



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4CSDI-P12-835U-P12-835D-XXX-POE PR-LW-WHU-RS-WHD-WM\_.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #13537338.13 & #13257153.26

[TESTLAB] UL Verification Services Inc.

[ISSUE DATE] 20-APR-2021

[MANUFAC] H E Williams Inc

[LUMCAT] 4CSDI-P12-835U-P12-835D-xxx-PoE PR-LW-WHU-RS-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] 24.8 C, 120 V, 0.1986 A, 23.46 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	2849
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	124
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	1949	1770	1925
55	892	740	870
65	444	324	465
75	145	119	166
85	21	30	42

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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>	13396.643	13396.643	13396.643	13396.643	13396.643	13396.643	13396.643	13396.643	13396.643
<b>2.5</b>	12155.003	12164.339	12164.339	12173.675	12155.003	12173.675	12164.339	12164.339	12155.003
<b>5.0</b>	9252.553	9260.955	9142.392	9021.962	8972.484	9021.962	9142.392	9260.955	9252.553
<b>7.5</b>	5964.540	5969.208	5754.489	5535.101	5463.217	5535.101	5754.489	5969.208	5964.540
<b>10.0</b>	3385.103	3380.435	3159.181	2956.597	2888.447	2956.597	3159.181	3380.435	3385.103
<b>12.5</b>	1783.107	1789.642	1644.940	1521.709	1467.563	1521.709	1644.940	1789.642	1783.107
<b>15.0</b>	993.312	998.913	936.365	867.281	834.606	867.281	936.365	998.913	993.312
<b>17.5</b>	636.691	646.960	626.421	590.946	568.540	590.946	626.421	646.960	636.691
<b>20.0</b>	466.782	483.586	487.320	459.313	436.908	459.313	487.320	483.586	466.782
<b>22.5</b>	371.558	389.296	404.233	376.226	354.754	376.226	404.233	389.296	371.558
<b>25.0</b>	302.475	324.880	343.552	315.545	295.006	315.545	343.552	324.880	302.475
<b>27.5</b>	252.996	271.667	295.006	265.132	245.527	265.132	295.006	271.667	252.996
<b>30.0</b>	206.318	227.790	254.863	220.321	198.849	220.321	254.863	227.790	206.318
<b>32.5</b>	170.842	187.646	218.454	181.111	164.307	181.111	218.454	187.646	170.842
<b>35.0</b>	142.835	156.839	183.912	150.304	137.234	150.304	183.912	156.839	142.835
<b>37.5</b>	122.297	132.566	153.105	127.898	121.363	127.898	153.105	132.566	122.297
<b>40.0</b>	105.493	112.961	127.898	111.094	104.559	111.094	127.898	112.961	105.493
<b>42.5</b>	88.689	97.091	107.360	95.224	87.755	95.224	107.360	97.091	88.689
<b>45.0</b>	74.685	82.154	90.556	81.220	73.752	81.220	90.556	82.154	74.685
<b>47.5</b>	61.615	68.150	74.685	67.217	60.682	67.217	74.685	68.150	61.615
<b>50.0</b>	51.346	56.947	62.549	56.014	50.412	56.014	62.549	56.947	51.346
<b>52.5</b>	42.944	47.612	51.346	46.678	42.010	46.678	51.346	47.612	42.944
<b>55.0</b>	37.343	40.143	42.010	39.210	36.409	39.210	42.010	40.143	37.343
<b>57.5</b>	31.741	33.608	33.608	32.675	31.741	32.675	33.608	33.608	31.741
<b>60.0</b>	28.007	28.940	28.007	28.007	28.007	28.007	28.007	28.940	28.007
<b>62.5</b>	23.339	24.273	23.339	24.273	24.273	24.273	23.339	24.273	23.339
<b>65.0</b>	19.605	20.538	19.605	20.538	20.538	20.538	19.605	20.538	19.605
<b>67.5</b>	15.871	16.804	15.871	16.804	16.804	16.804	15.871	16.804	15.871
<b>70.0</b>	13.070	13.070	12.136	14.003	14.003	14.003	12.136	13.070	13.070
<b>72.5</b>	10.269	10.269	9.336	10.269	10.269	10.269	9.336	10.269	10.269
<b>75.0</b>	6.535	7.469	7.469	7.469	7.469	7.469	7.469	7.469	6.535
<b>77.5</b>	3.734	3.734	4.668	4.668	3.734	4.668	4.668	3.734	3.734
<b>80.0</b>	2.801	2.801	2.801	2.801	2.801	2.801	2.801	2.801	2.801
<b>82.5</b>	1.867	1.867	1.867	1.867	2.801	1.867	1.867	1.867	1.867
<b>85.0</b>	0.934	0.934	1.867	1.867	1.867	1.867	1.867	0.934	0.934
<b>87.5</b>	0.934	0.934	0.934	0.934	0.934	0.934	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>	0.737	1.474	2.272	3.868	3.868	3.868	2.272	1.474	0.737
<b>95.0</b>	2.395	3.193	3.868	5.526	5.649	5.526	3.868	3.193	2.395
<b>97.5</b>	5.465	5.833	6.263	7.982	8.166	7.982	6.263	5.833	5.465
<b>100.0</b>	8.596	9.087	9.456	11.236	11.482	11.236	9.456	9.087	8.596
<b>102.5</b>	12.280	12.894	13.078	14.982	15.289	14.982	13.078	12.894	12.280
<b>105.0</b>	16.210	16.885	17.008	19.157	19.280	19.157	17.008	16.885	16.210
<b>107.5</b>	20.323	21.183	21.367	23.639	23.578	23.639	21.367	21.183	20.323
<b>110.0</b>	24.683	25.727	25.911	28.305	28.244	28.305	25.911	25.727	24.683
<b>112.5</b>	29.349	30.516	30.639	33.340	33.156	33.340	30.639	30.516	29.349
<b>115.0</b>	34.016	35.612	35.796	38.375	37.945	38.375	35.796	35.612	34.016
<b>117.5</b>	38.436	40.524	40.892	43.410	42.612	43.410	40.892	40.524	38.436
<b>120.0</b>	43.041	45.313	45.866	48.015	46.971	48.015	45.866	45.313	43.041
<b>122.5</b>	47.217	49.980	50.716	52.190	50.655	52.190	50.716	49.980	47.217
<b>125.0</b>	50.716	54.155	55.444	56.120	53.971	56.120	55.444	54.155	50.716
<b>127.5</b>	54.400	58.698	60.847	60.356	57.777	60.356	60.847	58.698	54.400
<b>130.0</b>	58.944	64.654	67.479	65.944	62.382	65.944	67.479	64.654	58.944
<b>132.5</b>	65.821	72.820	76.382	73.496	69.382	73.496	72.820	76.382	65.821

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<b>135.0</b>	76.443	84.425	89.521	84.548	80.373	84.548	89.521	84.425	76.443
<b>137.5</b>	92.223	101.433	110.766	100.205	96.214	100.205	110.766	101.433	92.223
<b>140.0</b>	114.572	127.282	146.193	122.800	117.765	122.800	146.193	127.282	114.572
<b>142.5</b>	146.992	167.315	207.348	158.473	149.263	158.473	207.348	167.315	146.992
<b>145.0</b>	195.436	230.004	302.825	215.944	195.436	215.944	302.825	230.004	195.436
<b>147.5</b>	269.669	325.297	437.414	308.228	264.941	308.228	437.414	325.297	269.669
<b>150.0</b>	382.031	464.307	605.097	447.053	376.566	447.053	605.097	464.307	382.031
<b>152.5</b>	551.925	652.682	791.446	632.420	544.864	632.420	791.446	652.682	551.925
<b>155.0</b>	785.920	879.248	992.224	863.898	777.938	863.898	992.224	879.248	785.920
<b>157.5</b>	1072.658	1138.970	1212.036	1130.374	1059.150	1130.374	1212.036	1138.970	1072.658
<b>160.0</b>	1377.816	1410.358	1457.636	1417.112	1371.062	1417.112	1457.636	1410.358	1377.816
<b>162.5</b>	1649.204	1668.238	1692.798	1679.904	1655.958	1679.904	1692.798	1668.238	1649.204
<b>165.0</b>	1881.296	1888.050	1900.330	1896.032	1884.366	1896.032	1900.330	1888.050	1881.296
<b>167.5</b>	2064.882	2059.970	2071.022	2069.180	2064.268	2069.180	2071.022	2059.970	2064.882
<b>170.0</b>	2199.348	2193.208	2192.594	2190.138	2188.296	2190.138	2192.594	2193.208	2199.348
<b>172.5</b>	2276.712	2273.028	2269.344	2263.818	2261.976	2263.818	2269.344	2273.028	2276.712
<b>175.0</b>	2312.938	2310.482	2308.026	2306.184	2304.956	2306.184	2308.026	2310.482	2312.938
<b>177.5</b>	2313.552	2318.464	2320.306	2323.376	2324.604	2323.376	2320.306	2318.464	2313.552
<b>180.0</b>	2322.000	2322.000	2322.000	2322.000	2322.000	2322.000	2322.000	2322.000	2322.000

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Zone	Lumens	%Lamp	%Fixt
0-20	994.50	N.A.	34.90
0-30	1144.34	N.A.	40.20
0-40	1245.16	N.A.	43.70
0-60	1344.94	N.A.	47.20
0-80	1372.8	N.A.	48.20
0-90	1374.38	N.A.	48.20
10-90	699.41	N.A.	24.60
20-40	250.66	N.A.	8.80
20-50	314.37	N.A.	11.00
40-70	119.86	N.A.	4.20
60-80	27.86	N.A.	1.00
70-80	7.78	N.A.	0.30
80-90	1.59	N.A.	0.10
90-110	23.89	N.A.	0.80
90-120	59.88	N.A.	2.10
90-130	108.92	N.A.	3.80
90-150	336.45	N.A.	11.80
90-180	1474.45	N.A.	51.80
110-180	1450.57	N.A.	50.90
0-180	2848.84	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	674.97
10-20	319.52
20-30	149.84
30-40	100.82
40-50	63.71
50-60	36.07
60-70	20.07
70-80	7.78
80-90	1.59
90-100	4.99
100-110	18.90
110-120	35.99
120-130	49.04
130-140	68.05
140-150	159.48
150-160	405.66
160-170	515.63
170-180	216.70

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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	55	55	55	48
1	100	97	94	92	92	90	87	85	76	75	73	64	63	62	52	52	51	46
2	94	89	84	80	87	83	79	76	71	68	66	60	59	57	50	50	49	44
3	89	82	76	72	82	76	72	68	66	63	61	57	55	53	49	47	46	43
4	84	76	70	66	78	71	66	62	62	59	56	54	52	50	47	45	44	41
5	79	71	65	60	74	67	62	58	59	55	53	52	49	47	45	44	43	40
6	75	66	60	56	70	63	58	54	56	52	50	50	47	45	44	42	41	39
7	72	63	57	53	67	59	54	51	53	50	47	48	45	43	43	41	40	38
8	68	59	54	50	64	57	52	48	51	47	45	46	44	42	42	40	39	37
9	66	56	51	47	62	54	49	46	49	46	43	45	42	40	41	39	37	36
10	63	54	49	45	60	52	47	44	47	44	41	43	41	39	40	38	37	35

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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	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
	3H	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
	4H	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
	6H	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
	8H	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
	12H	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7

### UGR Viewed Endwise

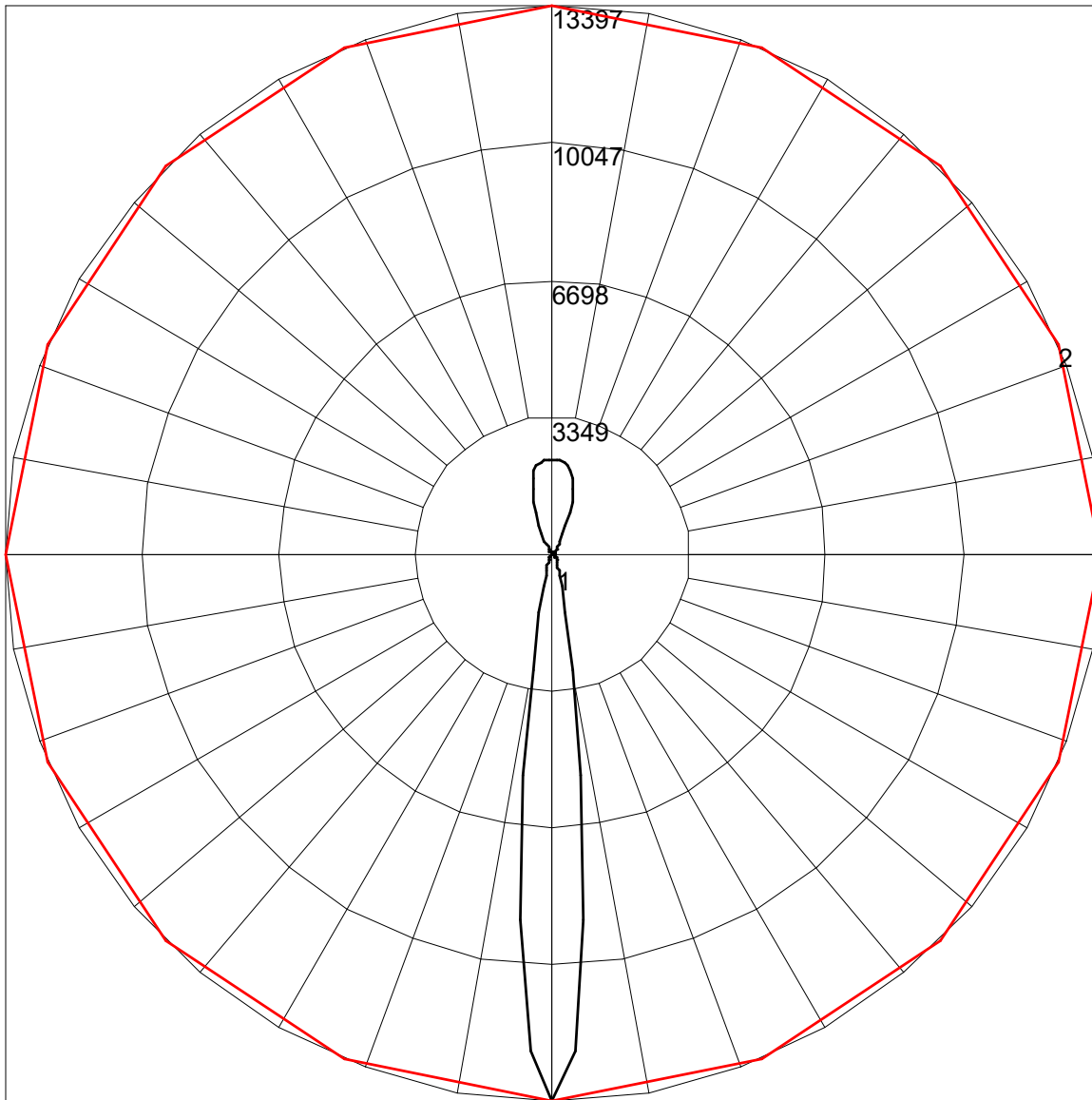
4H	2H	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
	3H	3.7	3.7	3.7	3.7	3.8	3.7	3.7	3.7	3.7
	4H	3.7	3.7	3.7	3.7	3.9	3.7	3.7	3.7	3.8
	6H	3.7	3.7	3.7	3.7	3.8	3.7	3.7	3.7	3.8
	8H	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
	12H	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
8H	4H	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
	6H	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
	8H	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
	12H	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
12H	4H	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
	6H	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
	8H	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7

Maximum UGR = 3.9

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## POLAR GRAPH



Maximum Candela = 13396.643 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.)