



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4DR-TL-L10-935-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] 01-18-2024  
 [MANUFAC] WILLIAMS INDOOR  
 [OTHER] H.E. WILLIAMS, INC. - CARTHAGE, MO.  
 [LUMCAT] 4DR-TL-L10-935-DIM-UNV-RW-OF-WH-AD-WETCC  
 [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	460
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	51
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	10643	10643	10643
55	8594	8594	8594
65	5560	5560	5560
75	3100	3100	3100
85	1593	1593	1593

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## CANDELA TABULATION

	<u>0</u>
0.0	369.615
0.5	369.615
1.0	369.268
1.5	368.572
2.0	367.877
2.5	367.181
3.0	366.138
3.5	365.095
4.0	364.052
4.5	362.661
5.0	361.618
5.5	360.227
6.0	358.836
6.5	357.446
7.0	356.055
7.5	354.664
8.0	353.273
8.5	351.534
9.0	350.144
9.5	348.753
10.0	347.432
10.5	346.006
11.0	344.546
11.5	343.120
12.0	341.764
12.5	340.408
13.0	339.052
13.5	337.661
14.0	336.270
14.5	334.879
15.0	333.454
15.5	331.993
16.0	330.463
16.5	328.933
17.0	327.369
17.5	325.700
18.0	323.926
18.5	322.014
19.0	320.171
19.5	318.189
20.0	316.033
20.5	313.565
21.0	310.713
21.5	307.619
22.0	304.072
22.5	300.143
23.0	295.692
23.5	290.685
24.0	285.191
24.5	278.967
25.0	272.013
25.5	264.329
26.0	256.019
26.5	247.187

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : 4DR-TL-L10-935-DIM-UNV-RW-OF-WH-AD-WETCC\_.IES****CANDELA TABULATION - (Cont.)**

27.0	237.903
27.5	228.480
28.0	218.605
28.5	208.834
29.0	199.099
29.5	189.363
30.0	179.801
30.5	170.413
31.0	161.546
31.5	152.957
32.0	144.856
32.5	137.311
33.0	130.322
33.5	124.028
34.0	118.360
34.5	113.423
35.0	109.077
35.5	105.391
36.0	102.157
36.5	99.445
37.0	97.046
37.5	94.994
38.0	93.117
38.5	91.448
39.0	89.952
39.5	88.596
40.0	87.379
40.5	86.232
41.0	85.119
41.5	84.111
42.0	83.103
42.5	82.164
43.0	81.225
43.5	80.251
44.0	79.278
44.5	78.304
45.0	77.296
45.5	76.253
46.0	75.175
46.5	74.062
47.0	72.915
47.5	71.733
48.0	70.550
48.5	69.299
49.0	68.012
49.5	66.656
50.0	65.300
50.5	63.909
51.0	62.449
51.5	61.023
52.0	59.563
52.5	58.102
53.0	56.711
53.5	55.182
54.0	53.652
54.5	52.122

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : 4DR-TL-L10-935-DIM-UNV-RW-OF-WH-AD-WETCC\_.IES****CANDELA TABULATION - (Cont.)**

55.0	50.627
55.5	49.097
56.0	47.601
56.5	46.141
57.0	44.681
57.5	43.220
58.0	41.795
58.5	40.404
59.0	39.013
59.5	37.657
60.0	36.301
60.5	34.980
61.0	33.693
61.5	32.407
62.0	31.190
62.5	29.938
63.0	28.756
63.5	27.539
64.0	26.391
64.5	25.244
65.0	24.131
65.5	23.018
66.0	21.940
66.5	20.897
67.0	19.889
67.5	18.881
68.0	17.907
68.5	16.933
69.0	15.995
69.5	15.091
70.0	14.256
70.5	13.456
71.0	12.726
71.5	12.031
72.0	11.370
72.5	10.744
73.0	10.153
73.5	9.632
74.0	9.110
74.5	8.658
75.0	8.241
75.5	7.858
76.0	7.441
76.5	7.059
77.0	6.676
77.5	6.294
78.0	5.946
78.5	5.563
79.0	5.216
79.5	4.868
80.0	4.520
80.5	4.173
81.0	3.860
81.5	3.547
82.0	3.199
82.5	2.921

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : 4DR-TL-L10-935-DIM-UNV-RW-OF-WH-AD-WETCC\_.IES****CANDELA TABULATION - (Cont.)**

83.0	2.608
83.5	2.295
84.0	2.017
84.5	1.704
85.0	1.426
85.5	1.182
86.0	0.939
86.5	0.765
87.0	0.591
87.5	0.452
88.0	0.313
88.5	0.209
89.0	0.104
89.5	0.035
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-L10-935-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-L10-935-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-L10-935-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-L10-935-DIM-UNV-RW-OF-WH-AD-WETCC\_.IES****ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	127.94	N.A.	27.80
0-30	247.57	N.A.	53.80
0-40	320.48	N.A.	69.60
0-60	425.00	N.A.	92.40
0-80	458.26	N.A.	99.60
0-90	460.14	N.A.	100.00
10-90	426.10	N.A.	92.60
20-40	192.54	N.A.	41.80
20-50	251.86	N.A.	54.70
40-70	128.70	N.A.	28.00
60-80	33.26	N.A.	7.20
70-80	9.08	N.A.	2.00
80-90	1.88	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	460.14	N.A.	100.00

Total Luminaire Efficiency = N.A.%

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	34.04
10-20	93.89
20-30	119.64
30-40	72.91
40-50	59.32
50-60	45.21
60-70	24.18
70-80	9.08
80-90	1.88
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	16.9	18.2	17.3	18.5	18.8	UGR Viewed Endwise	16.9	18.2	17.3	18.5	18.8
	3H	17.7	18.8	18.0	19.1	19.5		17.7	18.8	18.0	19.1	19.5
	4H	17.8	18.9	18.2	19.3	19.6		17.8	18.9	18.2	19.3	19.6
	6H	17.9	18.9	18.4	19.3	19.7		17.9	18.9	18.4	19.3	19.7
	8H	18.0	18.9	18.4	19.3	19.7		18.0	18.9	18.4	19.3	19.7
	12H	17.9	18.8	18.4	19.2	19.6		17.9	18.8	18.4	19.2	19.6

4H	2H	17.2	18.2	17.6	18.6	19.0	17.2	18.2	17.6	18.6	19.0
	3H	18.1	18.9	18.5	19.3	19.7	18.1	18.9	18.5	19.3	19.7
	4H	18.3	19.1	18.7	19.5	20.0	18.3	19.1	18.7	19.5	20.0
	6H	18.5	19.2	18.9	19.6	20.1	18.5	19.2	18.9	19.6	20.1
	8H	18.5	19.1	19.0	19.6	20.1	18.5	19.1	19.0	19.6	20.1
	12H	18.5	19.1	19.0	19.6	20.0	18.5	19.1	19.0	19.6	20.0

8H	4H	18.4	19.0	18.8	19.4	19.9	18.4	19.0	18.8	19.4	19.9
	6H	18.6	19.1	19.1	19.6	20.1	18.6	19.1	19.1	19.6	20.1
	8H	18.6	19.1	19.1	19.6	20.1	18.6	19.1	19.1	19.6	20.1
	12H	18.7	19.1	19.2	19.6	20.1	18.7	19.1	19.2	19.6	20.1

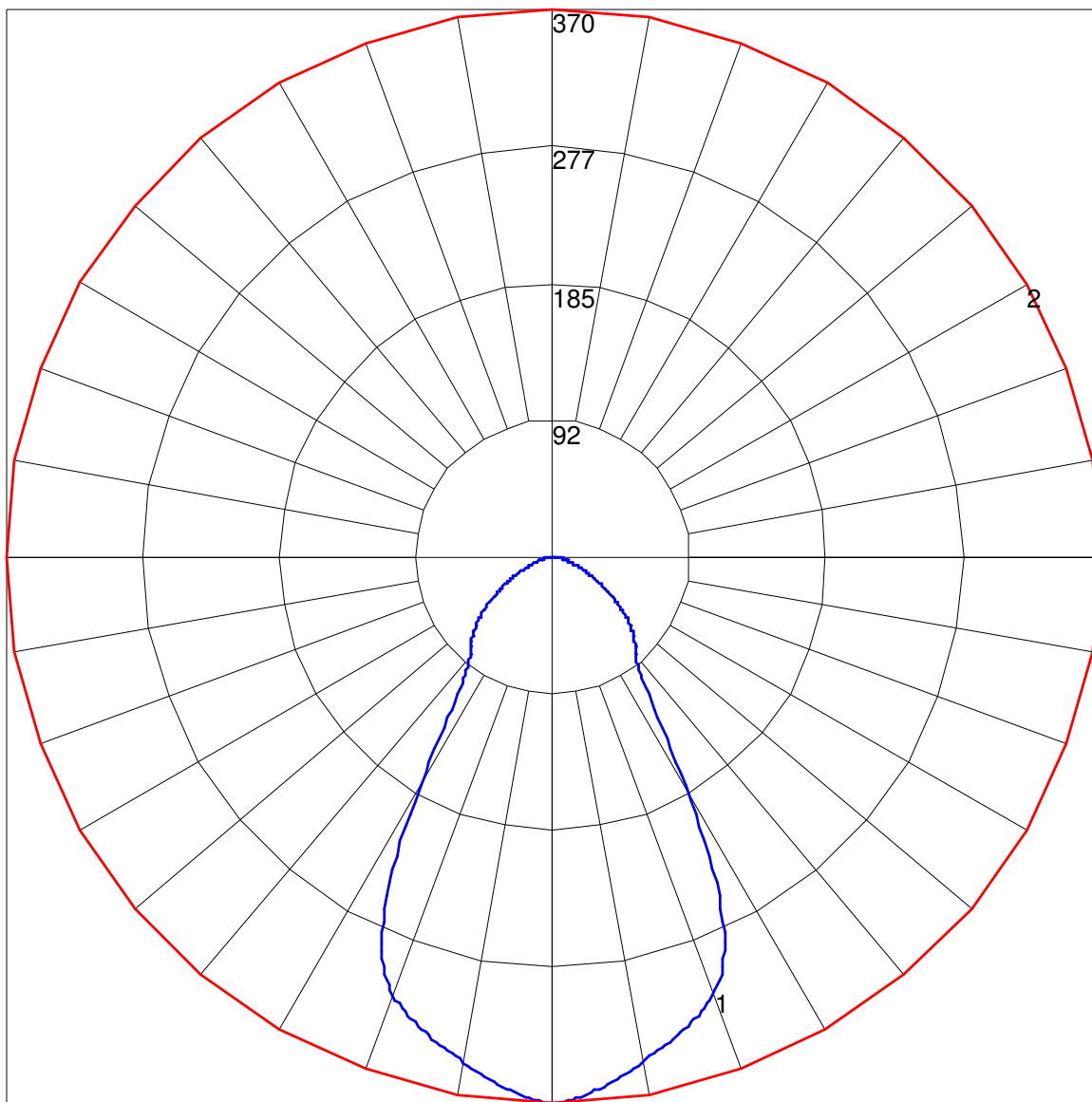
12H	4H	18.3	18.9	18.8	19.4	19.8	18.3	18.9	18.8	19.4	19.8
	6H	18.6	19.0	19.1	19.5	20.0	18.6	19.0	19.1	19.5	20.0
	8H	18.6	19.0	19.2	19.5	20.1	18.6	19.0	19.2	19.5	20.1

Maximum UGR = 20.1

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## POLAR GRAPH



Maximum Candela = 369.615 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.)