



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4CSDI-L12-835U-L12-835D-XXX-DIM1-UNV-OW-CS)U-LS-WHD-WM\_.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #13537338.12 and #13257153.25

[TESTLAB]

[ISSUE DATE] 9-FEB-2021

[MANUFAC] H E Williams Inc

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

[MORE]

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

[MORE] narrow spot 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	2579
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	75
Total Luminaire Watts	34.2978
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	1983	1739	2009
55	1075	881	1099
65	635	462	635
75	266	208	289
85	67	48	67

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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>	14140.000	14140.000	14140.000	14140.000	14140.000	14140.000	14140.000	14140.000	14140.000
<b>2.5</b>	12630.000	12690.000	12840.000	12980.000	13020.000	12980.000	12840.000	12690.000	12630.000
<b>5.0</b>	9394.000	9529.000	9686.000	9798.000	9865.000	9798.000	9686.000	9529.000	9394.000
<b>7.5</b>	5877.000	6045.000	6150.000	6218.000	6290.000	6218.000	6150.000	6045.000	5877.000
<b>10.0</b>	3225.000	3370.000	3426.000	3469.000	3501.000	3469.000	3426.000	3370.000	3225.000
<b>12.5</b>	1694.000	1783.000	1805.000	1832.000	1822.000	1832.000	1805.000	1783.000	1694.000
<b>15.0</b>	964.000	1010.000	1026.000	1028.000	1013.000	1028.000	1026.000	1010.000	964.000
<b>17.5</b>	636.000	665.000	684.000	666.000	644.000	666.000	684.000	665.000	636.000
<b>20.0</b>	470.000	495.000	523.000	500.000	469.000	500.000	523.000	495.000	470.000
<b>22.5</b>	373.000	397.000	429.000	397.000	362.000	397.000	429.000	397.000	373.000
<b>25.0</b>	294.000	322.000	360.000	321.000	292.000	321.000	360.000	322.000	294.000
<b>27.5</b>	234.000	262.000	304.000	262.000	231.000	262.000	304.000	262.000	234.000
<b>30.0</b>	192.000	213.000	254.000	210.000	188.000	210.000	254.000	213.000	192.000
<b>32.5</b>	160.000	175.000	210.000	175.000	161.000	175.000	210.000	175.000	160.000
<b>35.0</b>	139.000	149.000	171.000	149.000	139.000	149.000	171.000	149.000	139.000
<b>37.5</b>	122.000	129.000	142.000	129.000	121.000	129.000	142.000	129.000	122.000
<b>40.0</b>	105.000	113.000	120.000	113.000	105.000	113.000	120.000	113.000	105.000
<b>42.5</b>	89.000	98.000	103.000	98.000	90.000	98.000	103.000	98.000	89.000
<b>45.0</b>	76.000	84.000	89.000	85.000	77.000	85.000	89.000	84.000	76.000
<b>47.5</b>	65.000	72.000	76.000	72.000	67.000	72.000	76.000	72.000	65.000
<b>50.0</b>	57.000	63.000	66.000	63.000	58.000	63.000	66.000	63.000	57.000
<b>52.5</b>	50.000	55.000	57.000	56.000	52.000	56.000	57.000	55.000	50.000
<b>55.0</b>	45.000	48.000	50.000	49.000	46.000	49.000	50.000	48.000	45.000
<b>57.5</b>	40.000	43.000	43.000	43.000	41.000	43.000	43.000	43.000	40.000
<b>60.0</b>	37.000	38.000	38.000	39.000	37.000	39.000	38.000	38.000	37.000
<b>62.5</b>	32.000	34.000	33.000	33.000	32.000	33.000	33.000	34.000	32.000
<b>65.0</b>	28.000	29.000	28.000	29.000	28.000	29.000	28.000	29.000	28.000
<b>67.5</b>	23.000	25.000	24.000	25.000	24.000	25.000	24.000	25.000	23.000
<b>70.0</b>	19.000	21.000	20.000	21.000	20.000	21.000	20.000	21.000	19.000
<b>72.5</b>	16.000	16.000	16.000	17.000	17.000	17.000	16.000	16.000	16.000
<b>75.0</b>	12.000	13.000	13.000	13.000	13.000	13.000	13.000	13.000	12.000
<b>77.5</b>	9.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000	9.000
<b>80.0</b>	7.000	7.000	7.000	8.000	8.000	8.000	7.000	7.000	7.000
<b>82.5</b>	4.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000	4.000
<b>85.0</b>	3.000	3.000	3.000	3.000	3.000	3.000	3.000	3.000	3.000
<b>87.5</b>	1.000	1.000	1.000	2.000	1.000	2.000	1.000	1.000	1.000
<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>	0.738	0.984	1.599	3.014	2.891	3.014	1.599	0.984	0.738
<b>95.0</b>	0.861	1.169	1.722	3.075	3.014	3.075	1.722	1.169	0.861
<b>97.5</b>	0.984	1.292	1.907	3.198	3.075	3.198	1.907	1.292	0.984
<b>100.0</b>	1.107	1.476	2.091	3.321	3.198	3.321	2.091	1.476	1.107
<b>102.5</b>	1.230	1.599	2.276	3.444	3.383	3.444	2.276	1.599	1.230
<b>105.0</b>	1.415	1.845	2.460	3.629	3.506	3.629	2.460	1.845	1.415
<b>107.5</b>	1.661	2.091	2.706	3.813	3.752	3.813	2.706	2.091	1.661
<b>110.0</b>	1.907	2.399	3.137	3.998	3.998	3.998	3.137	2.399	1.907
<b>112.5</b>	2.276	2.768	4.305	4.305	4.305	4.305	4.305	2.768	2.276
<b>115.0</b>	2.706	4.428	7.749	7.073	4.797	7.073	7.749	4.428	2.706
<b>117.5</b>	4.367	8.733	14.760	12.792	10.025	12.792	14.760	8.733	4.367
<b>120.0</b>	12.485	18.512	25.092	22.632	16.913	22.632	25.092	18.512	12.485
<b>122.5</b>	23.309	32.718	38.807	35.363	29.520	35.363	38.807	32.718	23.309
<b>125.0</b>	40.467	50.123	53.874	50.922	44.711	50.922	53.874	50.123	40.467
<b>127.5</b>	61.070	68.634	69.680	68.019	63.222	68.019	69.680	68.634	61.070
<b>130.0</b>	82.103	86.838	86.838	86.100	83.763	86.100	86.838	86.838	82.103
<b>132.5</b>	105.596	106.149	105.842	105.719	107.195	105.719	105.842	106.149	105.596

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<b>135.0</b>	130.442	127.367	127.244	127.490	132.164	127.490	127.244	127.367	130.442
<b>137.5</b>	157.256	152.090	153.012	152.828	159.224	152.828	153.012	152.090	157.256
<b>140.0</b>	187.637	183.024	187.821	185.115	190.220	185.115	187.821	183.024	187.637
<b>142.5</b>	225.705	223.553	235.545	228.350	230.810	228.350	235.545	223.553	225.705
<b>145.0</b>	274.844	280.133	299.013	284.930	282.654	284.930	299.013	280.133	274.844
<b>147.5</b>	342.555	356.393	377.180	359.960	351.965	359.960	377.180	356.393	342.555
<b>150.0</b>	434.805	452.025	468.630	453.378	441.140	453.378	468.630	452.025	434.805
<b>152.5</b>	554.792	563.463	568.937	555.468	545.628	555.468	568.937	563.463	554.792
<b>155.0</b>	685.725	686.340	677.730	664.815	655.590	664.815	677.730	686.340	685.725
<b>157.5</b>	816.105	814.875	797.040	784.125	775.515	784.125	797.040	814.875	816.105
<b>160.0</b>	940.950	939.105	923.115	910.815	902.820	910.815	923.115	939.105	940.950
<b>162.5</b>	1064.565	1060.260	1046.115	1033.200	1024.590	1033.200	1046.115	1060.260	1064.565
<b>165.0</b>	1177.725	1178.340	1167.885	1153.740	1146.360	1153.740	1167.885	1178.340	1177.725
<b>167.5</b>	1281.045	1281.045	1274.895	1265.055	1258.905	1265.055	1274.895	1281.045	1281.045
<b>170.0</b>	1381.905	1378.830	1374.525	1368.375	1364.685	1368.375	1374.525	1378.830	1381.905
<b>172.5</b>	1462.470	1458.780	1456.320	1452.630	1450.785	1452.630	1456.320	1458.780	1462.470
<b>175.0</b>	1521.510	1518.435	1515.975	1514.130	1514.130	1514.130	1515.975	1518.435	1521.510
<b>177.5</b>	1555.950	1553.490	1551.030	1552.260	1551.645	1552.260	1551.030	1553.490	1555.950
<b>180.0</b>	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	1062.6	N.A.	41.20
0-30	1214.35	N.A.	47.10
0-40	1311.61	N.A.	50.90
0-60	1420.49	N.A.	55.10
0-80	1462.9	N.A.	56.70
0-90	1466.38	N.A.	56.90
10-90	749.80	N.A.	29.10
20-40	249.01	N.A.	9.70
20-50	314.27	N.A.	12.20
40-70	137.32	N.A.	5.30
60-80	42.41	N.A.	1.60
70-80	13.97	N.A.	0.50
80-90	3.49	N.A.	0.10
90-110	4.71	N.A.	0.20
90-120	12.54	N.A.	0.50
90-130	57.45	N.A.	2.20
90-150	342.26	N.A.	13.30
90-180	1112.7	N.A.	43.10
110-180	1107.99	N.A.	43.00
0-180	2579.08	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	716.58
10-20	346.01
20-30	151.76
30-40	97.26
40-50	65.25
50-60	43.62
60-70	28.44
70-80	13.97
80-90	3.49
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	109	109	109	109	101	101	101	101	87	87	87	74	74	74	62	62	62	57
1	102	99	97	94	96	93	91	89	81	80	78	70	69	68	60	59	59	54
2	97	91	87	84	90	86	82	79	76	73	71	66	65	63	58	57	56	52
3	91	85	80	75	86	80	76	72	71	68	66	63	61	59	56	54	53	50
4	87	79	73	69	81	75	70	66	67	64	61	60	58	56	54	52	51	48
5	82	74	68	64	78	71	66	62	64	60	58	58	55	53	52	50	49	46
6	79	70	64	60	74	67	62	58	61	57	55	56	53	51	51	49	47	45
7	75	66	61	57	71	64	59	55	59	55	52	54	51	49	49	47	46	44
8	72	63	58	54	69	61	56	53	56	53	50	52	49	47	48	46	45	43
9	69	61	55	52	66	58	54	50	54	51	48	51	48	46	47	45	43	42
10	67	58	53	50	64	56	52	49	53	49	47	49	46	44	46	44	42	41

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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	3.4	3.4	3.4	4.1	5.2	3.4	3.4	3.4	4.1	5.3
	3H	3.4	3.9	4.3	4.9	6.1	3.4	4.0	4.3	4.9	6.2
	4H	3.5	4.1	4.5	5.0	6.3	3.6	4.2	4.6	5.1	6.4
	6H	3.6	4.1	4.5	5.0	6.3	3.7	4.2	4.7	5.2	6.4
	8H	3.5	4.0	4.5	5.0	6.2	3.7	4.2	4.6	5.1	6.4
	12H	3.5	4.0	4.5	4.9	6.2	3.6	4.1	4.6	5.1	6.3

### UGR Viewed Endwise

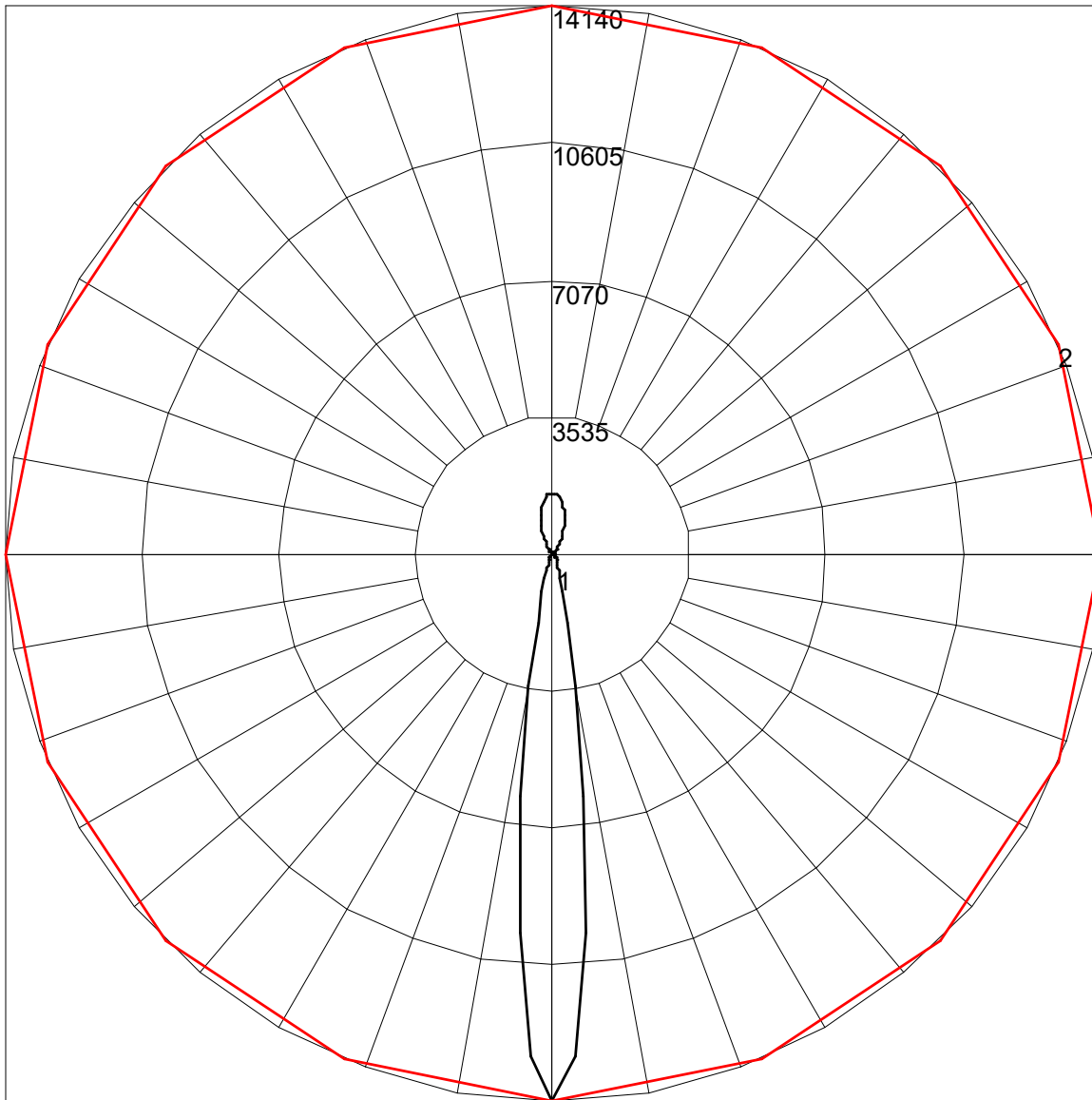
4H	2H	3.4	3.4	3.6	4.1	5.3	3.4	3.4	3.6	4.2	5.4
	3H	3.6	4.1	4.6	5.1	6.3	3.7	4.2	4.7	5.2	6.4
	4H	3.9	4.3	4.9	5.3	6.6	4.0	4.4	5.0	5.4	6.6
	6H	4.0	4.4	5.0	5.4	6.6	4.1	4.5	5.1	5.5	6.7
	8H	4.0	4.3	5.0	5.3	6.6	4.1	4.5	5.1	5.4	6.7
	12H	3.9	4.3	5.0	5.3	6.5	4.1	4.4	5.1	5.4	6.7
8H	4H	3.9	4.2	4.9	5.2	6.5	3.9	4.3	4.9	5.3	6.6
	6H	4.0	4.3	5.0	5.3	6.6	4.1	4.4	5.1	5.5	6.7
	8H	4.0	4.3	5.1	5.3	6.6	4.2	4.4	5.2	5.4	6.7
	12H	4.0	4.2	5.1	5.2	6.6	4.2	4.4	5.2	5.4	6.7
12H	4H	3.8	4.1	4.8	5.1	6.4	3.9	4.2	4.9	5.2	6.5
	6H	4.0	4.2	5.0	5.2	6.5	4.1	4.3	5.1	5.4	6.7
	8H	4.0	4.2	5.0	5.2	6.6	4.1	4.4	5.2	5.4	6.7

Maximum UGR = 6.7

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POLAR GRAPH



Maximum Candela = 14140 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.)