



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4DR-TL-L10-835-DIM-UNV-RW-OF-WH-AD-WETCC\_.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002  
 [TEST] GEN FROM 12316380.12  
 [TESTLAB] UL Verification Services Inc.  
 [ISSUEDATE] 09-15-2023  
 [MANUFAC] WILLIAMS INDOOR  
 [OTHER] H.E. WILLIAMS, INC. - CARTHAGE, MO.  
 [LUMCAT] 4DR-TL-L10-835-DIM-UNV-RW-OF-WH-AD-WET/CC  
 [LUMINAIRE] Black formed aluminum housing, white reflector, clear glass  
 [MORE] s patterned 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	561
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	62
Total Luminaire Watts	9
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	12980	12980	12980
55	10481	10481	10481
65	6780	6780	6780
75	3781	3781	3781
85	1943	1943	1943

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## CANDELA TABULATION

	<u>0</u>
0.0	450.751
0.5	450.751
1.0	450.327
1.5	449.478
2.0	448.630
2.5	447.782
3.0	446.510
3.5	445.238
4.0	443.966
4.5	442.270
5.0	440.998
5.5	439.302
6.0	437.605
6.5	435.909
7.0	434.213
7.5	432.517
8.0	430.821
8.5	428.701
9.0	427.005
9.5	425.308
10.0	423.697
10.5	421.959
11.0	420.178
11.5	418.439
12.0	416.785
12.5	415.132
13.0	413.478
13.5	411.782
14.0	410.086
14.5	408.389
15.0	406.651
15.5	404.870
16.0	403.004
16.5	401.138
17.0	399.230
17.5	397.195
18.0	395.032
18.5	392.700
19.0	390.453
19.5	388.036
20.0	385.407
20.5	382.396
21.0	378.919
21.5	375.145
22.0	370.820
22.5	366.028
23.0	360.600
23.5	354.494
24.0	347.795
24.5	340.204
25.0	331.724
25.5	322.352
26.0	312.218
26.5	301.447

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : 4DR-TL-L10-835-DIM-UNV-RW-OF-WH-AD-WETCC\_.IES****CANDELA TABULATION - (Cont.)**

27.0	290.126
27.5	278.634
28.0	266.592
28.5	254.676
29.0	242.803
29.5	230.930
30.0	219.269
30.5	207.820
31.0	197.007
31.5	186.534
32.0	176.654
32.5	167.452
33.0	158.929
33.5	151.254
34.0	144.342
34.5	138.321
35.0	133.020
35.5	128.525
36.0	124.582
36.5	121.274
37.0	118.349
37.5	115.847
38.0	113.557
38.5	111.522
39.0	109.698
39.5	108.044
40.0	106.560
40.5	105.161
41.0	103.804
41.5	102.574
42.0	101.345
42.5	100.200
43.0	99.055
43.5	97.868
44.0	96.680
44.5	95.493
45.0	94.263
45.5	92.991
46.0	91.677
46.5	90.320
47.0	88.920
47.5	87.479
48.0	86.037
48.5	84.510
49.0	82.941
49.5	81.288
50.0	79.634
50.5	77.938
51.0	76.157
51.5	74.418
52.0	72.637
52.5	70.856
53.0	69.160
53.5	67.295
54.0	65.429
54.5	63.563

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : 4DR-TL-L10-835-DIM-UNV-RW-OF-WH-AD-WETCC\_.IES****CANDELA TABULATION - (Cont.)**

55.0	61.740
55.5	59.874
56.0	58.051
56.5	56.270
57.0	54.489
57.5	52.708
58.0	50.969
58.5	49.273
59.0	47.577
59.5	45.923
60.0	44.269
60.5	42.658
61.0	41.089
61.5	39.520
62.0	38.036
62.5	36.510
63.0	35.068
63.5	33.584
64.0	32.184
64.5	30.785
65.0	29.428
65.5	28.071
66.0	26.757
66.5	25.485
67.0	24.255
67.5	23.025
68.0	21.838
68.5	20.651
69.0	19.506
69.5	18.403
70.0	17.385
70.5	16.410
71.0	15.520
71.5	14.672
72.0	13.866
72.5	13.103
73.0	12.382
73.5	11.746
74.0	11.110
74.5	10.559
75.0	10.050
75.5	9.583
76.0	9.074
76.5	8.608
77.0	8.141
77.5	7.675
78.0	7.251
78.5	6.785
79.0	6.361
79.5	5.937
80.0	5.512
80.5	5.088
81.0	4.707
81.5	4.325
82.0	3.901
82.5	3.562

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : 4DR-TL-L10-835-DIM-UNV-RW-OF-WH-AD-WETCC\_.IES****CANDELA TABULATION - (Cont.)**

83.0	3.180
83.5	2.799
84.0	2.459
84.5	2.078
85.0	1.739
85.5	1.442
86.0	1.145
86.5	0.933
87.0	0.721
87.5	0.551
88.0	0.382
88.5	0.254
89.0	0.127
89.5	0.042
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****PHOTOMETRIC FILENAME : 4DR-TL-L10-835-DIM-UNV-RW-OF-WH-AD-WETCC\_.IES****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
130.5	0.000
131.0	0.000
131.5	0.000
132.0	0.000
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

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : 4DR-TL-L10-835-DIM-UNV-RW-OF-WH-AD-WETCC\_.IES****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
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

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : 4DR-TL-L10-835-DIM-UNV-RW-OF-WH-AD-WETCC\_.IES****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

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : 4DR-TL-L10-835-DIM-UNV-RW-OF-WH-AD-WETCC\_.IES****ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	156.02	N.A.	27.80
0-30	301.92	N.A.	53.80
0-40	390.83	N.A.	69.60
0-60	518.30	N.A.	92.40
0-80	558.85	N.A.	99.60
0-90	561.15	N.A.	100.00
10-90	519.63	N.A.	92.60
20-40	234.81	N.A.	41.80
20-50	307.15	N.A.	54.70
40-70	156.95	N.A.	28.00
60-80	40.56	N.A.	7.20
70-80	11.08	N.A.	2.00
80-90	2.29	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	561.15	N.A.	100.00

Total Luminaire Efficiency = N.A.%

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	41.51
10-20	114.51
20-30	145.90
30-40	88.91
40-50	72.34
50-60	55.13
60-70	29.48
70-80	11.08
80-90	2.29
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	17.6	18.9	18.0	19.2	19.5	17.6	18.9	18.0	19.2	19.5
	3H	18.4	19.5	18.7	19.9	20.2	18.4	19.5	18.7	19.9	20.2
	4H	18.6	19.6	19.0	20.0	20.4	18.6	19.6	19.0	20.0	20.4
	6H	18.7	19.6	19.1	20.0	20.4	18.7	19.6	19.1	20.0	20.4
	8H	18.7	19.6	19.1	20.0	20.4	18.7	19.6	19.1	20.0	20.4
	12H	18.6	19.5	19.1	19.9	20.4	18.6	19.5	19.1	19.9	20.4

### UGR Viewed Endwise

4H	2H	17.9	19.0	18.3	19.3	19.7	17.9	19.0	18.3	19.3	19.7
	3H	18.8	19.7	19.2	20.1	20.5	18.8	19.7	19.2	20.1	20.5
	4H	19.0	19.8	19.4	20.2	20.7	19.0	19.8	19.4	20.2	20.7
	6H	19.2	19.9	19.7	20.3	20.8	19.2	19.9	19.7	20.3	20.8
	8H	19.2	19.9	19.7	20.3	20.8	19.2	19.9	19.7	20.3	20.8
	12H	19.2	19.8	19.7	20.3	20.7	19.2	19.8	19.7	20.3	20.7

8H	4H	19.1	19.7	19.5	20.1	20.6	19.1	19.7	19.5	20.1	20.6
	6H	19.3	19.8	19.8	20.3	20.8	19.3	19.8	19.8	20.3	20.8
	8H	19.3	19.8	19.9	20.3	20.8	19.3	19.8	19.9	20.3	20.8
	12H	19.4	19.8	19.9	20.3	20.8	19.4	19.8	19.9	20.3	20.8

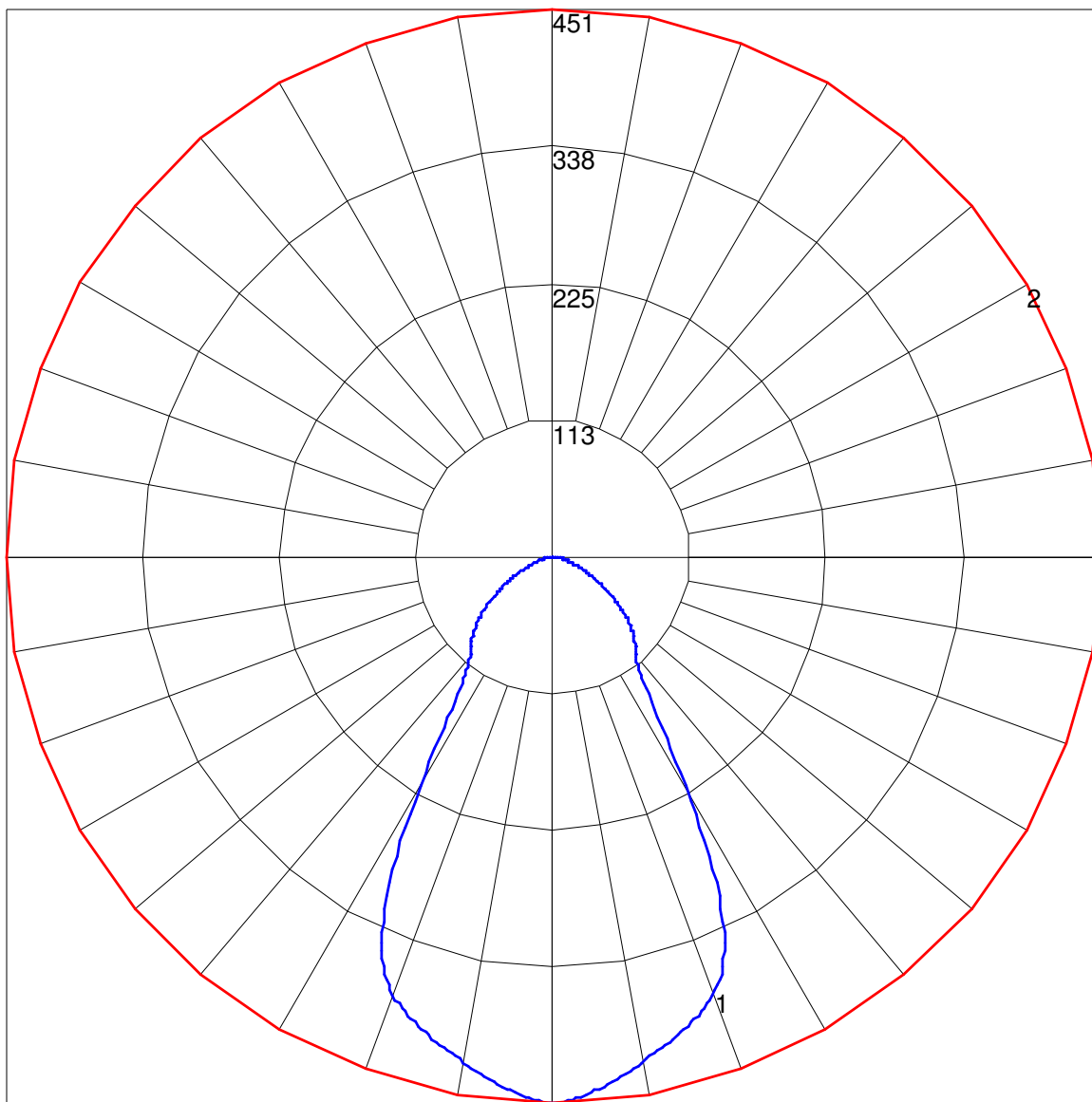
12H	4H	19.0	19.6	19.5	20.1	20.5	19.0	19.6	19.5	20.1	20.5
	6H	19.3	19.7	19.8	20.2	20.7	19.3	19.7	19.8	20.2	20.7
	8H	19.4	19.8	19.9	20.2	20.8	19.4	19.8	19.9	20.2	20.8

Maximum UGR = 20.8

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## POLAR GRAPH



Maximum Candela = 450.751 Located At Horizontal Angle = 0, Vertical Angle = 0

# 1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)

# 2 - Horizontal Cone Through Vertical Angle (0) (Through Max. Cd.)