



IES INDOOR REPORT

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

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #13537338.12 & #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-OW-CSU-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] 24.9 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	2402
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	104
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	0.735	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	513.07	N.A.	21.40
0-30	913.28	N.A.	38.00
0-40	1098.34	N.A.	45.70
0-60	1231.98	N.A.	51.30
0-80	1289.1	N.A.	53.70
0-90	1293.33	N.A.	53.80
10-90	1153.72	N.A.	48.00
20-40	585.26	N.A.	24.40
20-50	664.04	N.A.	27.60
40-70	171.44	N.A.	7.10
60-80	57.12	N.A.	2.40
70-80	19.33	N.A.	0.80
80-90	4.23	N.A.	0.20
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.	14.20
90-180	1108.7	N.A.	46.20
110-180	1104.01	N.A.	46.00
0-180	2402.03	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	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 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	108	108	108	108	100	100	100	100	85	85	85	72	72	72	60	60	60	54
1	101	97	94	91	93	91	88	86	78	76	75	67	65	64	56	55	54	50
2	94	88	83	79	87	82	78	74	71	68	66	61	59	58	52	51	50	46
3	87	80	74	69	81	75	70	66	66	62	59	57	54	52	49	47	46	42
4	82	73	66	61	76	69	63	58	60	56	53	53	50	47	46	44	42	39
5	76	67	60	55	71	63	57	53	56	51	48	49	46	44	43	41	39	36
6	72	62	55	50	67	58	52	48	52	47	44	46	43	40	41	38	36	34
7	67	57	50	46	63	54	48	44	49	44	41	43	40	37	39	36	34	32
8	63	53	46	42	60	50	44	40	45	41	37	41	37	35	36	34	32	30
9	60	49	43	39	56	47	41	37	43	38	35	38	35	32	35	32	30	28
10	57	46	40	36	53	44	39	35	40	36	33	36	33	30	33	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	4.4	5.1	5.3	6.0	7.3	4.5	5.2	5.4	6.1	7.4
	3H	5.4	6.0	6.4	7.0	8.2	5.5	6.1	6.4	7.1	8.3
	4H	5.6	6.2	6.6	7.2	8.5	5.7	6.3	6.7	7.3	8.6
	6H	5.7	6.3	6.7	7.2	8.5	5.8	6.4	6.8	7.3	8.6
	8H	5.7	6.2	6.7	7.2	8.5	5.8	6.3	6.8	7.3	8.6
	12H	5.7	6.2	6.7	7.1	8.4	5.8	6.3	6.8	7.3	8.5

UGR Viewed Endwise

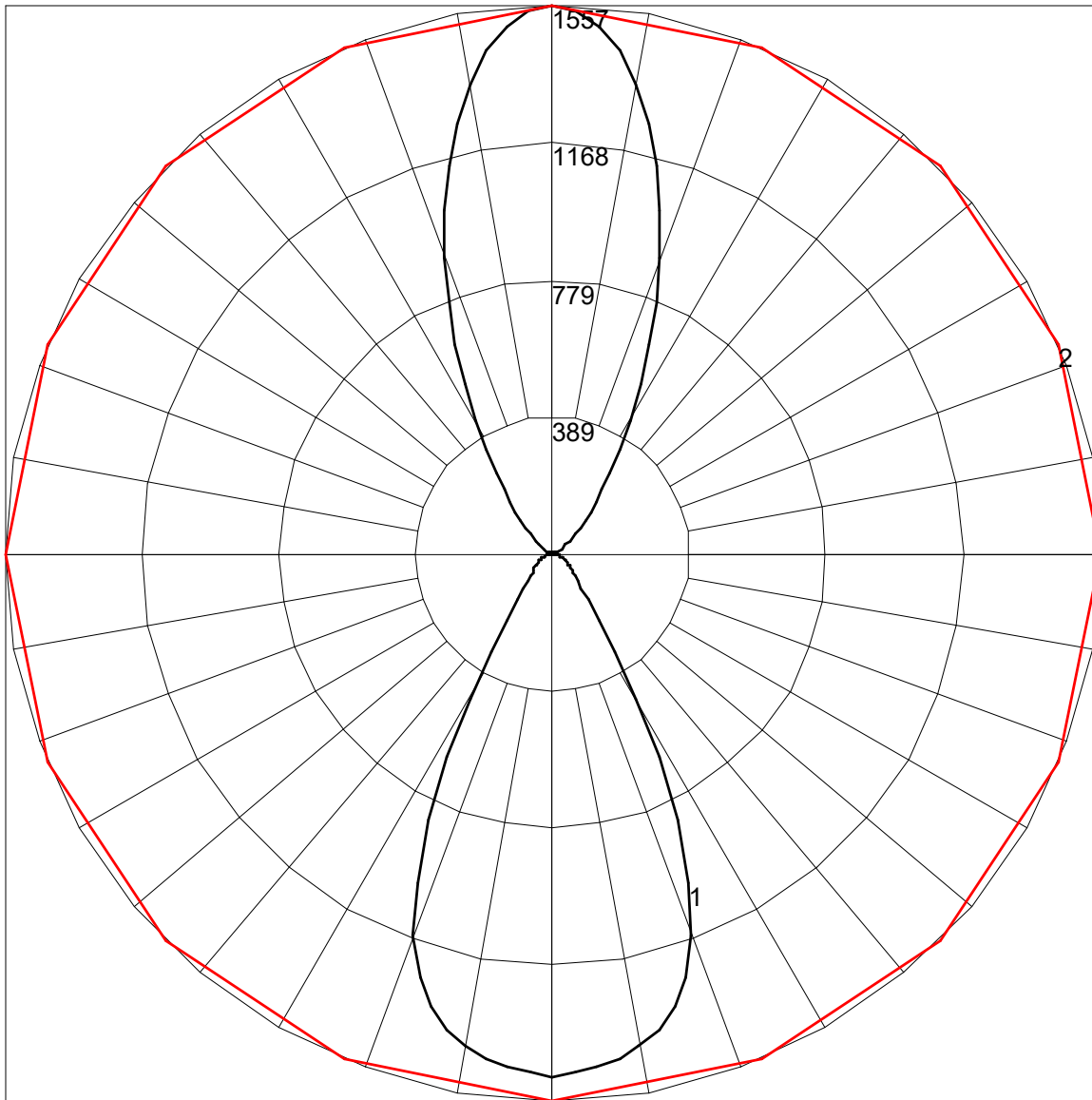
4H	2H	4.6	5.2	5.6	6.2	7.4	4.7	5.3	5.7	6.2	7.5
	3H	5.7	6.2	6.7	7.2	8.5	5.8	6.3	6.8	7.3	8.6
	4H	6.1	6.5	7.1	7.5	8.8	6.1	6.6	7.1	7.6	8.9
	6H	6.2	6.6	7.2	7.6	8.9	6.3	6.7	7.3	7.7	9.0
	8H	6.2	6.6	7.2	7.6	8.9	6.3	6.7	7.3	7.7	9.0
	12H	6.2	6.5	7.2	7.5	8.8	6.3	6.6	7.3	7.6	8.9
8H	4H	6.1	6.4	7.1	7.4	8.7	6.1	6.5	7.2	7.5	8.8
	6H	6.2	6.5	7.3	7.6	8.9	6.3	6.6	7.4	7.7	9.0
	8H	6.3	6.5	7.3	7.6	8.9	6.4	6.6	7.4	7.7	9.0
	12H	6.3	6.5	7.3	7.5	8.9	6.4	6.6	7.4	7.6	9.0
12H	4H	6.0	6.3	7.0	7.3	8.7	6.1	6.4	7.1	7.4	8.7
	6H	6.2	6.5	7.3	7.5	8.8	6.3	6.5	7.3	7.6	8.9
	8H	6.3	6.5	7.3	7.5	8.9	6.3	6.6	7.4	7.6	9.0

Maximum UGR = 9.0

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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.)