



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4CSDI-P12-835U-P12-835D-XXX-POE PR-OW-CSU-RN-WHD-WM_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #13537338.12 & 13257153.23

[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-RN-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	2364
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	103
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	2856	2587	2879
55	1258	1069	1284
65	686	457	675
75	231	155	221
85	36	26	36

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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	4507.855	4507.855	4507.855	4507.855	4507.855	4507.855	4507.855	4507.855	4507.855
2.5	4383.660	4350.809	4347.604	4348.405	4350.008	4348.405	4347.604	4350.809	4383.660
5.0	3947.778	3917.330	3909.318	3907.715	3905.312	3907.715	3909.318	3917.330	3947.778
7.5	3267.513	3247.482	3251.488	3258.700	3258.700	3258.700	3251.488	3247.482	3267.513
10.0	2498.310	2485.490	2506.322	2527.155	2535.167	2527.155	2506.322	2485.490	2498.310
12.5	1786.796	1781.989	1814.840	1842.083	1850.095	1842.083	1814.840	1781.989	1786.796
15.0	1237.937	1240.341	1267.584	1296.429	1303.640	1296.429	1267.584	1240.341	1237.937
17.5	874.168	879.777	903.814	923.045	922.243	923.045	903.814	879.777	874.168
20.0	659.111	670.490	691.402	694.126	686.834	694.126	691.402	670.490	659.111
22.5	534.757	550.542	572.416	558.634	543.650	558.634	572.416	550.542	534.757
25.0	448.141	471.537	498.220	471.297	448.301	471.297	498.220	471.537	448.141
27.5	370.500	402.389	440.930	401.027	370.420	401.027	440.930	402.389	370.500
30.0	299.749	333.241	385.163	334.603	303.034	334.603	385.163	333.241	299.749
32.5	243.981	271.304	327.071	275.551	249.671	275.551	327.071	271.304	243.981
35.0	203.839	223.069	272.507	228.999	209.047	228.999	272.507	223.069	203.839
37.5	178.599	188.455	224.832	193.102	179.721	193.102	224.832	188.455	178.599
40.0	155.684	163.856	187.413	165.299	155.283	165.299	187.413	163.856	155.684
42.5	132.047	141.742	158.247	142.062	132.126	142.062	158.247	141.742	132.047
45.0	109.451	120.108	132.367	120.669	110.333	120.669	132.367	120.108	109.451
47.5	89.581	99.997	110.172	100.878	91.103	100.878	110.172	99.997	89.581
50.0	73.395	82.289	90.782	83.651	74.997	83.651	90.782	82.289	73.395
52.5	61.295	67.947	74.276	69.469	62.738	69.469	74.276	67.947	61.295
55.0	52.642	57.129	60.655	58.332	53.764	58.332	60.655	57.129	52.642
57.5	46.313	48.636	49.597	49.518	46.873	49.518	49.597	48.636	46.313
60.0	40.944	41.825	40.784	42.226	40.864	42.226	40.784	41.825	40.944
62.5	35.736	35.816	33.813	35.736	35.255	35.736	33.813	35.816	35.736
65.0	30.288	30.127	27.723	29.887	29.806	29.887	27.723	30.127	30.288
67.5	25.079	24.679	22.435	24.438	24.679	24.438	22.435	24.679	25.079
70.0	20.031	19.630	17.787	19.311	19.630	19.311	17.787	19.630	20.031
72.5	15.143	14.823	13.541	14.582	14.823	14.582	13.541	14.823	15.143
75.0	10.416	10.416	9.695	10.256	9.936	10.256	9.695	10.416	10.416
77.5	5.048	6.089	6.490	6.170	5.689	6.170	6.490	6.089	5.048
80.0	3.846	3.766	4.087	3.846	3.766	3.846	4.087	3.766	3.846
82.5	2.644	2.644	2.644	2.724	2.644	2.724	2.644	2.644	2.644
85.0	1.603	1.603	1.603	1.683	1.603	1.683	1.603	1.603	1.603
87.5	0.721	0.721	0.721	0.721	0.721	0.721	0.721	0.721	0.721
90.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
92.5	0.735	0.980	1.593	3.003	2.881	3.003	1.593	0.980	0.735
95.0	0.858	1.165	1.716	3.064	3.003	3.064	1.716	1.165	0.858
97.5	0.980	1.287	1.900	3.187	3.064	3.187	1.900	1.287	0.980
100.0	1.103	1.471	2.083	3.309	3.187	3.309	2.083	1.471	1.103
102.5	1.226	1.593	2.268	3.432	3.371	3.432	2.268	1.593	1.226
105.0	1.410	1.838	2.451	3.616	3.493	3.616	2.451	1.838	1.410
107.5	1.655	2.083	2.696	3.799	3.739	3.799	2.696	2.083	1.655
110.0	1.900	2.390	3.126	3.984	3.984	3.984	3.126	2.390	1.900
112.5	2.268	2.758	4.290	4.290	4.290	4.290	4.290	2.758	2.268
115.0	2.696	4.412	7.721	7.048	4.780	7.048	7.721	4.412	2.696
117.5	4.351	8.702	14.707	12.746	9.989	12.746	14.707	8.702	4.351
120.0	12.440	18.445	25.002	22.551	16.852	22.551	25.002	18.445	12.440
122.5	23.225	32.600	38.668	35.236	29.414	35.236	38.668	32.600	23.225
125.0	40.322	49.943	53.680	50.739	44.550	50.739	53.680	49.943	40.322
127.5	60.851	68.387	69.430	67.775	62.995	67.775	69.430	68.387	60.851
130.0	81.808	86.526	86.526	85.791	83.462	85.791	86.526	86.526	81.808
132.5	105.216	105.768	105.462	105.339	106.810	105.339	105.462	105.768	105.216

IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4CSDI-P12-835U-P12-835D-XXX-POE PR-OW-CSU-RN-WHD-WM_IES

CANDELA TABULATION - (Cont.)

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	696.85	N.A.	29.50
0-30	917.10	N.A.	38.80
0-40	1066.2	N.A.	45.10
0-60	1212.84	N.A.	51.30
0-80	1253.34	N.A.	53.00
0-90	1255.22	N.A.	53.10
10-90	927.42	N.A.	39.20
20-40	369.35	N.A.	15.60
20-50	463.31	N.A.	19.60
40-70	176.05	N.A.	7.40
60-80	40.49	N.A.	1.70
70-80	11.09	N.A.	0.50
80-90	1.89	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.	2.40
90-150	341.03	N.A.	14.40
90-180	1108.7	N.A.	46.90
110-180	1104.01	N.A.	46.70
0-180	2363.92	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	327.81
10-20	369.05
20-30	220.24
30-40	149.11
40-50	93.97
50-60	52.68
60-70	29.40
70-80	11.09
80-90	1.89
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

IES INDOOR REPORT

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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	100	100	100	100	85	85	85	71	71	71	59	59	59	53
1	101	98	95	92	94	91	88	86	78	77	75	67	66	64	56	55	55	50
2	94	89	84	80	88	83	79	76	72	69	67	62	60	59	53	52	51	46
3	88	81	75	71	82	76	71	67	67	63	60	58	56	54	50	49	47	44
4	83	75	68	64	77	70	65	61	62	58	55	55	52	50	48	46	44	41
5	78	69	63	58	73	65	60	55	58	54	51	51	48	46	45	43	42	39
6	74	64	58	53	69	61	55	51	55	50	47	49	46	43	43	41	39	37
7	70	60	54	49	65	57	51	47	51	47	44	46	43	41	41	39	37	35
8	66	56	50	46	62	54	48	44	49	44	41	44	41	38	40	37	36	34
9	63	53	47	43	59	51	45	42	46	42	39	42	39	37	38	36	34	32
10	60	50	44	40	57	48	43	39	44	40	37	40	37	35	37	34	33	31

IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4CSDI-P12-835U-P12-835D-XXX-POE PR-OW-CSU-RN-WHD-WM_IES

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	4.1	4.4	5.1	6.3	3.5	4.2	4.5	5.2	6.4
	3H	4.1	4.8	5.1	5.7	7.0	4.2	4.8	5.2	5.8	7.1
	4H	4.2	4.8	5.2	5.8	7.1	4.3	4.9	5.3	5.8	7.1
	6H	4.2	4.7	5.2	5.7	7.0	4.2	4.7	5.2	5.7	7.0
	8H	4.1	4.6	5.1	5.6	6.9	4.2	4.7	5.2	5.7	6.9
	12H	4.1	4.5	5.1	5.5	6.8	4.1	4.6	5.1	5.6	6.9

UGR Viewed Endwise

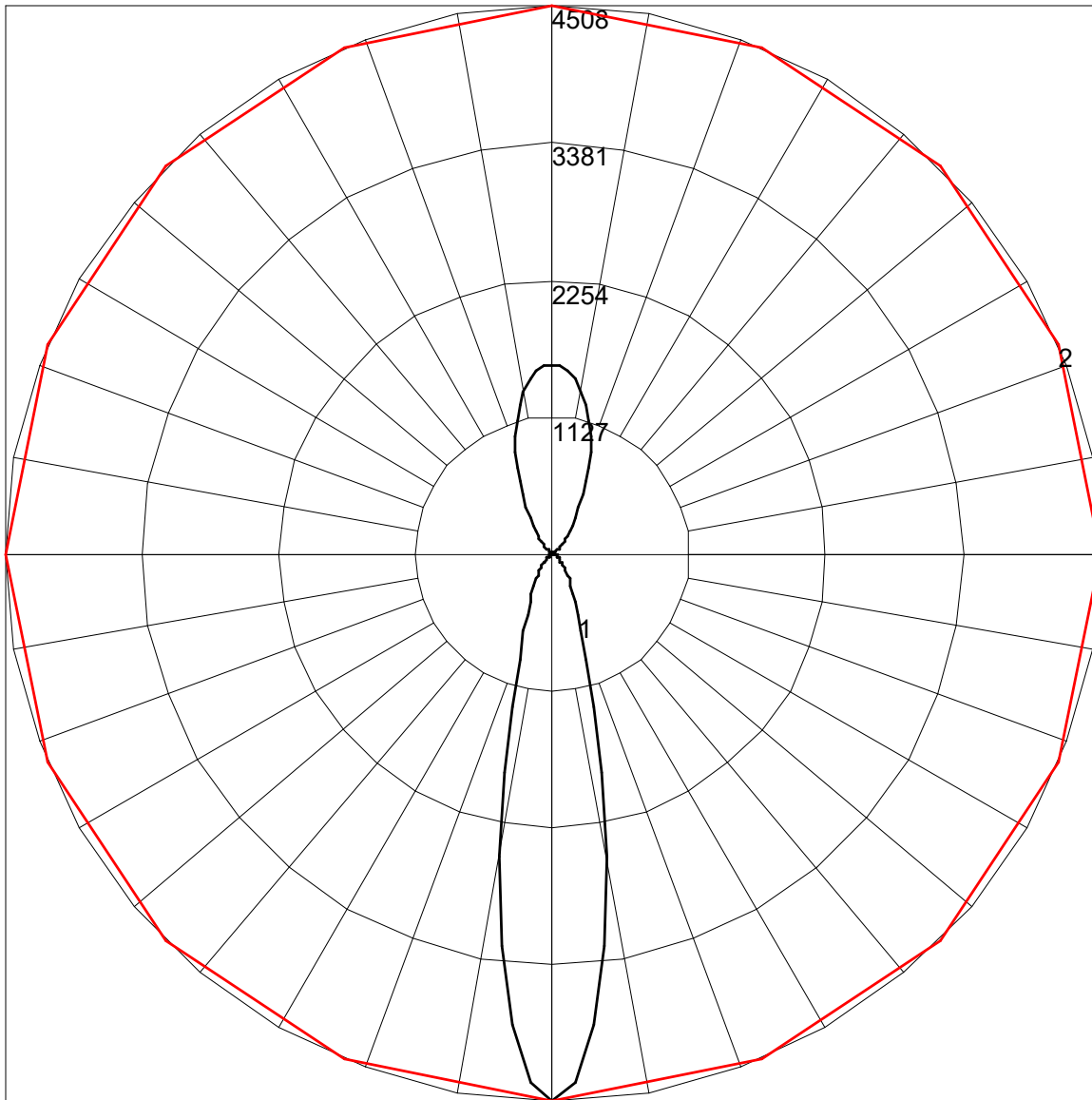
4H	2H	3.5	4.1	4.5	5.1	6.3	3.6	4.2	4.6	5.2	6.4
	3H	4.3	4.8	5.3	5.8	7.1	4.4	4.8	5.4	5.8	7.1
	4H	4.4	4.9	5.4	5.9	7.2	4.5	4.9	5.5	5.9	7.2
	6H	4.4	4.8	5.4	5.8	7.1	4.4	4.8	5.5	5.8	7.1
	8H	4.3	4.7	5.3	5.7	7.0	4.4	4.7	5.4	5.7	7.1
	12H	4.3	4.6	5.3	5.6	6.9	4.3	4.6	5.4	5.7	7.0
8H	4H	4.3	4.7	5.4	5.7	7.0	4.4	4.7	5.4	5.7	7.1
	6H	4.3	4.6	5.3	5.6	7.0	4.3	4.6	5.4	5.7	7.0
	8H	4.3	4.5	5.3	5.6	6.9	4.3	4.6	5.4	5.6	6.9
	12H	4.2	4.4	5.3	5.5	6.9	4.3	4.5	5.3	5.5	6.9
12H	4H	4.3	4.6	5.3	5.6	6.9	4.3	4.6	5.4	5.6	7.0
	6H	4.2	4.5	5.3	5.5	6.9	4.3	4.5	5.3	5.6	6.9
	8H	4.2	4.4	5.3	5.5	6.8	4.3	4.5	5.3	5.5	6.9

Maximum UGR = 7.2

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POLAR GRAPH



Maximum Candela = 4507.855 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.)