

## IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4DR-TL-L10-835-DIM-UNV-LW-OF-CS\_.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN FROM 12316380.07

[TESTLAB] UL Verification Services Inc.

[ISSUEDATE] 04-21-2023

[MANUFAC] WILLIAMS INDOOR

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

[LUMCAT] 4DR-TL-L10-835-DIM-UNV-LW-OF-CS

[LUMINAIRE] Black formed aluminum housing, clear semi specular reflector, clear patt

[MORE] erved glass lens enclosure

[LAMP] One white LED

[\_SEARCH\_SOURCETYPE] 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	674
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	75
Total Luminaire Watts	9
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.00
Spacing Criterion (90-270)	1.00
Spacing Criterion (Diagonal)	0.90
Basic Luminous Shape	Circular
Luminous Length (0-180)	0.35 ft (Diameter)
Luminous Width (90-270)	0.35 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	18595	18595	18595
55	15280	15280	15280
65	11178	11178	11178
75	7739	7739	7739
85	4218	4218	4218

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CANDELA TABULATION

	<u>0</u>
0.0	473.345
0.5	473.196
1.0	472.897
1.5	472.498
2.0	472.099
2.5	471.650
3.0	471.052
3.5	470.703
4.0	470.454
4.5	470.304
5.0	470.105
5.5	469.906
6.0	469.756
6.5	469.557
7.0	469.407
7.5	469.307
8.0	469.258
8.5	469.108
9.0	468.958
9.5	468.659
10.0	468.460
10.5	468.111
11.0	467.762
11.5	467.313
12.0	466.815
12.5	466.217
13.0	465.519
13.5	464.721
14.0	463.724
14.5	462.528
15.0	461.082
15.5	459.337
16.0	457.393
16.5	455.100
17.0	452.607
17.5	449.815
18.0	446.525
18.5	443.135
19.0	439.446
19.5	435.308
20.0	430.772
20.5	425.836
21.0	420.502
21.5	414.769
22.0	408.438
22.5	401.708
23.0	394.479
23.5	386.703
24.0	378.327
24.5	369.404
25.0	359.733
25.5	349.613
26.0	338.795
26.5	327.329

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**CANDELA TABULATION - (Cont.)**

27.0	315.464
27.5	303.101
28.0	290.538
28.5	277.925
29.0	265.562
29.5	253.448
30.0	241.783
30.5	230.815
31.0	220.546
31.5	211.173
32.0	202.649
32.5	194.971
33.0	188.142
33.5	182.060
34.0	176.626
34.5	171.840
35.0	167.503
35.5	163.565
36.0	160.075
36.5	156.785
37.0	153.794
37.5	151.002
38.0	148.410
38.5	145.917
39.0	143.624
39.5	141.380
40.0	139.287
40.5	137.193
41.0	135.199
41.5	133.255
42.0	131.410
42.5	129.566
43.0	127.721
43.5	125.876
44.0	124.032
44.5	122.187
45.0	120.343
45.5	118.498
46.0	116.654
46.5	114.809
47.0	112.865
47.5	110.921
48.0	108.977
48.5	106.983
49.0	104.939
49.5	102.895
50.0	100.901
50.5	98.857
51.0	96.813
51.5	94.769
52.0	92.775
52.5	90.781
53.0	88.737
53.5	86.643
54.0	84.499
54.5	82.356

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CANDELA TABULATION - (Cont.)

55.0	80.212
55.5	78.068
56.0	75.975
56.5	73.931
57.0	71.887
57.5	69.843
58.0	67.849
58.5	65.904
59.0	63.960
59.5	62.066
60.0	60.221
60.5	58.377
61.0	56.582
61.5	54.837
62.0	53.092
62.5	51.348
63.0	49.683
63.5	48.027
64.0	46.402
64.5	44.802
65.0	43.237
65.5	41.711
66.0	40.206
66.5	38.740
67.0	37.309
67.5	35.903
68.0	34.542
68.5	33.211
69.0	31.880
69.5	30.594
70.0	29.343
70.5	28.112
71.0	26.910
71.5	25.739
72.0	24.607
72.5	23.490
73.0	22.404
73.5	21.347
74.0	20.310
74.5	19.308
75.0	18.331
75.5	17.383
76.0	16.456
76.5	15.554
77.0	14.691
77.5	13.834
78.0	13.006
78.5	12.204
79.0	11.416
79.5	10.658
80.0	9.916
80.5	9.193
81.0	8.480
81.5	7.787
82.0	7.109
82.5	6.451

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CANDELA TABULATION - (Cont.)

83.0	5.798
83.5	5.165
84.0	4.547
84.5	3.943
85.0	3.365
85.5	2.807
86.0	2.273
86.5	1.770
87.0	1.326
87.5	0.957
88.0	0.668
88.5	0.424
89.0	0.264
89.5	0.179
90.0	0.125
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
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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

IES INDOOR REPORT  
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CANDELA TABULATION - (Cont.)

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
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146.0	0.000
146.5	0.000
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155.0	0.000
155.5	0.000
156.0	0.000
156.5	0.000
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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	173.87	N.A.	25.80
0-30	333.50	N.A.	49.50
0-40	442.24	N.A.	65.60
0-60	606.60	N.A.	90.00
0-80	669.61	N.A.	99.40
0-90	673.83	N.A.	100.00
10-90	628.99	N.A.	93.30
20-40	268.37	N.A.	39.80
20-50	361.05	N.A.	53.60
40-70	207.60	N.A.	30.80
60-80	63.01	N.A.	9.40
70-80	19.78	N.A.	2.90
80-90	4.21	N.A.	0.60
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	673.83	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	44.83
10-20	129.03
20-30	159.63
30-40	108.74
40-50	92.68
50-60	71.69
60-70	43.23
70-80	19.78
80-90	4.21
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	111	107	104	101	109	105	102	99	101	99	96	97	95	93	94	92	91	89
2	103	97	91	87	101	95	90	86	92	87	84	89	85	82	86	83	80	78
3	96	88	81	76	94	86	80	75	83	78	74	81	76	73	78	75	72	70
4	90	80	73	67	88	79	72	67	76	70	66	74	69	65	72	68	64	62
5	84	73	66	60	82	72	65	60	70	64	59	68	63	59	67	62	58	56
6	79	67	60	54	77	66	59	54	65	58	54	63	58	53	62	57	53	51
7	74	62	55	50	72	62	54	49	60	54	49	59	53	49	58	52	49	47
8	69	58	51	46	68	57	50	45	56	50	45	55	49	45	54	49	45	43
9	66	54	47	42	64	53	47	42	52	46	42	51	46	42	50	45	41	40
10	62	51	44	39	61	50	43	39	49	43	39	48	43	39	47	42	39	37

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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	19.2	20.6	19.6	20.9	21.2	19.2	20.6	19.6	20.9	21.2
	3H	20.3	21.5	20.7	21.9	22.2	20.3	21.5	20.7	21.9	22.2
	4H	20.7	21.8	21.1	22.1	22.5	20.7	21.8	21.1	22.1	22.5
	6H	20.9	21.9	21.3	22.3	22.7	20.9	21.9	21.3	22.3	22.7
	8H	20.9	21.9	21.4	22.3	22.7	20.9	21.9	21.4	22.3	22.7
	12H	20.9	21.9	21.4	22.3	22.7	20.9	21.9	21.4	22.3	22.7

UGR Viewed Endwise

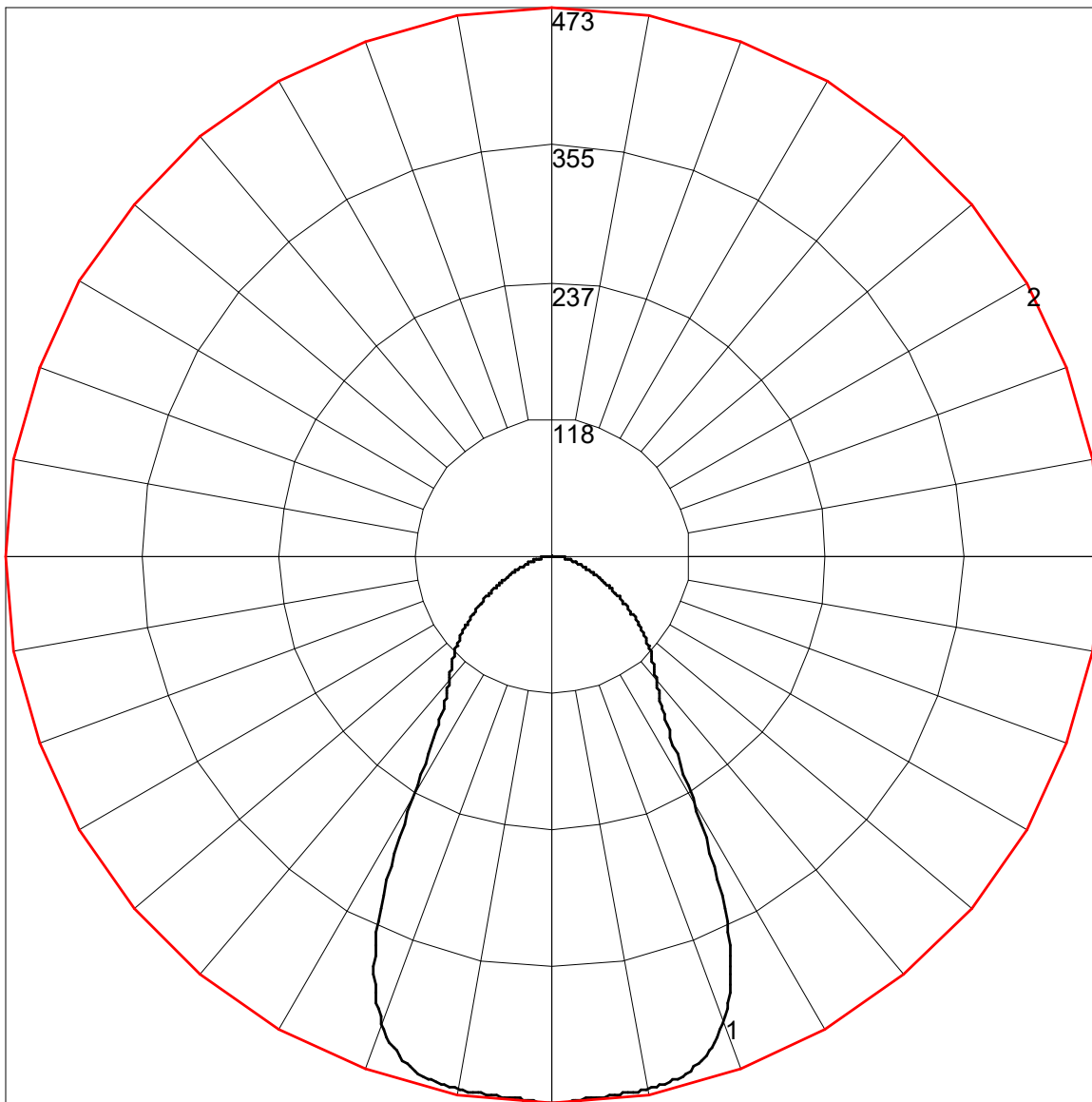
4H	2H	19.6	20.7	20.0	21.1	21.4	19.6	20.7	20.0	21.1	21.4
	3H	20.9	21.8	21.3	22.2	22.6	20.9	21.8	21.3	22.2	22.6
	4H	21.3	22.2	21.7	22.6	23.0	21.3	22.2	21.7	22.6	23.0
	6H	21.6	22.4	22.1	22.8	23.3	21.6	22.4	22.1	22.8	23.3
	8H	21.7	22.4	22.2	22.8	23.3	21.7	22.4	22.2	22.8	23.3
	12H	21.7	22.3	22.2	22.8	23.3	21.7	22.3	22.2	22.8	23.3

8H	4H	21.4	22.1	21.9	22.6	23.0	21.4	22.1	21.9	22.6	23.0
	6H	21.8	22.4	22.3	22.9	23.4	21.8	22.4	22.3	22.9	23.4
	8H	21.9	22.4	22.4	22.9	23.4	21.9	22.4	22.4	22.9	23.4
	12H	22.0	22.4	22.5	22.9	23.5	22.0	22.4	22.5	22.9	23.5

12H	4H	21.4	22.0	21.9	22.5	23.0	21.4	22.0	21.9	22.5	23.0
	6H	21.8	22.3	22.4	22.8	23.3	21.8	22.3	22.4	22.8	23.3
	8H	22.0	22.4	22.5	22.9	23.5	22.0	22.4	22.5	22.9	23.5

Maximum UGR = 23.5

POLAR GRAPH



Maximum Candela = 473.345 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.)