



## IES INDOOR REPORT

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

## DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #13257153.19 and #13257153.24

[TESTLAB]

[ISSUE DATE] 8-FEB-2021

[MANUFAC] H E Williams Inc

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

[MORE]

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

[ 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	2515
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	73
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
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-OS-CSD-WM\_.IES****LUMINANCE DATA (cd/sq.m)**

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	50830	44714	52763
55	27085	26565	27995
65	882	5470	882
75	384	384	384
85	285	285	285

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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	0.734	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	413.28	N.A.	16.40
0-30	683.24	N.A.	27.20
0-40	858.05	N.A.	34.10
0-60	1023.2	N.A.	40.70
0-80	1033.01	N.A.	41.10
0-90	1033.12	N.A.	41.10
10-90	903.43	N.A.	35.90
20-40	444.77	N.A.	17.70
20-50	552.55	N.A.	22.00
40-70	174.49	N.A.	6.90
60-80	9.80	N.A.	0.40
70-80	0.46	N.A.	0.00
80-90	0.11	N.A.	0.00
90-110	27.17	N.A.	1.10
90-120	71.89	N.A.	2.90
90-130	140.63	N.A.	5.60
90-150	393.83	N.A.	15.70
90-180	1481.52	N.A.	58.90
110-180	1454.35	N.A.	57.80
0-180	2514.64	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	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	105	105	105	105	96	96	96	96	78	78	78	63	63	63	48	48	48	41
1	98	94	91	88	89	86	83	81	71	70	68	58	57	56	45	44	44	38
2	90	84	79	75	83	78	73	70	65	62	59	53	51	50	42	41	40	35
3	84	76	70	65	77	70	65	61	59	56	53	49	47	45	39	38	37	33
4	78	69	62	57	71	64	58	54	54	50	47	45	42	40	37	35	34	30
5	73	63	56	51	67	58	52	48	50	46	42	42	39	37	35	33	31	28
6	68	57	51	46	62	54	48	43	46	42	38	39	36	34	32	30	29	26
7	63	53	46	41	58	49	43	39	43	38	35	36	33	31	31	28	27	24
8	59	49	42	37	55	46	40	36	40	35	32	34	31	29	29	27	25	23
9	56	45	39	34	52	42	37	33	37	33	30	32	29	27	27	25	23	21
10	53	42	36	32	49	40	34	30	35	30	27	30	27	25	26	24	22	20

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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

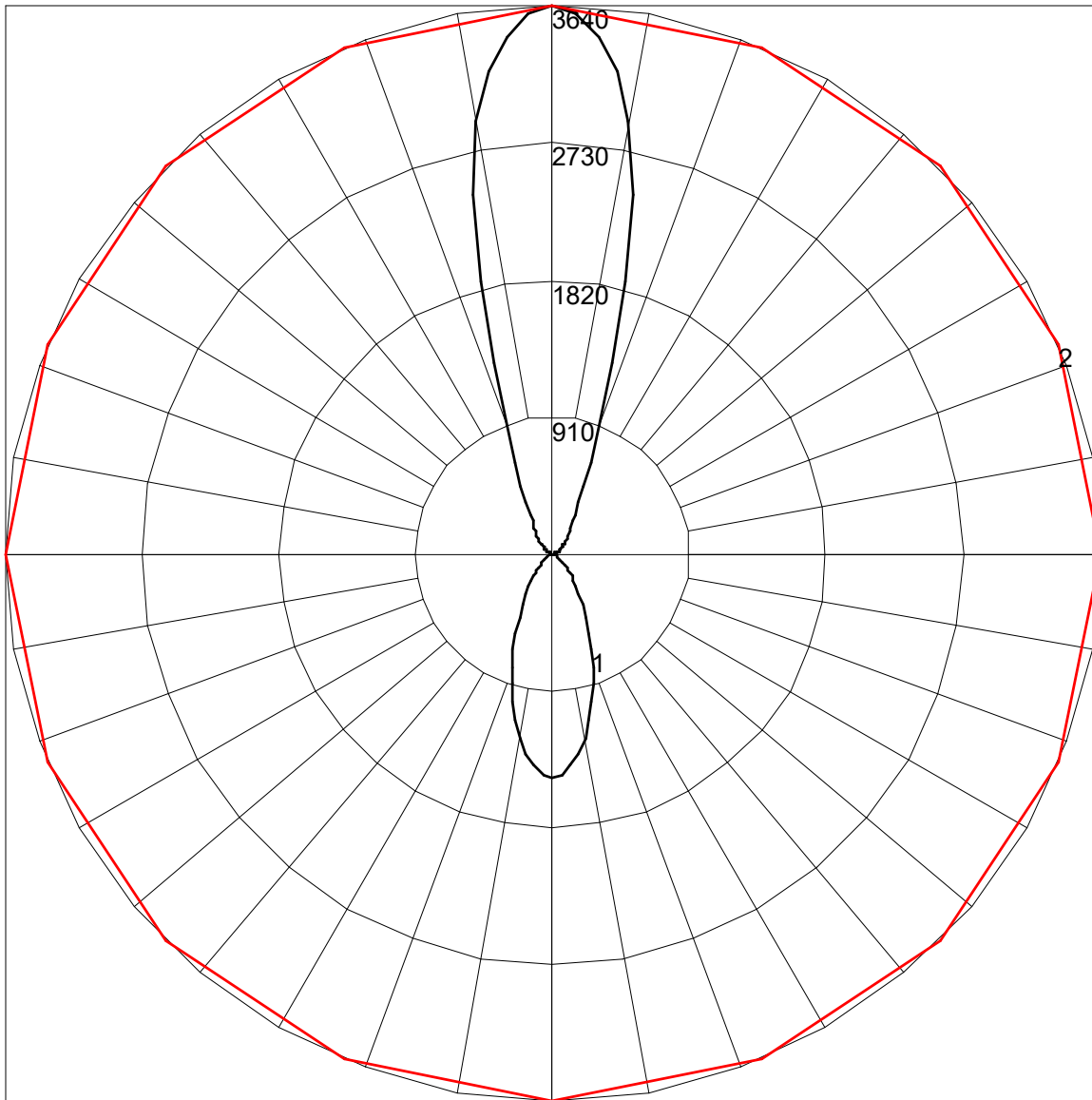
Room Size		UGR Viewed Crosswise					UGR Viewed Endwise				
X=2H	Y=2H	13.9	14.6	15.0	15.6	17.0	14.2	14.8	15.2	15.9	17.3
	3H	13.7	14.3	14.8	15.3	16.8	13.9	14.5	15.0	15.6	17.0
	4H	13.6	14.1	14.7	15.2	16.6	13.8	14.4	14.9	15.5	16.9
	6H	13.5	14.0	14.6	15.0	16.5	13.7	14.2	14.8	15.3	16.7
	8H	13.4	13.9	14.5	15.0	16.4	13.7	14.2	14.8	15.2	16.7
	12H	13.4	13.8	14.5	14.9	16.3	13.6	14.1	14.7	15.1	16.6
4H	2H	13.7	14.2	14.7	15.3	16.7	13.9	14.5	15.0	15.5	17.0
	3H	13.5	13.9	14.6	15.0	16.4	13.7	14.2	14.8	15.3	16.7
	4H	13.3	13.8	14.4	14.8	16.3	13.6	14.0	14.7	15.1	16.6
	6H	13.2	13.6	14.3	14.7	16.1	13.5	13.8	14.6	14.9	16.4
	8H	13.2	13.5	14.3	14.6	16.1	13.4	13.8	14.5	14.8	16.3
	12H	13.1	13.4	14.2	14.5	16.0	13.4	13.7	14.5	14.8	16.2
8H	4H	13.2	13.5	14.3	14.6	16.1	13.4	13.8	14.5	14.8	16.3
	6H	13.1	13.3	14.2	14.5	15.9	13.3	13.6	14.4	14.7	16.2
	8H	13.0	13.2	14.1	14.3	15.8	13.2	13.5	14.4	14.6	16.1
	12H	12.9	13.1	14.1	14.2	15.8	13.2	13.4	14.3	14.5	16.0
12H	4H	13.1	13.4	14.2	14.5	16.0	13.3	13.7	14.5	14.8	16.2
	6H	13.0	13.2	14.1	14.3	15.8	13.2	13.5	14.4	14.6	16.1
	8H	12.9	13.1	14.1	14.2	15.8	13.2	13.4	14.3	14.5	16.0

Maximum UGR = 17.3

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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.)