



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4CSDI-L12-835U-L12-835D-XXX-DIM1-UNV-OW-CSU-OS-CSD-WM\_.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #13537338.12 and #13257153.24

[TESTLAB]

[ISSUE DATE] 9-FEB-2021

[MANUFAC] H E Williams Inc

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

[MORE]

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

[MORE] narrow spot distrib anodized alum open reflector 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	2146
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	63
Total Luminaire Watts	34.2953
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	3774	2486	3917
55	1493	1080	1543
65	34	153	34
75	9	6	9
85	2	2	2

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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	1486.000	1486.000	1486.000	1486.000	1486.000	1486.000	1486.000	1486.000	1486.000
2.5	1470.000	1467.000	1467.000	1469.000	1471.000	1469.000	1467.000	1467.000	1470.000
5.0	1419.000	1416.000	1415.000	1415.000	1417.000	1415.000	1415.000	1416.000	1419.000
7.5	1343.000	1341.000	1338.000	1337.000	1338.000	1337.000	1338.000	1341.000	1343.000
10.0	1248.000	1248.000	1245.000	1242.000	1241.000	1242.000	1245.000	1248.000	1248.000
12.5	1138.000	1139.000	1138.000	1132.000	1128.000	1132.000	1138.000	1139.000	1138.000
15.0	1020.000	1024.000	1024.000	1017.000	1011.000	1017.000	1024.000	1024.000	1020.000
17.5	907.300	912.800	915.700	909.100	904.800	909.100	915.700	912.800	907.300
20.0	802.500	808.600	810.700	804.600	799.200	804.600	810.700	808.600	802.500
22.5	697.200	703.800	702.400	696.600	689.000	696.600	702.400	703.800	697.200
25.0	586.600	595.300	593.300	585.600	576.400	585.600	593.300	595.300	586.600
27.5	483.300	494.700	495.200	485.800	475.600	485.800	495.200	494.700	483.300
30.0	393.700	405.700	412.000	400.000	390.300	400.000	412.000	405.700	393.700
32.5	321.700	330.800	341.200	328.900	322.300	328.900	341.200	330.800	321.700
35.0	267.000	271.600	281.500	272.400	270.400	272.400	281.500	271.600	267.000
37.5	225.700	225.600	230.600	228.100	231.000	228.100	230.600	225.600	225.700
40.0	193.500	188.900	187.600	192.700	199.600	192.700	187.600	188.900	193.500
42.5	167.000	159.700	153.300	164.300	173.200	164.300	153.300	159.700	167.000
45.0	144.600	135.900	127.200	140.800	150.100	140.800	127.200	135.900	144.600
47.5	123.800	115.500	106.800	120.100	128.400	120.100	106.800	115.500	123.800
50.0	103.400	97.100	90.100	101.100	106.900	101.100	90.100	97.100	103.400
52.5	82.800	80.300	75.300	83.700	85.500	83.700	75.300	80.300	82.800
55.0	62.500	64.600	61.300	67.300	64.600	67.300	61.300	64.600	62.500
57.5	43.900	49.300	47.500	51.400	44.800	51.400	47.500	49.300	43.900
60.0	25.500	33.700	34.000	34.600	25.100	34.600	34.000	33.700	25.500
62.5	9.700	17.000	21.000	16.500	8.700	16.500	21.000	17.000	9.700
65.0	1.500	4.400	9.300	3.800	1.500	3.800	9.300	4.400	1.500
67.5	1.100	1.000	2.500	1.000	1.100	1.000	2.500	1.000	1.100
70.0	0.800	0.700	0.900	0.800	0.800	0.800	0.900	0.700	0.800
72.5	0.600	0.500	0.500	0.600	0.600	0.600	0.500	0.500	0.600
75.0	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400
77.5	0.300	0.300	0.300	0.300	0.300	0.300	0.300	0.300	0.300
80.0	0.200	0.200	0.200	0.200	0.200	0.200	0.200	0.200	0.200
82.5	0.100	0.100	0.100	0.100	0.200	0.100	0.100	0.100	0.100
85.0	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100
87.5	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100
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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<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	413.28	N.A.	19.30
0-30	683.24	N.A.	31.80
0-40	858.05	N.A.	40.00
0-60	1023.2	N.A.	47.70
0-80	1033.01	N.A.	48.10
0-90	1033.12	N.A.	48.10
10-90	903.43	N.A.	42.10
20-40	444.77	N.A.	20.70
20-50	552.55	N.A.	25.80
40-70	174.49	N.A.	8.10
60-80	9.80	N.A.	0.50
70-80	0.46	N.A.	0.00
80-90	0.11	N.A.	0.00
90-110	4.71	N.A.	0.20
90-120	12.54	N.A.	0.60
90-130	57.45	N.A.	2.70
90-150	342.26	N.A.	16.00
90-180	1112.7	N.A.	51.90
110-180	1107.99	N.A.	51.60
0-180	2145.81	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	129.68
10-20	283.60
20-30	269.96
30-40	174.81
40-50	107.78
50-60	57.37
60-70	9.34
70-80	0.46
80-90	0.11
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 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	107	107	107	107	98	98	98	98	82	82	82	68	68	68	54	54	54	48
1	99	96	93	90	92	89	86	84	75	73	72	63	62	61	51	51	50	45
2	92	87	82	77	85	80	76	73	69	66	63	58	56	54	48	47	46	41
3	86	78	72	68	80	73	68	64	63	59	56	54	51	49	45	43	42	38
4	80	71	65	60	74	67	61	57	58	54	50	50	47	44	42	40	39	35
5	75	65	58	53	69	61	55	51	53	49	46	46	43	41	40	37	36	33
6	70	60	53	48	65	56	50	46	49	45	42	43	40	37	37	35	33	30
7	66	55	48	44	61	52	46	42	46	41	38	40	37	34	35	33	31	28
8	62	51	44	40	57	48	42	38	43	38	35	38	34	32	33	31	29	27
9	58	48	41	37	54	45	39	35	40	36	33	36	32	30	31	29	27	25
10	55	44	38	34	51	42	36	33	38	33	30	34	30	28	30	27	25	24

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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	3.6	4.3	4.6	5.3	6.6	3.9	4.6	4.9	5.6	6.9
	3H	3.4	4.0	4.4	5.0	6.4	3.7	4.3	4.7	5.3	6.6
	4H	3.3	3.9	4.3	4.9	6.2	3.6	4.2	4.6	5.2	6.5
	6H	3.2	3.7	4.2	4.7	6.1	3.5	4.0	4.5	5.0	6.4
	8H	3.1	3.6	4.2	4.7	6.0	3.4	3.9	4.4	4.9	6.3
	12H	3.1	3.6	4.1	4.6	5.9	3.3	3.8	4.4	4.8	6.2

### UGR Viewed Endwise

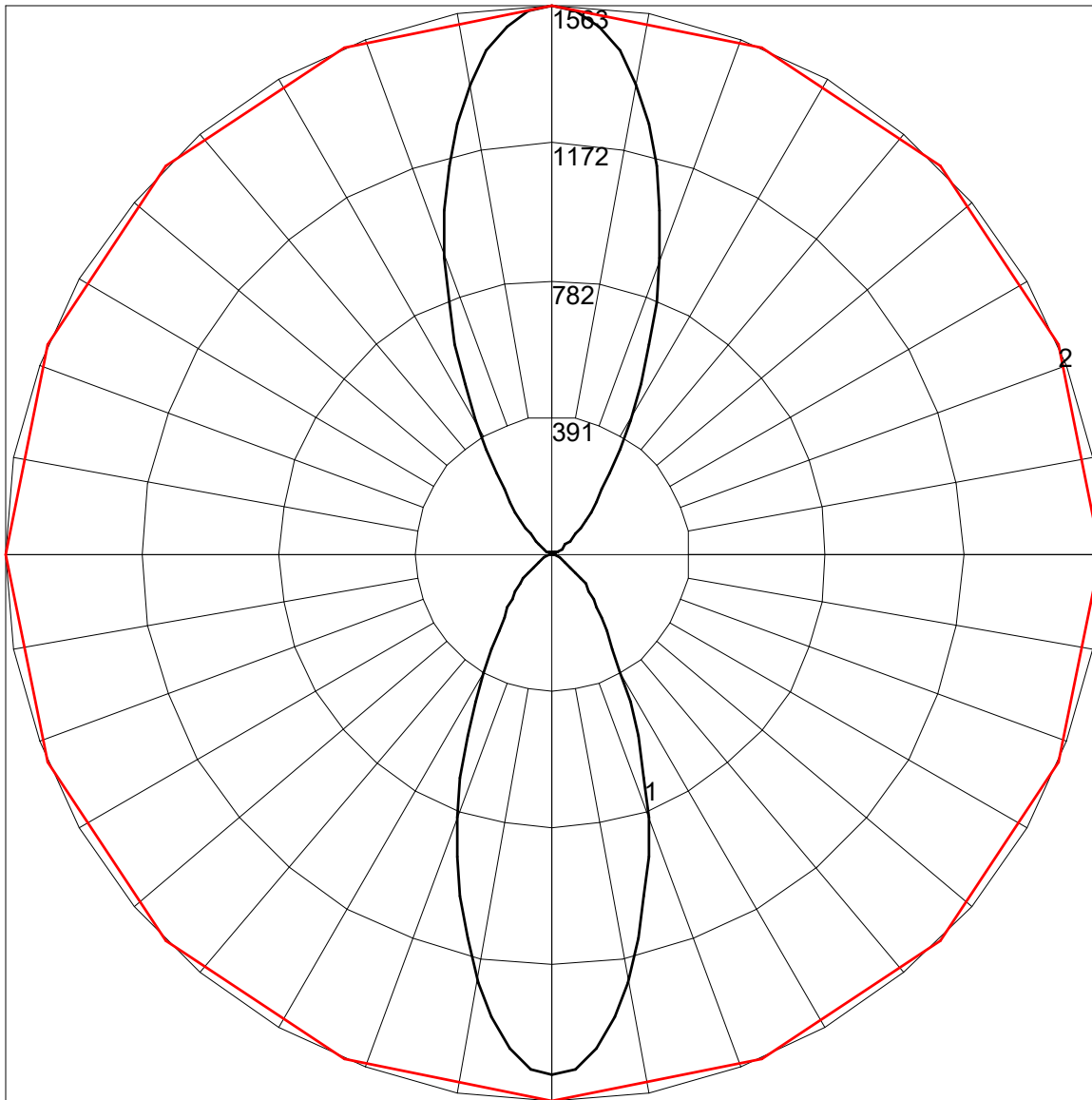
4H	2H	3.4	3.9	4.4	5.0	6.3	3.6	4.2	4.7	5.2	6.5
	3H	3.2	3.6	4.2	4.7	6.0	3.4	3.9	4.5	4.9	6.3
	4H	3.1	3.5	4.1	4.5	5.9	3.3	3.7	4.4	4.8	6.1
	6H	2.9	3.3	4.0	4.4	5.7	3.2	3.6	4.3	4.6	6.0
	8H	2.9	3.2	3.9	4.3	5.6	3.1	3.5	4.2	4.5	5.9
	12H	2.8	3.1	3.9	4.2	5.6	3.1	3.4	4.1	4.4	5.8
8H	4H	2.9	3.2	3.9	4.3	5.6	3.1	3.5	4.2	4.5	5.9
	6H	2.8	3.0	3.8	4.1	5.5	3.0	3.3	4.1	4.4	5.8
	8H	2.7	3.0	3.8	4.0	5.4	3.0	3.2	4.0	4.3	5.7
	12H	2.7	2.9	3.7	3.9	5.4	2.9	3.1	4.0	4.2	5.6
12H	4H	2.8	3.1	3.9	4.2	5.6	3.1	3.4	4.1	4.4	5.8
	6H	2.7	2.9	3.8	4.0	5.4	2.9	3.2	4.0	4.3	5.7
	8H	2.7	2.9	3.7	3.9	5.4	2.9	3.1	4.0	4.2	5.6

Maximum UGR = 6.9

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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.)