



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4CSDI-L12-835U-L12-835D-XXX-DIM1-UNV-OW-CSU-LW-WHD-WM_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #13537338.12 and #13257153.14

[TESTLAB]

[ISSUE DATE] 9-FEB-2021

[MANUFAC] H E Williams Inc

[LUMCAT] 4CSDI-L12-835U-L12-835D-xxx-DIM1-UNV-OW-CSU-LW-WHD-WM

[MORE]

[LUMINAIRE] White formed aluminum housing, wide distrib anodized aluminum reflector trim w/clear cover glass up,

[MORE] wide distrib white painted flush prismatic lens trim down

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

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

[OTHER]

[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	2406
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	85
Total Luminaire Watts	28.2
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	0.738	0.984	1.599	3.014	2.891	3.014	1.599	0.984	0.738
95.0	0.861	1.169	1.722	3.075	3.014	3.075	1.722	1.169	0.861
97.5	0.984	1.292	1.907	3.198	3.075	3.198	1.907	1.292	0.984
100.0	1.107	1.476	2.091	3.321	3.198	3.321	2.091	1.476	1.107
102.5	1.230	1.599	2.276	3.444	3.383	3.444	2.276	1.599	1.230
105.0	1.415	1.845	2.460	3.629	3.506	3.629	2.460	1.845	1.415
107.5	1.661	2.091	2.706	3.813	3.752	3.813	2.706	2.091	1.661
110.0	1.907	2.399	3.137	3.998	3.998	3.998	3.137	2.399	1.907
112.5	2.276	2.768	4.305	4.305	4.305	4.305	4.305	2.768	2.276
115.0	2.706	4.428	7.749	7.073	4.797	7.073	7.749	4.428	2.706
117.5	4.367	8.733	14.760	12.792	10.025	12.792	14.760	8.733	4.367
120.0	12.485	18.512	25.092	22.632	16.913	22.632	25.092	18.512	12.485
122.5	23.309	32.718	38.807	35.363	29.520	35.363	38.807	32.718	23.309
125.0	40.467	50.123	53.874	50.922	44.711	50.922	53.874	50.123	40.467
127.5	61.070	68.634	69.680	68.019	63.222	68.019	69.680	68.634	61.070
130.0	82.103	86.838	86.838	86.100	83.763	86.100	86.838	86.838	82.103
132.5	105.596	106.149	105.842	105.719	107.195	105.719	105.842	106.149	105.596

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135.0	130.442	127.367	127.244	127.490	132.164	127.490	127.244	127.367	130.442
137.5	157.256	152.090	153.012	152.828	159.224	152.828	153.012	152.090	157.256
140.0	187.637	183.024	187.821	185.115	190.220	185.115	187.821	183.024	187.637
142.5	225.705	223.553	235.545	228.350	230.810	228.350	235.545	223.553	225.705
145.0	274.844	280.133	299.013	284.930	282.654	284.930	299.013	280.133	274.844
147.5	342.555	356.393	377.180	359.960	351.965	359.960	377.180	356.393	342.555
150.0	434.805	452.025	468.630	453.378	441.140	453.378	468.630	452.025	434.805
152.5	554.792	563.463	568.937	555.468	545.628	555.468	568.937	563.463	554.792
155.0	685.725	686.340	677.730	664.815	655.590	664.815	677.730	686.340	685.725
157.5	816.105	814.875	797.040	784.125	775.515	784.125	797.040	814.875	816.105
160.0	940.950	939.105	923.115	910.815	902.820	910.815	923.115	939.105	940.950
162.5	1064.565	1060.260	1046.115	1033.200	1024.590	1033.200	1046.115	1060.260	1064.565
165.0	1177.725	1178.340	1167.885	1153.740	1146.360	1153.740	1167.885	1178.340	1177.725
167.5	1281.045	1281.045	1274.895	1265.055	1258.905	1265.055	1274.895	1281.045	1281.045
170.0	1381.905	1378.830	1374.525	1368.375	1364.685	1368.375	1374.525	1378.830	1381.905
172.5	1462.470	1458.780	1456.320	1452.630	1450.785	1452.630	1456.320	1458.780	1462.470
175.0	1521.510	1518.435	1515.975	1514.130	1514.130	1514.130	1515.975	1518.435	1521.510
177.5	1555.950	1553.490	1551.030	1552.260	1551.645	1552.260	1551.030	1553.490	1555.950
180.0	1563.000	1563.000	1563.000	1563.000	1563.000	1563.000	1563.000	1563.000	1563.000

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Zone	Lumens	%Lamp	%Fixt
0-20	513.07	N.A.	21.30
0-30	913.28	N.A.	38.00
0-40	1098.34	N.A.	45.60
0-60	1231.98	N.A.	51.20
0-80	1289.1	N.A.	53.60
0-90	1293.33	N.A.	53.80
10-90	1153.72	N.A.	48.00
20-40	585.26	N.A.	24.30
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	4.71	N.A.	0.20
90-120	12.54	N.A.	0.50
90-130	57.45	N.A.	2.40
90-150	342.26	N.A.	14.20
90-180	1112.7	N.A.	46.20
110-180	1107.99	N.A.	46.10
0-180	2406.03	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	1.93
100-110	2.78
110-120	7.83
120-130	44.91
130-140	100.48
140-150	184.34
150-160	308.42
160-170	321.81
170-180	140.19

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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	85	85	85	72	72	72	60	60	60	54
1	101	97	94	91	93	91	88	85	78	76	74	66	65	64	56	55	54	50
2	94	88	83	79	87	82	78	74	71	68	66	61	59	58	52	51	50	45
3	87	80	74	69	81	75	70	65	65	62	59	57	54	52	49	47	46	42
4	82	73	66	61	76	68	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	43	43	41	39	36
6	72	61	55	50	67	58	52	48	52	47	44	46	43	40	41	38	36	34
7	67	57	50	45	63	54	48	44	48	44	40	43	40	37	38	36	34	32
8	63	53	46	42	59	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	38	35	40	36	33	36	33	30	33	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	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	6.3	7.0	8.2	5.5	6.1	6.4	7.1	8.3
	4H	5.6	6.2	6.6	7.2	8.4	5.7	6.3	6.7	7.3	8.5
	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	6.1	6.7	7.1	8.4	5.8	6.3	6.8	7.2	8.5

UGR Viewed Endwise

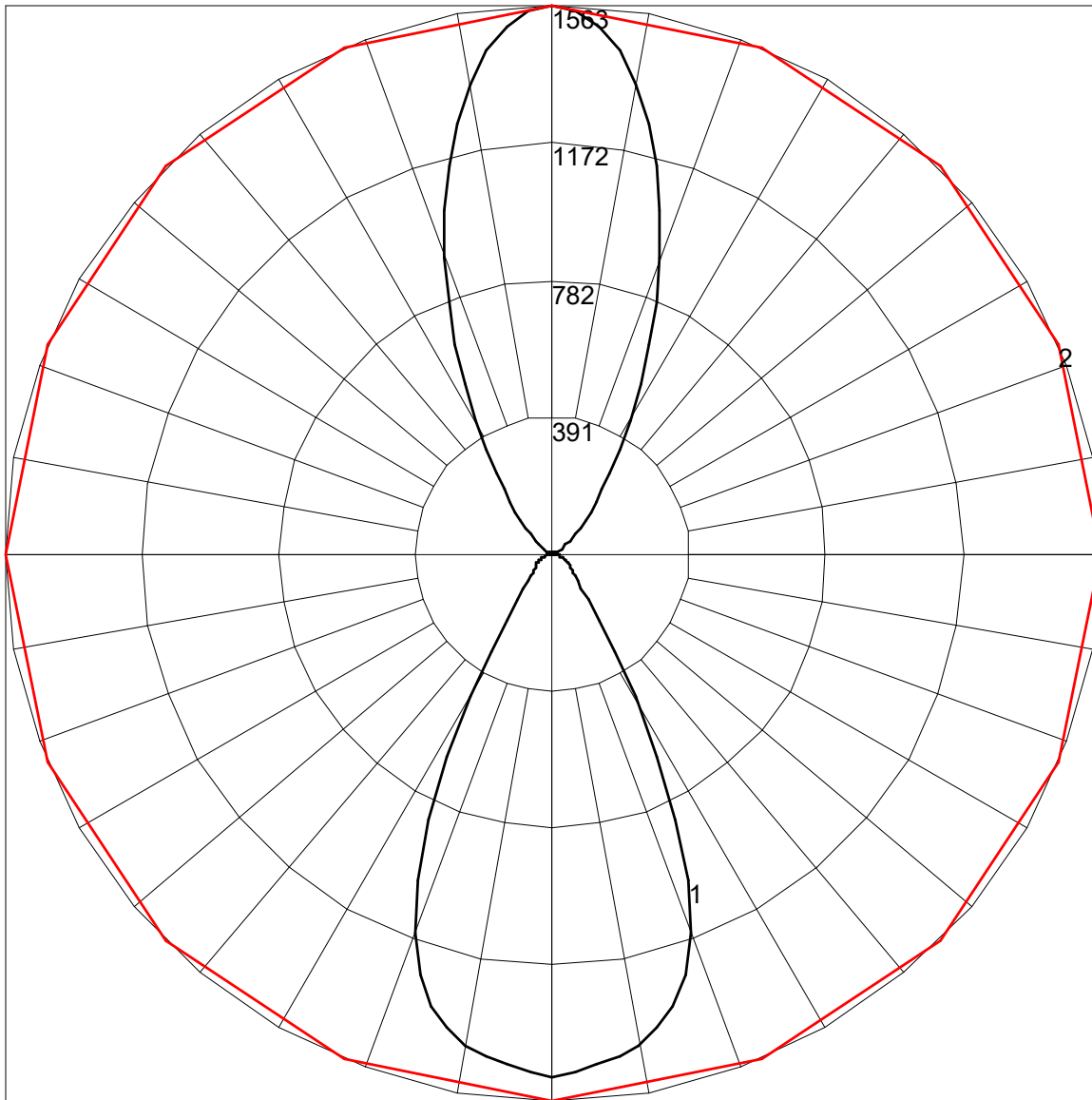
4H	2H	4.6	5.2	5.6	6.1	7.4	4.7	5.3	5.7	6.2	7.5
	3H	5.7	6.2	6.7	7.2	8.5	5.8	6.3	6.8	7.3	8.6
	4H	6.0	6.5	7.0	7.5	8.8	6.1	6.6	7.1	7.6	8.9
	6H	6.2	6.6	7.2	7.6	8.9	6.3	6.7	7.3	7.7	9.0
	8H	6.2	6.5	7.2	7.6	8.9	6.3	6.6	7.3	7.7	9.0
	12H	6.1	6.5	7.2	7.5	8.8	6.2	6.6	7.3	7.6	8.9
8H	4H	6.0	6.4	7.1	7.4	8.7	6.1	6.5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

Maximum UGR = 9.0

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POLAR GRAPH



Maximum Candela = 1563 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.)