



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4CSDI-P12-835U-P12-835D-XXX-POE PR-OW-CSU-LS-WHD-WM\_.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #13537338.12 & #13257153.25

[TESTLAB] UL Verification Services Inc.

[ISSUE DATE] 20-APR-2021

[MANUFAC] H E Williams Inc

[LUMCAT] 4CSDI-P12-835U-P12-835D-xxx-PoE PR-OW-CSU-LS-WHD-WM

[LUMINAIRE] White formed aluminum housing, wide distribution reflector

[MORE] trims, frosted lens enclosures

[LAMP] Two white LEDs (one up/one down)

[BALLAST] (2) ERP PHB30W-0700-42 Drivers

[OTHER] 24.9 C, 120 V, 0.1984 A, 23.44 W, 0.983 PF, 60 Hz

[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	2478
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	108
Total Luminaire Watts	23
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	1853	1625	1877
55	1004	823	1026
65	593	432	593
75	249	194	270
85	63	45	63

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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>	13207.152	13207.152	13207.152	13207.152	13207.152	13207.152	13207.152	13207.152	13207.152
<b>2.5</b>	11796.770	11852.812	11992.916	12123.680	12161.041	12123.680	11992.916	11852.812	11796.770
<b>5.0</b>	8774.256	8900.350	9046.992	9151.603	9214.183	9151.603	9046.992	8900.350	8774.256
<b>7.5</b>	5489.281	5646.197	5744.270	5807.784	5875.034	5807.784	5744.270	5646.197	5489.281
<b>10.0</b>	3012.239	3147.673	3199.979	3240.142	3270.031	3240.142	3199.979	3147.673	3012.239
<b>12.5</b>	1582.243	1665.371	1685.920	1711.139	1701.798	1711.139	1685.920	1665.371	1582.243
<b>15.0</b>	900.403	943.368	958.312	960.180	946.170	960.180	958.312	943.368	900.403
<b>17.5</b>	594.042	621.128	638.875	622.062	601.514	622.062	638.875	621.128	594.042
<b>20.0</b>	438.993	462.344	488.496	467.014	438.059	467.014	488.496	462.344	438.993
<b>22.5</b>	348.392	370.809	400.698	370.809	338.118	370.809	400.698	370.809	348.392
<b>25.0</b>	274.604	300.757	336.250	299.823	272.736	299.823	336.250	300.757	274.604
<b>27.5</b>	218.562	244.715	283.944	244.715	215.760	244.715	283.944	244.715	218.562
<b>30.0</b>	179.333	198.948	237.243	196.146	175.597	196.146	237.243	198.948	179.333
<b>32.5</b>	149.444	163.455	196.146	163.455	150.378	163.455	196.146	163.455	149.444
<b>35.0</b>	129.830	139.170	159.719	139.170	129.830	139.170	159.719	139.170	129.830
<b>37.5</b>	113.951	120.490	132.632	120.490	113.017	120.490	132.632	120.490	113.951
<b>40.0</b>	98.073	105.545	112.083	105.545	98.073	105.545	112.083	105.545	98.073
<b>42.5</b>	83.128	91.535	96.205	91.535	84.062	91.535	96.205	91.535	83.128
<b>45.0</b>	70.986	78.458	83.128	79.392	71.920	79.392	83.128	78.458	70.986
<b>47.5</b>	60.712	67.250	70.986	67.250	62.580	67.250	70.986	67.250	60.712
<b>50.0</b>	53.240	58.844	61.646	58.844	54.174	58.844	61.646	58.844	53.240
<b>52.5</b>	46.701	51.372	53.240	52.306	48.569	52.306	53.240	51.372	46.701
<b>55.0</b>	42.031	44.833	46.701	45.767	42.965	45.767	46.701	44.833	42.031
<b>57.5</b>	37.361	40.163	40.163	40.163	38.295	40.163	40.163	40.163	37.361
<b>60.0</b>	34.559	35.493	35.493	36.427	34.559	36.427	35.493	35.493	34.559
<b>62.5</b>	29.889	31.757	30.823	30.823	29.889	30.823	30.823	31.757	29.889
<b>65.0</b>	26.153	27.087	26.153	27.087	26.153	27.087	26.153	27.087	26.153
<b>67.5</b>	21.483	23.351	22.417	23.351	22.417	23.351	22.417	23.351	21.483
<b>70.0</b>	17.747	19.615	18.681	19.615	18.681	19.615	18.681	19.615	17.747
<b>72.5</b>	14.944	14.944	14.944	15.878	15.878	15.878	14.944	14.944	14.944
<b>75.0</b>	11.208	12.142	12.142	12.142	12.142	12.142	12.142	12.142	11.208
<b>77.5</b>	8.406	9.340	9.340	9.340	9.340	9.340	9.340	9.340	8.406
<b>80.0</b>	6.538	6.538	6.538	7.472	7.472	7.472	6.538	6.538	6.538
<b>82.5</b>	3.736	4.670	4.670	4.670	4.670	4.670	4.670	4.670	3.736
<b>85.0</b>	2.802	2.802	2.802	2.802	2.802	2.802	2.802	2.802	2.802
<b>87.5</b>	0.934	0.934	0.934	1.868	0.934	1.868	0.934	0.934	0.934
<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>	0.735	0.980	1.593	3.003	2.881	3.003	1.593	0.980	0.735
<b>95.0</b>	0.858	1.165	1.716	3.064	3.003	3.064	1.716	1.165	0.858
<b>97.5</b>	0.980	1.287	1.900	3.187	3.064	3.187	1.900	1.287	0.980
<b>100.0</b>	1.103	1.471	2.083	3.309	3.187	3.309	2.083	1.471	1.103
<b>102.5</b>	1.226	1.593	2.268	3.432	3.371	3.432	2.268	1.593	1.226
<b>105.0</b>	1.410	1.838	2.451	3.616	3.493	3.616	2.451	1.838	1.410
<b>107.5</b>	1.655	2.083	2.696	3.799	3.739	3.799	2.696	2.083	1.655
<b>110.0</b>	1.900	2.390	3.126	3.984	3.984	3.984	3.126	2.390	1.900
<b>112.5</b>	2.268	2.758	4.290	4.290	4.290	4.290	4.290	2.758	2.268
<b>115.0</b>	2.696	4.412	7.721	7.048	4.780	7.048	7.721	4.412	2.696
<b>117.5</b>	4.351	8.702	14.707	12.746	9.989	12.746	14.707	8.702	4.351
<b>120.0</b>	12.440	18.445	25.002	22.551	16.852	22.551	25.002	18.445	12.440
<b>122.5</b>	23.225	32.600	38.668	35.236	29.414	35.236	38.668	32.600	23.225
<b>125.0</b>	40.322	49.943	53.680	50.739	44.550	50.739	53.680	49.943	40.322
<b>127.5</b>	60.851	68.387	69.430	67.775	62.995	67.775	69.430	68.387	60.851
<b>130.0</b>	81.808	86.526	86.526	85.791	83.462	85.791	86.526	86.526	81.808
<b>132.5</b>	105.216	105.768	105.462	105.339	106.810	105.339	105.462	105.768	105.216

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135.0	129.973	126.909	126.787	127.032	131.689	127.032	126.787	126.909	129.973
137.5	156.691	151.543	152.462	152.279	158.652	152.279	152.462	151.543	156.691
140.0	186.963	182.366	187.146	184.450	189.536	184.450	187.146	182.366	186.963
142.5	224.894	222.750	234.698	227.529	229.980	227.529	234.698	222.750	224.894
145.0	273.856	279.126	297.938	283.906	281.638	283.906	297.938	279.126	273.856
147.5	341.324	355.112	375.824	358.666	350.700	358.666	375.824	355.112	341.324
150.0	433.242	450.400	466.946	451.749	439.555	451.749	466.946	450.400	433.242
152.5	552.798	561.438	566.892	553.472	543.667	553.472	566.892	561.438	552.798
155.0	683.261	683.873	675.294	662.426	653.234	662.426	675.294	683.873	683.261
157.5	813.172	811.946	794.176	781.307	772.728	781.307	794.176	811.946	813.172
160.0	937.568	935.730	919.797	907.542	899.575	907.542	919.797	935.730	937.568
162.5	1060.739	1056.450	1042.355	1029.487	1020.908	1029.487	1042.355	1056.450	1060.739
165.0	1173.492	1174.105	1163.688	1149.594	1142.240	1149.594	1163.688	1174.105	1173.492
167.5	1276.441	1276.441	1270.313	1260.509	1254.381	1260.509	1270.313	1276.441	1276.441
170.0	1376.939	1373.875	1369.585	1363.457	1359.780	1363.457	1369.585	1373.875	1376.939
172.5	1457.214	1453.537	1451.086	1447.409	1445.571	1447.409	1451.086	1453.537	1457.214
175.0	1516.042	1512.978	1510.527	1508.688	1508.688	1508.688	1510.527	1512.978	1516.042
177.5	1550.358	1547.907	1545.456	1546.681	1546.069	1546.681	1545.456	1547.907	1550.358
180.0	1557.383	1557.383	1557.383	1557.383	1557.383	1557.383	1557.383	1557.383	1557.383

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Zone	Lumens	%Lamp	%Fixt
0-20	992.49	N.A.	40.00
0-30	1134.24	N.A.	45.80
0-40	1225.08	N.A.	49.40
0-60	1326.77	N.A.	53.50
0-80	1366.39	N.A.	55.10
0-90	1369.64	N.A.	55.30
10-90	700.33	N.A.	28.30
20-40	232.59	N.A.	9.40
20-50	293.54	N.A.	11.80
40-70	128.26	N.A.	5.20
60-80	39.61	N.A.	1.60
70-80	13.05	N.A.	0.50
80-90	3.26	N.A.	0.10
90-110	4.69	N.A.	0.20
90-120	12.49	N.A.	0.50
90-130	57.24	N.A.	2.30
90-150	341.03	N.A.	13.80
90-180	1108.7	N.A.	44.70
110-180	1104.01	N.A.	44.50
0-180	2478.34	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	669.31
10-20	323.19
20-30	141.75
30-40	90.84
40-50	60.95
50-60	40.75
60-70	26.57
70-80	13.05
80-90	3.26
90-100	1.92
100-110	2.77
110-120	7.80
120-130	44.75
130-140	100.12
140-150	183.67
150-160	307.32
160-170	320.66
170-180	139.69

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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	101	101	101	101	86	86	86	73	73	73	61	61	61	55
1	102	99	96	94	95	92	90	88	80	79	77	69	68	67	59	58	58	53
2	96	91	87	83	90	85	82	79	75	72	70	65	64	62	56	55	54	50
3	91	84	79	75	85	79	75	71	70	67	65	62	60	58	54	53	52	48
4	86	78	73	68	81	74	69	66	66	63	60	59	57	55	53	51	50	47
5	82	73	68	63	77	70	65	61	63	59	57	57	54	52	51	49	48	45
6	78	69	64	59	74	66	61	57	60	56	54	55	52	50	49	48	46	44
7	74	66	60	56	70	63	58	54	58	54	51	53	50	48	48	46	45	43
8	71	63	57	53	68	60	55	52	55	52	49	51	48	46	47	45	43	42
9	69	60	54	51	65	58	53	50	53	50	47	49	47	45	46	44	42	41
10	66	57	52	49	63	55	51	48	52	48	46	48	45	43	45	43	41	40

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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	3.3	3.3	3.3	3.7	4.9	3.3	3.3	3.3	3.7	5.0
	3H	3.3	3.6	3.9	4.5	5.8	3.3	3.7	4.0	4.6	5.9
	4H	3.3	3.7	4.1	4.7	5.9	3.3	3.8	4.2	4.8	6.0
	6H	3.3	3.7	4.2	4.7	6.0	3.3	3.9	4.3	4.8	6.1
	8H	3.3	3.7	4.2	4.7	5.9	3.3	3.8	4.3	4.8	6.1
	12H	3.3	3.6	4.2	4.6	5.9	3.3	3.8	4.3	4.7	6.0

### UGR Viewed Endwise

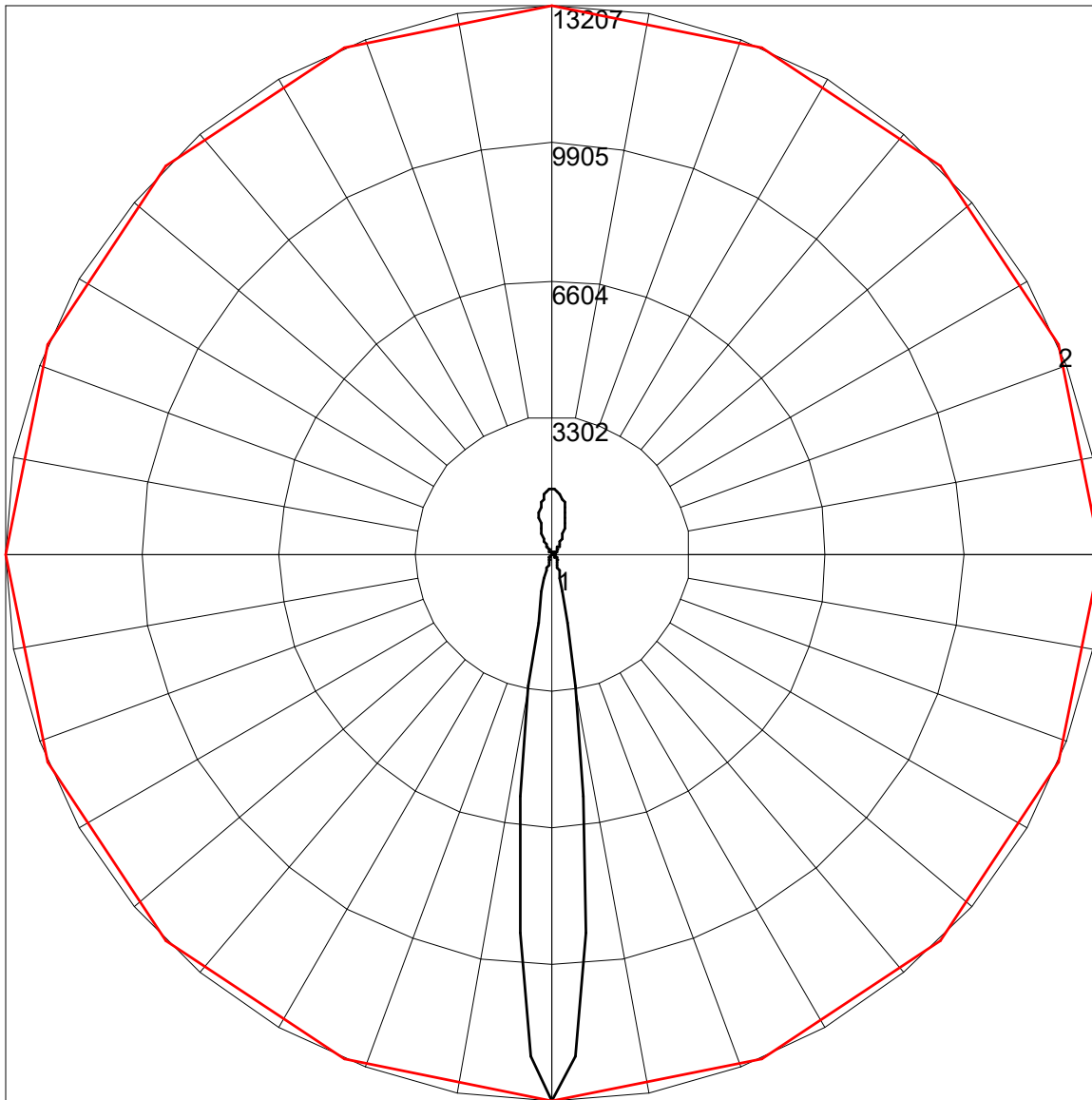
4H	2H	3.3	3.3	3.3	3.8	5.0	3.3	3.3	3.3	3.8	5.1
	3H	3.3	3.8	4.3	4.7	6.0	3.3	3.8	4.3	4.8	6.1
	4H	3.5	4.0	4.5	5.0	6.2	3.6	4.1	4.6	5.0	6.3
	6H	3.6	4.0	4.7	5.0	6.3	3.8	4.1	4.8	5.1	6.4
	8H	3.6	4.0	4.6	5.0	6.3	3.8	4.1	4.8	5.1	6.4
	12H	3.6	3.9	4.6	4.9	6.2	3.7	4.0	4.7	5.0	6.3
8H	4H	3.5	3.9	4.5	4.9	6.2	3.6	4.0	4.6	4.9	6.2
	6H	3.7	4.0	4.7	5.0	6.3	3.8	4.1	4.8	5.1	6.4
	8H	3.7	3.9	4.7	5.0	6.3	3.8	4.1	4.9	5.1	6.4
	12H	3.7	3.9	4.7	4.9	6.3	3.8	4.0	4.8	5.0	6.4
12H	4H	3.5	3.8	4.5	4.8	6.1	3.5	3.9	4.6	4.9	6.2
	6H	3.6	3.9	4.7	4.9	6.2	3.8	4.0	4.8	5.0	6.4
	8H	3.7	3.9	4.7	4.9	6.3	3.8	4.0	4.8	5.0	6.4

Maximum UGR = 6.4

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POLAR GRAPH



Maximum Candela = 13207.152 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.)