



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4DR-TL-L15-835-DIM1-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] 10/-25-2023  
 [MANUFAC] WILLIAMS INDOOR  
 [OTHER] H.E. WILLIAMS, INC. - CARTHAGE, MO.  
 [LUMCAT] 4DR-TL-L15-835-DIM1-UNV-RW-OF-WH-AD  
 [LUMINAIRE] Black formed aluminum housing, white reflector, clear glas  
 [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	826
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	59
Total Luminaire Watts	13.9
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	19116	19116	19116
55	15435	15435	15435
65	9985	9985	9985
75	5568	5568	5568
85	2860	2860	2860

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## CANDELA TABULATION

	<u>0</u>
0.0	663.833
0.5	663.833
1.0	663.208
1.5	661.959
2.0	660.710
2.5	659.461
3.0	657.588
3.5	655.714
4.0	653.841
4.5	651.343
5.0	649.469
5.5	646.971
6.0	644.473
6.5	641.975
7.0	639.478
7.5	636.980
8.0	634.482
8.5	631.359
9.0	628.861
9.5	626.363
10.0	623.990
10.5	621.430
11.0	618.807
11.5	616.247
12.0	613.811
12.5	611.375
13.0	608.940
13.5	606.442
14.0	603.944
14.5	601.446
15.0	598.886
15.5	596.263
16.0	593.515
16.5	590.767
17.0	587.957
17.5	584.960
18.0	581.775
18.5	578.340
19.0	575.030
19.5	571.471
20.0	567.599
20.5	563.165
21.0	558.044
21.5	552.486
22.0	546.116
22.5	539.060
23.0	531.066
23.5	522.073
24.0	512.207
24.5	501.028
25.0	488.538
25.5	474.737
26.0	459.812
26.5	443.950

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : 4DR-TL-L15-835-DIM1-UNV-RW-OF-WH-AD-WETCC\_.IES****CANDELA TABULATION - (Cont.)**

27.0	427.276
27.5	410.352
28.0	392.617
28.5	375.069
29.0	357.583
29.5	340.097
30.0	322.924
30.5	306.062
31.0	290.138
31.5	274.713
32.0	260.162
32.5	246.611
33.0	234.059
33.5	222.756
34.0	212.576
34.5	203.709
35.0	195.902
35.5	189.283
36.0	183.475
36.5	178.604
37.0	174.295
37.5	170.611
38.0	167.238
38.5	164.241
39.0	161.556
39.5	159.120
40.0	156.934
40.5	154.873
41.0	152.875
41.5	151.064
42.0	149.253
42.5	147.567
43.0	145.881
43.5	144.132
44.0	142.384
44.5	140.635
45.0	138.824
45.5	136.951
46.0	135.015
46.5	133.016
47.0	130.956
47.5	128.832
48.0	126.709
48.5	124.461
49.0	122.150
49.5	119.715
50.0	117.279
50.5	114.781
51.0	112.158
51.5	109.598
52.0	106.975
52.5	104.352
53.0	101.854
53.5	99.107
54.0	96.359
54.5	93.611

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : 4DR-TL-L15-835-DIM1-UNV-RW-OF-WH-AD-WETCC\_.IES****CANDELA TABULATION - (Cont.)**

55.0	90.926
55.5	88.178
56.0	85.493
56.5	82.870
57.0	80.247
57.5	77.624
58.0	75.064
58.5	72.566
59.0	70.068
59.5	67.632
60.0	65.197
60.5	62.824
61.0	60.513
61.5	58.202
62.0	56.017
62.5	53.769
63.0	51.645
63.5	49.460
64.0	47.399
64.5	45.338
65.0	43.340
65.5	41.341
66.0	39.405
66.5	37.532
67.0	35.721
67.5	33.910
68.0	32.161
68.5	30.413
69.0	28.727
69.5	27.103
70.0	25.604
70.5	24.168
71.0	22.856
71.5	21.607
72.0	20.421
72.5	19.297
73.0	18.235
73.5	17.298
74.0	16.362
74.5	15.550
75.0	14.800
75.5	14.113
76.0	13.364
76.5	12.677
77.0	11.990
77.5	11.303
78.0	10.679
78.5	9.992
79.0	9.367
79.5	8.743
80.0	8.118
80.5	7.494
81.0	6.932
81.5	6.370
82.0	5.745
82.5	5.246

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : 4DR-TL-L15-835-DIM1-UNV-RW-OF-WH-AD-WETCC\_.IES****CANDELA TABULATION - (Cont.)**

83.0	4.684
83.5	4.122
84.0	3.622
84.5	3.060
85.0	2.560
85.5	2.123
86.0	1.686
86.5	1.374
87.0	1.062
87.5	0.812
88.0	0.562
88.5	0.375
89.0	0.187
89.5	0.062
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-L15-835-DIM1-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-L15-835-DIM1-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

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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

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : 4DR-TL-L15-835-DIM1-UNV-RW-OF-WH-AD-WETCC\_.IES****ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	229.78	N.A.	27.80
0-30	444.64	N.A.	53.80
0-40	575.58	N.A.	69.60
0-60	763.31	N.A.	92.40
0-80	823.04	N.A.	99.60
0-90	826.42	N.A.	100.00
10-90	765.28	N.A.	92.60
20-40	345.81	N.A.	41.80
20-50	452.34	N.A.	54.70
40-70	231.15	N.A.	28.00
60-80	59.73	N.A.	7.20
70-80	16.31	N.A.	2.00
80-90	3.38	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	826.42	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	61.14
10-20	168.64
20-30	214.87
30-40	130.94
40-50	106.54
50-60	81.19
60-70	43.42
70-80	16.31
80-90	3.38
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	98	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	81	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	76	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	52	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

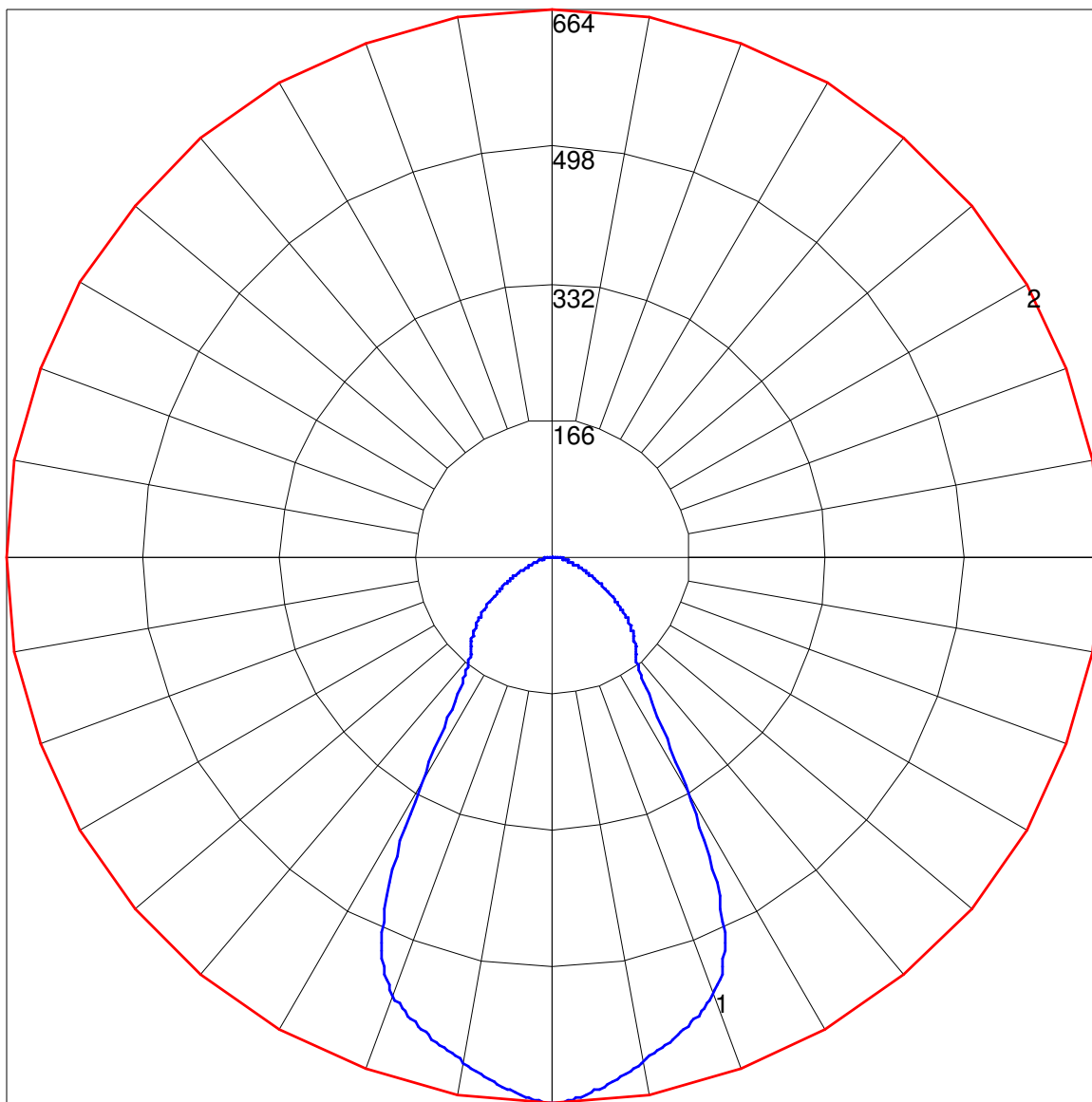
X=2H	Y=2H	19.0	20.3	19.4	20.6	20.9	19.0	20.3	19.4	20.6	20.9
	3H	19.8	20.9	20.1	21.3	21.6	19.8	20.9	20.1	21.3	21.6
	4H	19.9	21.0	20.3	21.4	21.7	19.9	21.0	20.3	21.4	21.7
	6H	20.0	21.0	20.5	21.4	21.8	20.0	21.0	20.5	21.4	21.8
	8H	20.1	21.0	20.5	21.4	21.8	20.1	21.0	20.5	21.4	21.8
	12H	20.0	20.9	20.5	21.3	21.8	20.0	20.9	20.5	21.3	21.8

### UGR Viewed Endwise

4H	2H	19.3	20.3	19.7	20.7	21.1	19.3	20.3	19.7	20.7	21.1
	3H	20.2	21.1	20.6	21.5	21.9	20.2	21.1	20.6	21.5	21.9
	4H	20.4	21.2	20.8	21.6	22.1	20.4	21.2	20.8	21.6	22.1
	6H	20.6	21.3	21.0	21.7	22.2	20.6	21.3	21.0	21.7	22.2
	8H	20.6	21.2	21.1	21.7	22.2	20.6	21.2	21.1	21.7	22.2
	12H	20.6	21.2	21.1	21.7	22.1	20.6	21.2	21.1	21.7	22.1
8H	4H	20.5	21.1	20.9	21.5	22.0	20.5	21.1	20.9	21.5	22.0
	6H	20.7	21.2	21.2	21.7	22.2	20.7	21.2	21.2	21.7	22.2
	8H	20.7	21.2	21.3	21.7	22.2	20.7	21.2	21.3	21.7	22.2
	12H	20.8	21.2	21.3	21.7	22.2	20.8	21.2	21.3	21.7	22.2
12H	4H	20.4	21.0	20.9	21.5	21.9	20.4	21.0	20.9	21.5	21.9
	6H	20.7	21.1	21.2	21.6	22.1	20.7	21.1	21.2	21.6	22.1
	8H	20.7	21.1	21.3	21.6	22.2	20.7	21.1	21.3	21.6	22.2

Maximum UGR = 22.2

POLAR GRAPH



Maximum Candela = 663.833 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.)