



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4DR-TL-L15-835-(L11)-DIM-UNV-RW-OF-CS\_.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from 12316380.12

[TESTLAB] UL Verification Services Inc.

[ISSUEDATE] 03-22-2021

[MANUFAC] WILLIAMS INDOOR

[OTHER] H.E. WILLIAMS, INC. - CARTHAGE, MO.

[LUMCAT] 4DR-TL-L15-835-(L11)-DIM-UNV-RW-OF-CS

[LUMINAIRE] Black formed aluminum housing, clear glass

[\_SEARCH\_SOURCE] LED

[\_SEARCH\_APPLICATION] Indoor, Classroom, Commercial, Corridor, Hotel, Industrial, Office, Downlight

[\_SEARCH\_MOUNTING] Recessed

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	1103
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	100
Total Luminaire Watts	11
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	0.98
Spacing Criterion (90-270)	0.98
Spacing Criterion (Diagonal)	0.88
Basic Luminous Shape	Circular
Luminous Length (0-180)	0.38 ft (Diameter)
Luminous Width (90-270)	0.38 ft (Diameter)
Luminous Height	0.00 ft

### LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	25520	25520	25520
55	20606	20606	20606
65	13330	13330	13330
75	7433	7433	7433
85	3818	3818	3818

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CANDELA TABULATION

	<u>0</u>
0.0	886.235
0.5	886.235
1.0	885.401
1.5	883.734
2.0	882.067
2.5	880.399
3.0	877.898
3.5	875.397
4.0	872.896
4.5	869.561
5.0	867.060
5.5	863.725
6.0	860.390
6.5	857.055
7.0	853.720
7.5	850.386
8.0	847.051
8.5	842.882
9.0	839.547
9.5	836.212
10.0	833.044
10.5	829.626
11.0	826.125
11.5	822.706
12.0	819.455
12.5	816.203
13.0	812.952
13.5	809.617
14.0	806.282
14.5	802.947
15.0	799.529
15.5	796.028
16.0	792.359
16.5	788.691
17.0	784.939
17.5	780.937
18.0	776.685
18.5	772.100
19.0	767.681
19.5	762.929
20.0	757.760
20.5	751.841
21.0	745.004
21.5	737.584
22.0	729.081
22.5	719.660
23.0	708.988
23.5	696.983
24.0	683.810
24.5	668.887
25.0	652.212
25.5	633.787
26.0	613.862
26.5	592.685

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : 4DR-TL-L15-835-(L11)-DIM-UNV-RW-OF-CS\_.IES****CANDELA TABULATION - (Cont.)**

27.0	570.425
27.5	547.832
28.0	524.154
28.5	500.727
29.0	477.383
29.5	454.039
30.0	431.112
30.5	408.602
31.0	387.342
31.5	366.750
32.0	347.324
32.5	329.233
33.0	312.475
33.5	297.385
34.0	283.795
34.5	271.957
35.0	261.535
35.5	252.698
36.0	244.944
36.5	238.441
37.0	232.689
37.5	227.770
38.0	223.268
38.5	219.266
39.0	215.681
39.5	212.430
40.0	209.512
40.5	206.760
41.0	204.093
41.5	201.675
42.0	199.257
42.5	197.006
43.0	194.755
43.5	192.421
44.0	190.086
44.5	187.752
45.0	185.334
45.5	182.833
46.0	180.248
46.5	177.581
47.0	174.829
47.5	171.995
48.0	169.160
48.5	166.159
49.0	163.074
49.5	159.822
50.0	156.571
50.5	153.236
51.0	149.735
51.5	146.316
52.0	142.815
52.5	139.313
53.0	135.978
53.5	132.310
54.0	128.642
54.5	124.973

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CANDELA TABULATION - (Cont.)

55.0	121.388
55.5	117.720
56.0	114.135
56.5	110.633
57.0	107.132
57.5	103.630
58.0	100.212
58.5	96.877
59.0	93.542
59.5	90.291
60.0	87.039
60.5	83.871
61.0	80.787
61.5	77.702
62.0	74.784
62.5	71.783
63.0	68.948
63.5	66.030
64.0	63.279
64.5	60.527
65.0	57.860
65.5	55.192
66.0	52.607
66.5	50.106
67.0	47.688
67.5	45.271
68.0	42.936
68.5	40.602
69.0	38.351
69.5	36.183
70.0	34.182
70.5	32.265
71.0	30.514
71.5	28.846
72.0	27.262
72.5	25.762
73.0	24.344
73.5	23.094
74.0	21.843
74.5	20.759
75.0	19.759
75.5	18.842
76.0	17.841
76.5	16.924
77.0	16.007
77.5	15.090
78.0	14.256
78.5	13.339
79.0	12.506
79.5	11.672
80.0	10.838
80.5	10.005
81.0	9.254
81.5	8.504
82.0	7.670
82.5	7.003

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CANDELA TABULATION - (Cont.)

83.0	6.253
83.5	5.502
84.0	4.836
84.5	4.085
85.0	3.418
85.5	2.835
86.0	2.251
86.5	1.834
87.0	1.417
87.5	1.084
88.0	0.750
88.5	0.500
89.0	0.250
89.5	0.083
90.0	0.000
90.5	0.000
91.0	0.000
91.5	0.000
92.0	0.000
92.5	0.000
93.0	0.000
93.5	0.000
94.0	0.000
94.5	0.000
95.0	0.000
95.5	0.000
96.0	0.000
96.5	0.000
97.0	0.000
97.5	0.000
98.0	0.000
98.5	0.000
99.0	0.000
99.5	0.000
100.0	0.000
100.5	0.000
101.0	0.000
101.5	0.000
102.0	0.000
102.5	0.000
103.0	0.000
103.5	0.000
104.0	0.000
104.5	0.000
105.0	0.000
105.5	0.000
106.0	0.000
106.5	0.000
107.0	0.000
107.5	0.000
108.0	0.000
108.5	0.000
109.0	0.000
109.5	0.000
110.0	0.000
110.5	0.000

IES INDOOR REPORT  
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CANDELA TABULATION - (Cont.)

111.0	0.000
111.5	0.000
112.0	0.000
112.5	0.000
113.0	0.000
113.5	0.000
114.0	0.000
114.5	0.000
115.0	0.000
115.5	0.000
116.0	0.000
116.5	0.000
117.0	0.000
117.5	0.000
118.0	0.000
118.5	0.000
119.0	0.000
119.5	0.000
120.0	0.000
120.5	0.000
121.0	0.000
121.5	0.000
122.0	0.000
122.5	0.000
123.0	0.000
123.5	0.000
124.0	0.000
124.5	0.000
125.0	0.000
125.5	0.000
126.0	0.000
126.5	0.000
127.0	0.000
127.5	0.000
128.0	0.000
128.5	0.000
129.0	0.000
129.5	0.000
130.0	0.000
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131.0	0.000
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132.5	0.000
133.0	0.000
133.5	0.000
134.0	0.000
134.5	0.000
135.0	0.000
135.5	0.000
136.0	0.000
136.5	0.000
137.0	0.000
137.5	0.000
138.0	0.000
138.5	0.000

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139.0	0.000
139.5	0.000
140.0	0.000
140.5	0.000
141.0	0.000
141.5	0.000
142.0	0.000
142.5	0.000
143.0	0.000
143.5	0.000
144.0	0.000
144.5	0.000
145.0	0.000
145.5	0.000
146.0	0.000
146.5	0.000
147.0	0.000
147.5	0.000
148.0	0.000
148.5	0.000
149.0	0.000
149.5	0.000
150.0	0.000
150.5	0.000
151.0	0.000
151.5	0.000
152.0	0.000
152.5	0.000
153.0	0.000
153.5	0.000
154.0	0.000
154.5	0.000
155.0	0.000
155.5	0.000
156.0	0.000
156.5	0.000
157.0	0.000
157.5	0.000
158.0	0.000
158.5	0.000
159.0	0.000
159.5	0.000
160.0	0.000
160.5	0.000
161.0	0.000
161.5	0.000
162.0	0.000
162.5	0.000
163.0	0.000
163.5	0.000
164.0	0.000
164.5	0.000
165.0	0.000
165.5	0.000
166.0	0.000
166.5	0.000

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**CANDELA TABULATION - (Cont.)**

167.0	0.000
167.5	0.000
168.0	0.000
168.5	0.000
169.0	0.000
169.5	0.000
170.0	0.000
170.5	0.000
171.0	0.000
171.5	0.000
172.0	0.000
172.5	0.000
173.0	0.000
173.5	0.000
174.0	0.000
174.5	0.000
175.0	0.000
175.5	0.000
176.0	0.000
176.5	0.000
177.0	0.000
177.5	0.000
178.0	0.000
178.5	0.000
179.0	0.000
179.5	0.000
180.0	0.000



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**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	306.76	N.A.	27.80
0-30	593.61	N.A.	53.80
0-40	768.42	N.A.	69.60
0-60	1019.04	N.A.	92.40
0-80	1098.78	N.A.	99.60
0-90	1103.29	N.A.	100.00
10-90	1021.67	N.A.	92.60
20-40	461.66	N.A.	41.80
20-50	603.89	N.A.	54.70
40-70	308.59	N.A.	28.00
60-80	79.74	N.A.	7.20
70-80	21.78	N.A.	2.00
80-90	4.51	N.A.	0.40
90-110	0.00	N.A.	0.00
90-120	0.00	N.A.	0.00
90-130	0.00	N.A.	0.00
90-150	0.00	N.A.	0.00
90-180	0.00	N.A.	0.00
110-180	0.00	N.A.	0.00
0-180	1103.29	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	81.62
10-20	225.13
20-30	286.86
30-40	174.81
40-50	142.23
50-60	108.39
60-70	57.97
70-80	21.78
80-90	4.51
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00

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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	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	112	108	105	102	109	106	103	101	102	100	97	98	96	95	95	93	92	90
2	104	98	93	89	102	96	92	88	93	89	86	90	87	84	87	84	82	80
3	97	89	83	78	95	88	82	77	85	80	76	83	78	75	80	77	74	72
4	91	82	75	70	89	80	74	69	78	73	68	76	71	67	74	70	67	65
5	85	75	68	63	84	74	67	62	72	66	62	70	65	61	69	64	61	59
6	80	69	62	57	79	69	62	57	67	61	56	65	60	56	64	59	55	54
7	75	64	57	52	74	64	57	52	62	56	52	61	55	51	60	55	51	49
8	71	60	53	48	70	59	53	48	58	52	48	57	51	47	56	51	47	46
9	67	56	49	45	66	56	49	44	55	48	44	54	48	44	53	48	44	42
10	64	53	46	41	63	52	46	41	51	45	41	50	45	41	50	45	41	39

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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

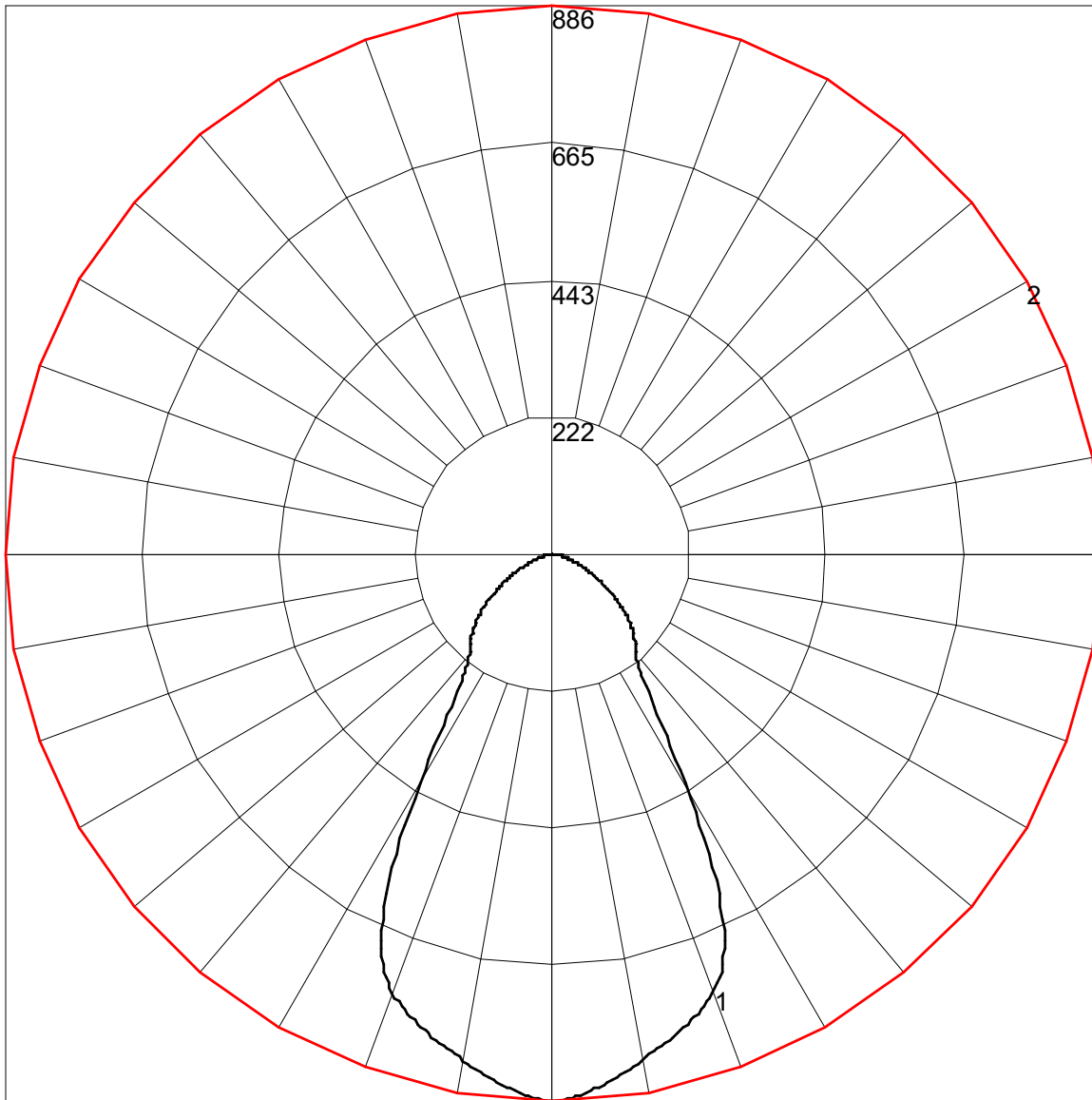
X=2H	Y=2H	20.0	21.3	20.4	21.6	21.9	20.0	21.3	20.4	21.6	21.9
	3H	20.8	21.9	21.1	22.3	22.6	20.8	21.9	21.1	22.3	22.6
	4H	20.9	22.0	21.3	22.4	22.7	20.9	22.0	21.3	22.4	22.7
	6H	21.1	22.0	21.5	22.4	22.8	21.1	22.0	21.5	22.4	22.8
	8H	21.1	22.0	21.5	22.4	22.8	21.1	22.0	21.5	22.4	22.8
	12H	21.0	21.9	21.5	22.3	22.8	21.0	21.9	21.5	22.3	22.8

### UGR Viewed Endwise

4H	2H	20.3	21.4	20.7	21.7	22.1	20.3	21.4	20.7	21.7	22.1
	3H	21.2	22.1	21.6	22.5	22.9	21.2	22.1	21.6	22.5	22.9
	4H	21.4	22.2	21.8	22.6	23.1	21.4	22.2	21.8	22.6	23.1
	6H	21.6	22.3	22.1	22.7	23.2	21.6	22.3	22.1	22.7	23.2
	8H	21.6	22.3	22.1	22.7	23.2	21.6	22.3	22.1	22.7	23.2
	12H	21.6	22.2	22.1	22.7	23.1	21.6	22.2	22.1	22.7	23.1
8H	4H	21.5	22.1	21.9	22.5	23.0	21.5	22.1	21.9	22.5	23.0
	6H	21.7	22.2	22.2	22.7	23.2	21.7	22.2	22.2	22.7	23.2
	8H	21.7	22.2	22.3	22.7	23.2	21.7	22.2	22.3	22.7	23.2
	12H	21.8	22.2	22.3	22.7	23.2	21.8	22.2	22.3	22.7	23.2
12H	4H	21.4	22.0	21.9	22.5	22.9	21.4	22.0	21.9	22.5	22.9
	6H	21.7	22.1	22.2	22.6	23.1	21.7	22.1	22.2	22.6	23.1
	8H	21.8	22.2	22.3	22.6	23.2	21.8	22.2	22.3	22.6	23.2

Maximum UGR = 23.2

POLAR GRAPH



Maximum Candela = 886.235 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.)