



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4CSDI-L12-835U-L12-835D-XXX-DIM1-UNV-LM-WHU-RM-WHD-WM\_.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #13257153.19 and #13257153.20

[TESTLAB]

[ISSUE DATE] 8-FEB-2021

[MANUFAC] H E Williams Inc

[LUMCAT] 4CSDI-L12-835U-L12-835D-xxx-DIM1-UNV-LM-WHU-RM-WHD-WM

[MORE]

[LUMINAIRE] White formed aluminum housing, medium distrib white painted flush prismatic lens trim up,

[MORE] medium distrib white painted regressed 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

[ 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	2764
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	98
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
Luminous Length (0-180)	0.21 ft
Luminous Width (90-270)	0.21 ft
Luminous Height	0.00 ft

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : 4CSDI-L12-835U-L12-835D-XXX-DIM1-UNV-LM-WHU-RM-WHD-WM\_.IES****LUMINANCE DATA (cd/sq.m)**

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	37559	43686	37701
55	23012	26124	23396
65	17752	16422	17609
75	10230	9378	9997
85	4603	4603	4834

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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	3205.404	3205.404	3205.404	3205.404	3205.404	3205.404	3205.404	3205.404	3205.404
2.5	3161.826	3148.914	3153.756	3164.247	3169.896	3164.247	3153.756	3148.914	3161.826
5.0	3027.864	3015.759	3022.215	3030.285	3031.899	3030.285	3022.215	3015.759	3027.864
7.5	2825.307	2819.658	2826.921	2826.921	2825.307	2826.921	2826.921	2819.658	2825.307
10.0	2533.173	2533.980	2547.699	2538.822	2532.366	2538.822	2547.699	2533.980	2533.173
12.5	2119.182	2125.638	2145.813	2138.550	2124.831	2138.550	2145.813	2125.638	2119.182
15.0	1612.386	1632.561	1660.806	1655.157	1633.368	1655.157	1660.806	1632.561	1612.386
17.5	1128.993	1166.922	1204.851	1194.360	1163.694	1194.360	1204.851	1166.922	1128.993
20.0	776.011	819.105	865.104	843.315	811.035	843.315	865.104	819.105	776.011
22.5	572.566	606.218	653.186	620.260	592.499	620.260	653.186	606.218	572.566
25.0	457.165	484.039	525.841	488.961	461.443	488.961	525.841	484.039	457.165
27.5	374.125	401.725	441.913	402.532	372.995	402.532	441.913	401.725	374.125
30.0	301.737	331.354	374.367	331.919	303.593	331.919	374.367	331.354	301.737
32.5	243.149	268.892	312.955	271.071	246.619	271.071	312.955	268.892	243.149
35.0	197.473	218.616	257.756	221.925	202.476	221.925	257.756	218.616	197.473
37.5	168.824	180.768	210.708	184.884	170.761	184.884	210.708	180.768	168.824
40.0	146.632	154.460	173.828	156.477	146.955	156.477	173.828	154.460	146.632
42.5	125.973	133.558	145.583	134.204	126.134	134.204	145.583	133.558	125.973
45.0	106.847	114.917	124.278	115.078	107.250	115.078	124.278	114.917	106.847
47.5	89.658	97.566	105.556	97.808	90.142	97.808	105.556	97.566	89.658
50.0	74.567	81.830	88.366	82.233	75.374	82.233	88.366	81.830	74.567
52.5	62.381	68.353	73.195	68.918	63.349	68.918	73.195	68.353	62.381
55.0	53.101	57.136	60.283	57.862	53.988	57.862	60.283	57.136	53.101
57.5	46.080	48.339	49.711	48.823	46.725	48.823	49.711	48.339	46.080
60.0	40.592	41.318	41.076	41.560	40.592	41.560	41.076	41.318	40.592
62.5	35.347	35.347	33.975	35.266	35.185	35.266	33.975	35.347	35.347
65.0	30.182	29.778	27.922	29.617	29.940	29.617	27.922	29.778	30.182
67.5	25.098	24.613	22.677	24.371	24.856	24.371	22.677	24.613	25.098
70.0	20.175	19.691	17.996	19.449	19.933	19.449	17.996	19.691	20.175
72.5	15.414	15.010	13.719	14.768	15.252	14.768	13.719	15.010	15.414
75.0	10.652	10.652	9.765	10.330	10.410	10.330	9.765	10.652	10.652
77.5	5.084	6.295	6.456	6.133	5.972	6.133	6.456	6.295	5.084
80.0	3.712	3.793	4.035	3.874	3.874	3.874	4.035	3.793	3.712
82.5	2.582	2.663	2.663	2.663	2.663	2.663	2.663	2.663	2.582
85.0	1.614	1.695	1.614	1.614	1.695	1.614	1.614	1.695	1.614
87.5	0.726	0.726	0.726	0.807	0.807	0.807	0.726	0.726	0.726
90.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
92.5	0.734	1.010	1.102	1.193	1.285	1.193	1.102	1.010	0.734
95.0	4.131	3.856	3.672	4.039	4.406	4.039	3.672	3.856	4.131
97.5	7.528	7.252	7.069	7.528	7.895	7.528	7.069	7.252	7.528
100.0	11.475	11.291	11.016	11.567	11.934	11.567	11.016	11.291	11.475
102.5	15.881	15.790	15.422	16.065	16.249	16.065	15.422	15.790	15.881
105.0	20.747	20.747	20.288	21.114	21.206	21.114	20.288	20.747	20.747
107.5	26.071	26.071	25.520	26.622	26.438	26.622	25.520	26.071	26.071
110.0	31.855	31.946	31.396	32.497	32.038	32.497	31.396	31.946	31.855
112.5	37.913	38.281	37.730	38.740	38.005	38.740	37.730	38.281	37.913
115.0	44.339	45.257	44.615	45.441	44.339	45.441	44.615	45.257	44.339
117.5	51.133	52.418	51.959	52.877	51.133	52.877	51.959	52.418	51.133
120.0	58.018	59.486	59.854	60.496	58.201	60.496	59.854	59.486	58.018
122.5	64.352	67.014	68.483	68.391	65.545	68.391	68.483	67.014	64.352
125.0	71.512	75.643	78.397	77.204	72.981	77.204	78.397	75.643	71.512
127.5	80.233	85.649	89.964	87.394	81.794	87.394	89.964	85.649	80.233
130.0	91.157	98.134	103.550	99.603	92.534	99.603	103.550	98.134	91.157
132.5	105.019	113.281	119.432	114.566	106.029	114.566	119.432	113.281	105.019

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<b>135.0</b>	121.635	130.815	136.966	131.825	122.186	131.825	136.966	130.815	121.635
<b>137.5</b>	141.005	150.185	157.345	151.103	141.280	151.103	157.345	150.185	141.005
<b>140.0</b>	163.037	171.666	183.049	173.043	163.037	173.043	183.049	171.666	163.037
<b>142.5</b>	186.538	196.452	216.923	199.390	186.538	199.390	216.923	196.452	186.538
<b>145.0</b>	212.976	228.215	264.659	232.805	215.271	232.805	264.659	228.215	212.976
<b>147.5</b>	249.237	273.748	329.287	278.154	253.368	278.154	329.287	273.748	249.237
<b>150.0</b>	303.766	340.394	406.031	342.230	305.786	342.230	406.031	340.394	303.766
<b>152.5</b>	384.458	424.942	491.773	427.696	382.531	427.696	491.773	424.942	384.458
<b>155.0</b>	488.192	529.594	597.710	537.489	491.314	537.489	597.710	529.594	488.192
<b>157.5</b>	631.217	679.504	751.842	698.873	649.669	698.873	751.842	679.504	631.217
<b>160.0</b>	874.395	930.852	1009.800	963.900	910.840	963.900	1009.800	930.852	874.395
<b>162.5</b>	1291.626	1343.952	1416.474	1377.000	1325.592	1377.000	1416.474	1343.952	1291.626
<b>165.0</b>	1864.458	1900.260	1951.668	1915.866	1872.720	1915.866	1951.668	1900.260	1864.458
<b>167.5</b>	2463.912	2477.682	2501.550	2474.010	2444.634	2474.010	2501.550	2477.682	2463.912
<b>170.0</b>	2938.518	2932.092	2940.354	2929.338	2915.568	2929.338	2940.354	2932.092	2938.518
<b>172.5</b>	3244.213	3232.279	3236.869	3238.705	3237.787	3238.705	3236.869	3232.279	3244.213
<b>175.0</b>	3449.844	3438.828	3445.254	3452.598	3456.270	3452.598	3445.254	3438.828	3449.844
<b>177.5</b>	3594.888	3581.118	3583.872	3593.970	3598.560	3593.970	3583.872	3581.118	3594.888
<b>180.0</b>	3640.000	3640.000	3640.000	3640.000	3640.000	3640.000	3640.000	3640.000	3640.000

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Zone	Lumens	%Lamp	%Fixt
0-20	718.17	N.A.	26.00
0-30	954.02	N.A.	34.50
0-40	1098.23	N.A.	39.70
0-60	1240.43	N.A.	44.90
0-80	1280.98	N.A.	46.30
0-90	1282.88	N.A.	46.40
10-90	1009.32	N.A.	36.50
20-40	380.05	N.A.	13.70
20-50	469.82	N.A.	17.00
40-70	171.52	N.A.	6.20
60-80	40.55	N.A.	1.50
70-80	11.23	N.A.	0.40
80-90	1.90	N.A.	0.10
90-110	27.17	N.A.	1.00
90-120	71.89	N.A.	2.60
90-130	140.63	N.A.	5.10
90-150	393.83	N.A.	14.20
90-180	1481.52	N.A.	53.60
110-180	1454.35	N.A.	52.60
0-180	2764.41	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	273.56
10-20	444.61
20-30	235.84
30-40	144.21
40-50	89.77
50-60	52.44
60-70	29.31
70-80	11.23
80-90	1.90
90-100	4.93
100-110	22.24
110-120	44.72
120-130	68.75
130-140	101.64
140-150	151.55
150-160	259.83
160-170	514.79
170-180	313.08

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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	81	81	81	66	66	66	53	53	53	46
1	99	96	93	90	91	88	86	83	74	73	71	62	61	60	50	49	49	43
2	92	87	82	78	85	80	76	73	68	65	63	57	55	54	47	46	45	41
3	86	79	73	68	80	73	68	64	63	59	57	53	51	49	45	43	42	38
4	81	72	66	61	75	67	62	58	58	54	51	50	47	45	42	41	39	36
5	76	66	60	55	70	62	56	52	54	50	47	47	44	42	40	38	37	34
6	71	61	55	50	66	58	52	48	51	46	43	44	41	39	38	36	35	32
7	67	57	51	46	62	54	48	44	48	43	40	42	39	36	36	34	33	30
8	63	53	47	43	59	50	45	41	45	41	38	40	37	34	35	33	31	29
9	60	50	44	40	56	47	42	38	42	38	35	38	35	32	33	31	30	28
10	57	47	41	37	53	45	39	36	40	36	33	36	33	31	32	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	13.8	14.5	14.8	15.5	16.8	13.9	14.6	14.9	15.6	16.9
	3H	14.9	15.5	15.9	16.5	17.9	14.9	15.5	15.9	16.5	17.9
	4H	15.1	15.7	16.2	16.7	18.1	15.1	15.7	16.2	16.7	18.1
	6H	15.1	15.6	16.1	16.6	18.0	15.1	15.6	16.2	16.7	18.0
	8H	15.1	15.6	16.1	16.6	18.0	15.1	15.6	16.2	16.6	18.0
	12H	15.0	15.5	16.1	16.5	17.9	15.1	15.5	16.1	16.6	17.9

### UGR Viewed Endwise

4H	2H	14.1	14.6	15.1	15.6	17.0	14.1	14.7	15.2	15.7	17.1
	3H	15.3	15.7	16.3	16.8	18.2	15.3	15.8	16.3	16.8	18.2
	4H	15.6	16.0	16.6	17.0	18.4	15.6	16.0	16.6	17.0	18.4
	6H	15.6	16.0	16.7	17.0	18.4	15.6	16.0	16.7	17.0	18.4
	8H	15.6	15.9	16.6	17.0	18.4	15.6	15.9	16.7	17.0	18.4
	12H	15.5	15.9	16.6	16.9	18.3	15.6	15.9	16.6	16.9	18.3

8H	4H	15.6	15.9	16.6	17.0	18.4	15.6	15.9	16.6	17.0	18.4
	6H	15.6	15.9	16.7	17.0	18.4	15.6	15.9	16.7	17.0	18.4
	8H	15.6	15.9	16.7	17.0	18.4	15.7	15.9	16.7	17.0	18.4
	12H	15.6	15.8	16.7	16.9	18.4	15.7	15.9	16.7	16.9	18.4

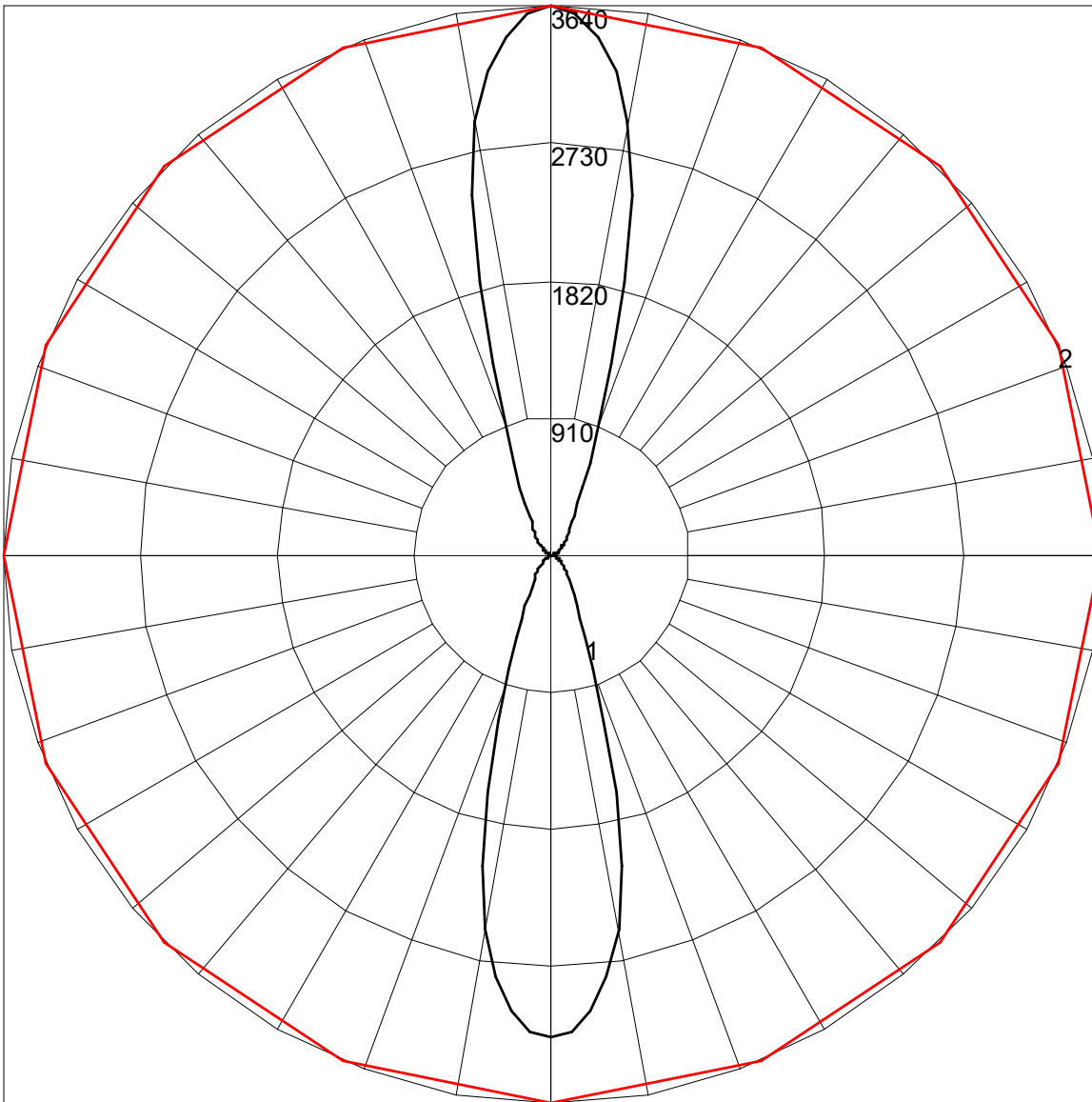
12H	4H	15.5	15.8	16.6	16.9	18.3	15.5	15.8	16.6	16.9	18.3
	6H	15.6	15.8	16.7	16.9	18.3	15.6	15.8	16.7	16.9	18.4
	8H	15.6	15.8	16.7	16.9	18.4	15.6	15.8	16.7	16.9	18.4

Maximum UGR = 18.4

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## POLAR GRAPH



Maximum Candela = 3640 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.)