.450	187.146	182.366	186.963
142.5	224.894	222.750	234.698	227.529	229.980	227.529	234.698	222.750	224.894
145.0	273.856	279.126	297.938	283.906	281.638	283.906	297.938	279.126	273.856
147.5	341.324	355.112	375.824	358.666	350.700	358.666	375.824	355.112	341.324
150.0	433.242	450.400	466.946	451.749	439.555	451.749	466.946	450.400	433.242
152.5	552.798	561.438	566.892	553.472	543.667	553.472	566.892	561.438	552.798
155.0	683.261	683.873	675.294	662.426	653.234	662.426	675.294	683.873	683.261
157.5	813.172	811.946	794.176	781.307	772.728	781.307	794.176	811.946	813.172
160.0	937.568	935.730	919.797	907.542	899.575	907.542	919.797	935.730	937.568
162.5	1060.739	1056.450	1042.355	1029.487	1020.908	1029.487	1042.355	1056.450	1060.739
165.0	1173.492	1174.105	1163.688	1149.594	1142.240	1149.594	1163.688	1174.105	1173.492
167.5	1276.441	1276.441	1270.313	1260.509	1254.381	1260.509	1270.313	1276.441	1276.441
170.0	1376.939	1373.875	1369.585	1363.457	1359.780	1363.457	1369.585	1373.875	1376.939
172.5	1457.214	1453.537	1451.086	1447.409	1445.571	1447.409	1451.086	1453.537	1457.214
175.0	1516.042	1512.978	1510.527	1508.688	1508.688	1508.688	1510.527	1512.978	1516.042
177.5	1550.358	1547.907	1545.456	1546.681	1546.069	1546.681	1545.456	1547.907	1550.358
180.0	1557.383	1557.383	1557.383	1557.383	1557.383	1557.383	1557.383	1557.383	1557.383

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Zone	Lumens	%Lamp	%Fixt
0-20	513.36	N.A.	21.30
0-30	931.79	N.A.	38.70
0-40	1143.78	N.A.	47.40
0-60	1264.35	N.A.	52.40
0-80	1300.29	N.A.	53.90
0-90	1301.97	N.A.	54.00
10-90	1162.22	N.A.	48.20
20-40	630.42	N.A.	26.20
20-50	706.97	N.A.	29.30
40-70	146.48	N.A.	6.10
60-80	35.93	N.A.	1.50
70-80	10.03	N.A.	0.40
80-90	1.68	N.A.	0.10
90-110	4.69	N.A.	0.20
90-120	12.49	N.A.	0.50
90-130	57.24	N.A.	2.40
90-150	341.03	N.A.	14.10
90-180	1108.7	N.A.	46.00
110-180	1104.01	N.A.	45.80
0-180	2410.66	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	139.75
10-20	373.62
20-30	418.42
30-40	211.99
40-50	76.55
50-60	44.02
60-70	25.91
70-80	10.03
80-90	1.68
90-100	1.92
100-110	2.77
110-120	7.80
120-130	44.75
130-140	100.12
140-150	183.67
150-160	307.32
160-170	320.66
170-180	139.69

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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	108	108	108	108	100	100	100	100	86	86	86	72	72	72	60	60	60	54
1	101	98	94	92	94	91	88	86	78	77	75	67	66	65	56	56	55	50
2	94	88	83	79	88	83	78	75	72	69	66	62	60	58	53	52	50	46
3	88	80	74	70	82	75	70	66	66	62	59	58	55	53	50	48	46	43
4	82	73	67	62	77	69	64	59	61	57	54	54	51	48	47	45	43	40
5	77	67	61	56	72	64	58	53	57	52	49	50	47	44	44	42	40	37
6	72	62	55	51	67	59	53	49	53	48	45	47	43	41	41	39	37	35
7	68	57	51	46	64	55	49	44	49	45	41	44	40	38	39	37	35	32
8	64	53	47	42	60	51	45	41	46	41	38	41	38	35	37	34	32	30
9	60	50	43	39	57	48	42	38	43	39	35	39	35	33	35	32	31	29
10	57	47	40	36	54	45	39	35	41	36	33	37	33	31	33	31	29	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	3.1	3.3	3.6	4.2	5.5
	3H	3.3	3.9	4.3	4.9	6.1
	4H	3.4	4.0	4.4	5.0	6.2
	6H	3.3	3.9	4.3	4.9	6.1
	8H	3.3	3.8	4.3	4.8	6.1
	12H	3.2	3.7	4.2	4.7	6.0

UGR Viewed Endwise

3.1	3.2	3.5	4.1	5.4
3.3	3.9	4.2	4.8	6.1
3.4	3.9	4.3	4.9	6.2
3.3	3.8	4.3	4.8	6.1
3.3	3.8	4.2	4.7	6.0
3.2	3.7	4.2	4.7	5.9

4H	2H	3.1	3.3	3.7	4.2	5.5	3.1	3.2	3.6	4.1	5.4
	3H	3.5	4.0	4.5	5.0	6.2	3.4	3.9	4.4	4.9	6.2
	4H	3.6	4.1	4.6	5.0	6.3	3.6	4.0	4.6	5.0	6.3
	6H	3.6	4.0	4.6	5.0	6.3	3.5	3.9	4.5	4.9	6.2
	8H	3.5	3.9	4.5	4.9	6.2	3.5	3.9	4.5	4.8	6.1
	12H	3.5	3.8	4.5	4.8	6.1	3.4	3.8	4.5	4.8	6.1

8H	4H	3.5	3.9	4.5	4.9	6.2	3.5	3.9	4.5	4.8	6.1
	6H	3.5	3.8	4.5	4.8	6.1	3.5	3.8	4.5	4.8	6.1
	8H	3.5	3.7	4.5	4.8	6.1	3.4	3.7	4.5	4.7	6.0
	12H	3.4	3.6	4.4	4.7	6.0	3.4	3.6	4.4	4.6	6.0

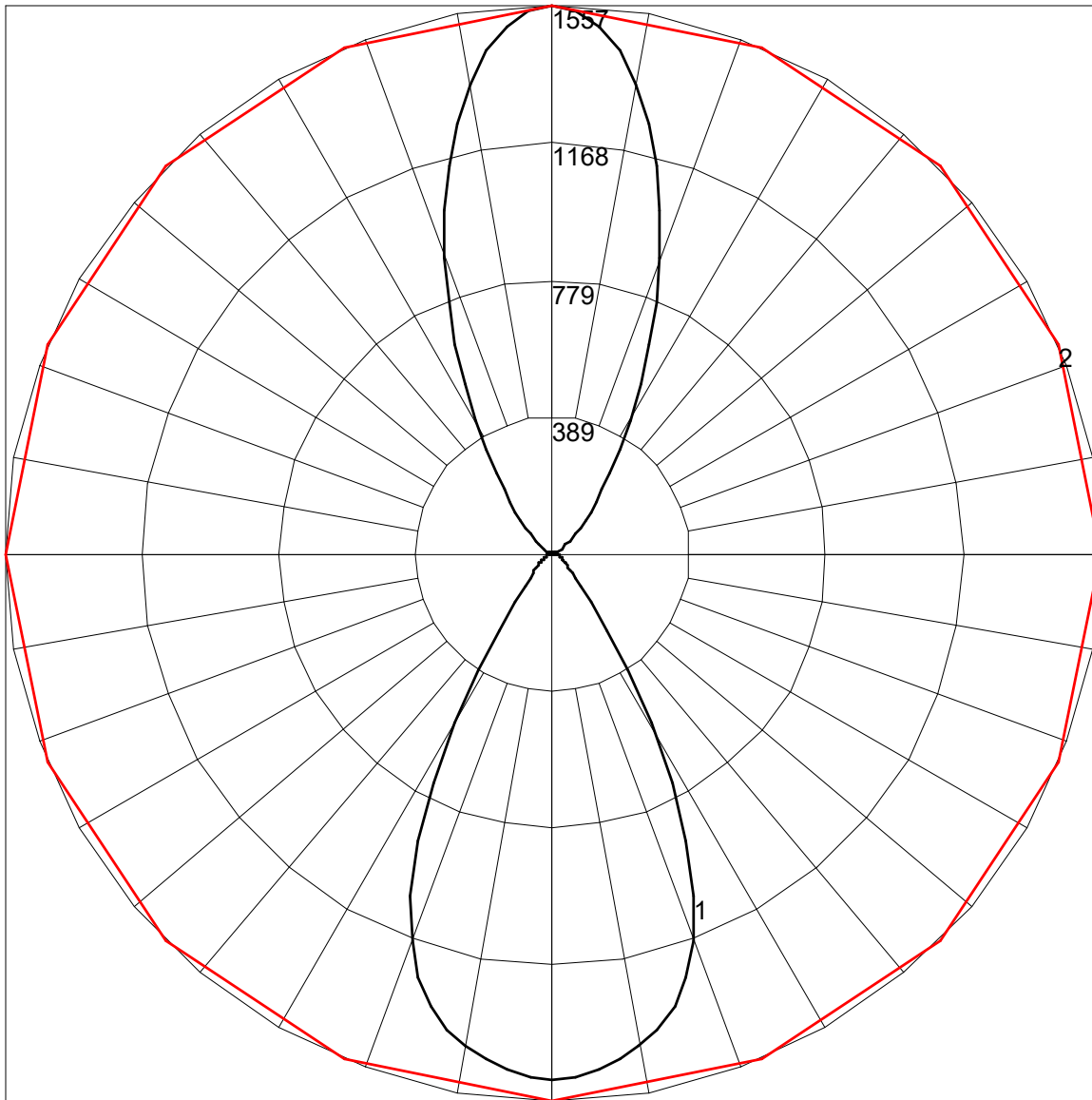
12H	4H	3.5	3.8	4.5	4.8	6.1	3.4	3.7	4.4	4.8	6.1
	6H	3.4	3.7	4.5	4.7	6.1	3.4	3.7	4.5	4.7	6.0
	8H	3.4	3.6	4.4	4.7	6.0	3.4	3.6	4.4	4.6	6.0

Maximum UGR = 6.3

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POLAR GRAPH



Maximum Candela = 1557.383 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.)