



## IES INDOOR REPORT

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

## DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #13257153.18 and #13257153.20

[TESTLAB]

[ISSUE DATE] 9-FEB-2021

[MANUFAC] H E Williams Inc

[LUMCAT] 4CSDI-L12-835U-L12-835D-xxx-DIM1-UNV-OM-OF-CSU-RM-WHD-WM

[MORE]

[LUMINAIRE] White formed aluminum housing, medium distrib anodized aluminum reflector trim w/clear cover glass 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	2379
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	84
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-OM-CSU-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>
<b>0.0</b>	3205.404	3205.404	3205.404	3205.404	3205.404	3205.404	3205.404	3205.404	3205.404
<b>2.5</b>	3161.826	3148.914	3153.756	3164.247	3169.896	3164.247	3153.756	3148.914	3161.826
<b>5.0</b>	3027.864	3015.759	3022.215	3030.285	3031.899	3030.285	3022.215	3015.759	3027.864
<b>7.5</b>	2825.307	2819.658	2826.921	2826.921	2825.307	2826.921	2826.921	2819.658	2825.307
<b>10.0</b>	2533.173	2533.980	2547.699	2538.822	2532.366	2538.822	2547.699	2533.980	2533.173
<b>12.5</b>	2119.182	2125.638	2145.813	2138.550	2124.831	2138.550	2145.813	2125.638	2119.182
<b>15.0</b>	1612.386	1632.561	1660.806	1655.157	1633.368	1655.157	1660.806	1632.561	1612.386
<b>17.5</b>	1128.993	1166.922	1204.851	1194.360	1163.694	1194.360	1204.851	1166.922	1128.993
<b>20.0</b>	776.011	819.105	865.104	843.315	811.035	843.315	865.104	819.105	776.011
<b>22.5</b>	572.566	606.218	653.186	620.260	592.499	620.260	653.186	606.218	572.566
<b>25.0</b>	457.165	484.039	525.841	488.961	461.443	488.961	525.841	484.039	457.165
<b>27.5</b>	374.125	401.725	441.913	402.532	372.995	402.532	441.913	401.725	374.125
<b>30.0</b>	301.737	331.354	374.367	331.919	303.593	331.919	374.367	331.354	301.737
<b>32.5</b>	243.149	268.892	312.955	271.071	246.619	271.071	312.955	268.892	243.149
<b>35.0</b>	197.473	218.616	257.756	221.925	202.476	221.925	257.756	218.616	197.473
<b>37.5</b>	168.824	180.768	210.708	184.884	170.761	184.884	210.708	180.768	168.824
<b>40.0</b>	146.632	154.460	173.828	156.477	146.955	156.477	173.828	154.460	146.632
<b>42.5</b>	125.973	133.558	145.583	134.204	126.134	134.204	145.583	133.558	125.973
<b>45.0</b>	106.847	114.917	124.278	115.078	107.250	115.078	124.278	114.917	106.847
<b>47.5</b>	89.658	97.566	105.556	97.808	90.142	97.808	105.556	97.566	89.658
<b>50.0</b>	74.567	81.830	88.366	82.233	75.374	82.233	88.366	81.830	74.567
<b>52.5</b>	62.381	68.353	73.195	68.918	63.349	68.918	73.195	68.353	62.381
<b>55.0</b>	53.101	57.136	60.283	57.862	53.988	57.862	60.283	57.136	53.101
<b>57.5</b>	46.080	48.339	49.711	48.823	46.725	48.823	49.711	48.339	46.080
<b>60.0</b>	40.592	41.318	41.076	41.560	40.592	41.560	41.076	41.318	40.592
<b>62.5</b>	35.347	35.347	33.975	35.266	35.185	35.266	33.975	35.347	35.347
<b>65.0</b>	30.182	29.778	27.922	29.617	29.940	29.617	27.922	29.778	30.182
<b>67.5</b>	25.098	24.613	22.677	24.371	24.856	24.371	22.677	24.613	25.098
<b>70.0</b>	20.175	19.691	17.996	19.449	19.933	19.449	17.996	19.691	20.175
<b>72.5</b>	15.414	15.010	13.719	14.768	15.252	14.768	13.719	15.010	15.414
<b>75.0</b>	10.652	10.652	9.765	10.330	10.410	10.330	9.765	10.652	10.652
<b>77.5</b>	5.084	6.295	6.456	6.133	5.972	6.133	6.456	6.295	5.084
<b>80.0</b>	3.712	3.793	4.035	3.874	3.874	3.874	4.035	3.793	3.712
<b>82.5</b>	2.582	2.663	2.663	2.663	2.663	2.663	2.663	2.663	2.582
<b>85.0</b>	1.614	1.695	1.614	1.614	1.695	1.614	1.614	1.695	1.614
<b>87.5</b>	0.726	0.726	0.726	0.807	0.807	0.807	0.726	0.726	0.726
<b>90.0</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>92.5</b>	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100
<b>95.0</b>	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100
<b>97.5</b>	0.199	0.199	0.199	0.199	0.199	0.199	0.199	0.199	0.199
<b>100.0</b>	0.199	0.199	0.199	0.199	0.299	0.199	0.199	0.199	0.199
<b>102.5</b>	0.299	0.299	0.299	0.299	0.398	0.299	0.299	0.299	0.299
<b>105.0</b>	0.498	0.498	0.498	0.498	0.498	0.498	0.498	0.498	0.498
<b>107.5</b>	0.597	0.597	0.597	0.597	0.697	0.597	0.597	0.597	0.597
<b>110.0</b>	0.896	0.796	1.095	0.896	0.896	0.896	1.095	0.796	0.896
<b>112.5</b>	1.194	1.095	3.682	1.194	1.294	1.194	3.682	1.095	1.194
<b>115.0</b>	1.592	4.975	11.642	5.373	1.692	5.373	11.642	4.975	1.592
<b>117.5</b>	11.144	19.701	23.681	20.000	10.348	20.000	23.681	19.701	11.144
<b>120.0</b>	29.950	37.014	37.213	38.407	30.149	38.407	37.213	37.014	29.950
<b>122.5</b>	49.153	53.233	51.740	55.720	51.044	55.720	51.740	53.233	49.153
<b>125.0</b>	68.854	69.750	66.964	73.232	71.740	73.232	66.964	69.750	68.854
<b>127.5</b>	90.147	86.963	82.784	91.341	93.829	91.341	82.784	86.963	90.147
<b>130.0</b>	111.938	105.868	99.600	110.744	116.813	110.744	99.600	105.868	111.938
<b>132.5</b>	134.126	126.863	118.803	132.236	140.594	132.236	118.803	126.863	134.126

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<b>135.0</b>	157.509	150.444	141.887	156.016	165.170	156.016	141.887	150.444	157.509
<b>137.5</b>	183.478	178.006	171.837	183.777	191.836	183.777	171.837	178.006	183.478
<b>140.0</b>	214.821	212.134	211.836	217.408	222.880	217.408	211.836	212.134	214.821
<b>142.5</b>	253.228	254.919	263.476	258.999	260.193	258.999	263.476	254.919	253.228
<b>145.0</b>	300.888	308.550	324.967	310.938	306.560	310.938	324.967	308.550	300.888
<b>147.5</b>	362.280	376.409	395.115	377.006	366.558	377.006	395.115	376.409	362.280
<b>150.0</b>	441.084	459.491	473.322	458.098	443.074	458.098	473.322	459.491	441.084
<b>152.5</b>	536.504	552.225	557.897	549.539	534.614	549.539	557.897	552.225	536.504
<b>155.0</b>	638.094	647.646	649.636	645.059	633.915	645.059	649.636	647.646	638.094
<b>157.5</b>	735.206	742.867	745.255	740.877	731.027	740.877	745.255	742.867	735.206
<b>160.0</b>	831.223	839.084	843.263	838.288	829.532	838.288	843.263	839.084	831.223
<b>162.5</b>	930.126	937.489	943.260	936.793	930.226	936.793	943.260	937.489	930.126
<b>165.0</b>	1028.830	1033.805	1040.770	1033.805	1027.835	1033.805	1040.770	1033.805	1028.830
<b>167.5</b>	1122.360	1125.345	1129.325	1124.350	1121.365	1124.350	1129.325	1125.345	1122.360
<b>170.0</b>	1206.935	1207.930	1206.935	1206.935	1205.940	1206.935	1206.935	1207.930	1206.935
<b>172.5</b>	1276.585	1276.585	1274.595	1274.595	1275.590	1274.595	1274.595	1276.585	1276.585
<b>175.0</b>	1330.315	1331.310	1329.320	1329.320	1330.315	1329.320	1329.320	1331.310	1330.315
<b>177.5</b>	1368.125	1368.125	1365.140	1366.135	1367.130	1366.135	1365.140	1368.125	1368.125
<b>180.0</b>	1379.000	1379.000	1379.000	1379.000	1379.000	1379.000	1379.000	1379.000	1379.000

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Zone	Lumens	%Lamp	%Fixt
0-20	718.17	N.A.	30.20
0-30	954.02	N.A.	40.10
0-40	1098.23	N.A.	46.20
0-60	1240.43	N.A.	52.10
0-80	1280.98	N.A.	53.90
0-90	1282.88	N.A.	53.90
10-90	1009.32	N.A.	42.40
20-40	380.05	N.A.	16.00
20-50	469.82	N.A.	19.80
40-70	171.52	N.A.	7.20
60-80	40.55	N.A.	1.70
70-80	11.23	N.A.	0.50
80-90	1.90	N.A.	0.10
90-110	0.66	N.A.	0.00
90-120	11.49	N.A.	0.50
90-130	74.28	N.A.	3.10
90-150	392.69	N.A.	16.50
90-180	1095.83	N.A.	46.10
110-180	1095.17	N.A.	46.00
0-180	2378.72	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	0.14
100-110	0.52
110-120	10.83
120-130	62.79
130-140	119.48
140-150	198.92
150-160	293.61
160-170	286.51
170-180	123.03

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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	95	92	94	91	89	86	79	77	75	67	66	65	57	56	55	50
2	95	89	84	80	88	83	79	76	72	70	67	63	61	59	54	52	51	47
3	89	81	76	71	83	76	71	68	67	64	61	59	56	54	51	49	48	44
4	83	75	68	64	78	70	65	61	62	58	55	55	52	50	48	46	45	41
5	78	69	63	58	73	65	60	56	58	54	51	52	49	46	46	44	42	39
6	74	64	58	53	69	61	55	51	55	50	47	49	46	43	44	41	40	37
7	70	60	53	49	65	57	51	47	52	47	44	46	43	41	42	39	37	35
8	66	56	50	46	62	54	48	44	49	44	41	44	41	38	40	37	36	34
9	63	53	47	43	59	51	45	41	46	42	39	42	39	36	38	36	34	32
10	60	50	44	40	57	48	43	39	44	40	37	40	37	35	37	34	33	31

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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	14.5	15.2	15.5	16.1	17.4	14.6	15.3	15.5	16.2	17.4
	3H	15.6	16.2	16.5	17.1	18.4	15.6	16.2	16.6	17.2	18.4
	4H	15.8	16.4	16.8	17.3	18.6	15.8	16.4	16.8	17.4	18.6
	6H	15.8	16.3	16.8	17.3	18.6	15.8	16.3	16.8	17.3	18.6
	8H	15.7	16.3	16.7	17.2	18.5	15.8	16.3	16.8	17.3	18.5
	12H	15.7	16.2	16.7	17.2	18.5	15.7	16.2	16.8	17.2	18.5

### UGR Viewed Endwise

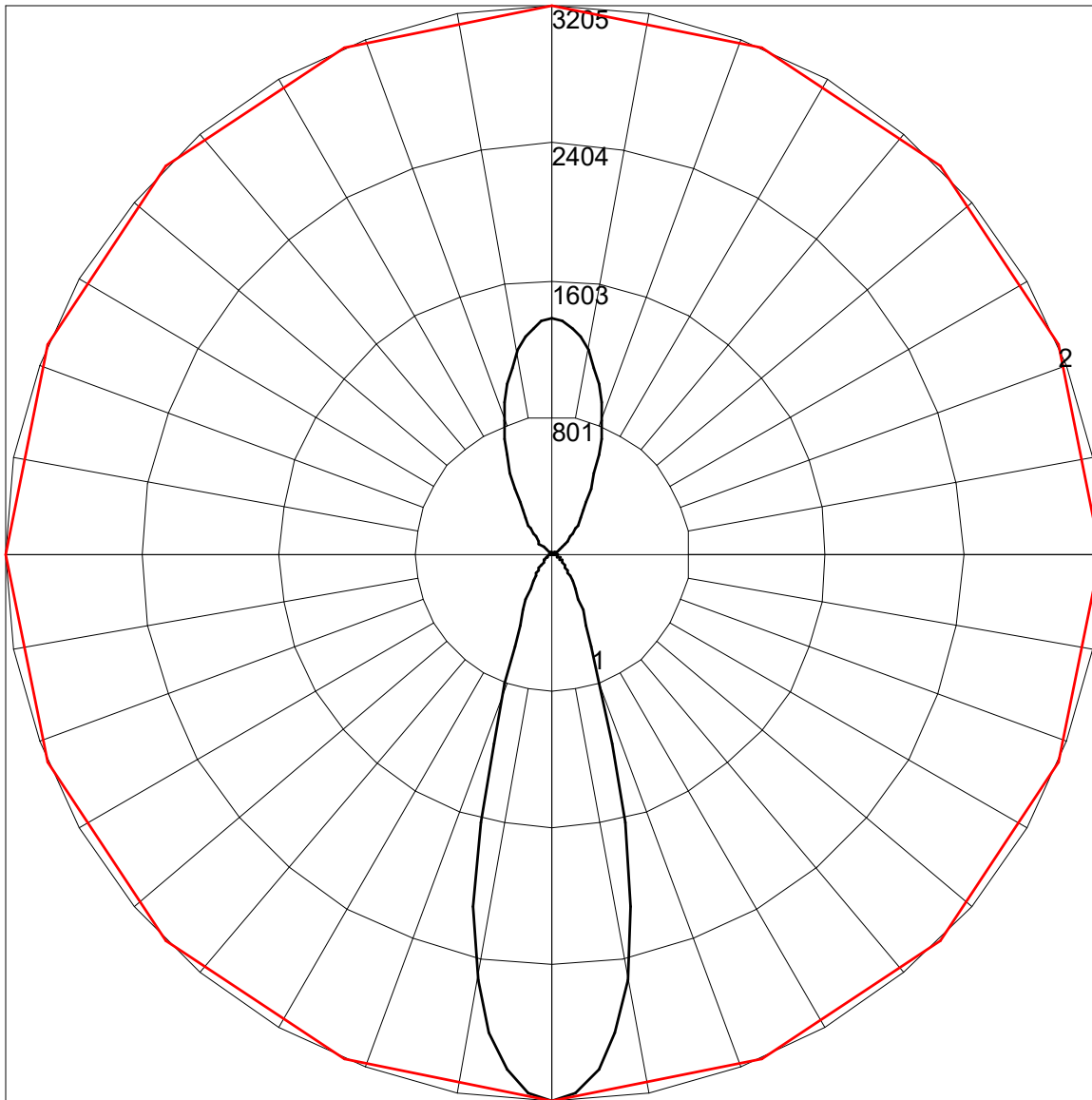
4H	2H	14.7	15.3	15.7	16.3	17.5	14.8	15.4	15.8	16.3	17.6
	3H	16.0	16.4	17.0	17.4	18.7	16.0	16.5	17.0	17.4	18.7
	4H	16.3	16.7	17.3	17.7	19.0	16.3	16.7	17.3	17.7	19.0
	6H	16.3	16.7	17.3	17.7	19.0	16.3	16.7	17.3	17.7	19.0
	8H	16.3	16.6	17.3	17.6	18.9	16.3	16.6	17.3	17.6	18.9
	12H	16.2	16.5	17.3	17.6	18.9	16.2	16.6	17.3	17.6	18.9
8H	4H	16.2	16.6	17.3	17.6	18.9	16.2	16.6	17.3	17.6	18.9
	6H	16.3	16.6	17.3	17.6	19.0	16.3	16.6	17.4	17.7	19.0
	8H	16.3	16.6	17.4	17.6	18.9	16.3	16.6	17.4	17.6	18.9
	12H	16.3	16.5	17.4	17.6	18.9	16.3	16.5	17.4	17.6	19.0
12H	4H	16.2	16.5	17.2	17.5	18.8	16.2	16.5	17.2	17.5	18.8
	6H	16.3	16.5	17.3	17.5	18.9	16.3	16.5	17.3	17.6	18.9
	8H	16.3	16.5	17.3	17.5	18.9	16.3	16.5	17.4	17.5	18.9

Maximum UGR = 19.0

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## POLAR GRAPH



Maximum Candela = 3205.404 Located At Horizontal Angle = 0, Vertical Angle = 0

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

# 2 - Horizontal Cone Through Vertical Angle (0) (Through Max. Cd.)