

## IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4DR-TL-L15-940-(L11)-EM10W-DIM1-UNV-LW-OF-CS\_.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002  
[TEST]GEN FROM 12316380.07  
[TESTLAB] UL Verification Services Inc.  
[ISSUE DATE] 09-06-2023  
[MANUFAC] WILLIAMS INDOOR  
[OTHER] H.E. WILLIAMS, INC. - CARTHAGE, MO.  
[LUMCAT] 4DR-TL-L15-940-(L11)-EM10W-DIM1-UNV-LW-OF-CS  
[LUMINAIRE] Black formed aluminum housing, specular reflector, clear patterned glass lens enclosure  
[MORE] One white LED  
[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	893
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	89
Total Luminaire Watts	10
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	24650	24650	24650
55	20255	20255	20255
65	14818	14818	14818
75	10258	10258	10258
85	5592	5592	5592

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## CANDELA TABULATION

	<u>0</u>
0.0	627.469
0.5	627.271
1.0	626.874
1.5	626.346
2.0	625.817
2.5	625.222
3.0	624.429
3.5	623.967
4.0	623.636
4.5	623.438
5.0	623.174
5.5	622.909
6.0	622.711
6.5	622.447
7.0	622.249
7.5	622.116
8.0	622.050
8.5	621.852
9.0	621.654
9.5	621.257
10.0	620.993
10.5	620.530
11.0	620.068
11.5	619.473
12.0	618.812
12.5	618.019
13.0	617.094
13.5	616.037
14.0	614.715
14.5	613.129
15.0	611.212
15.5	608.900
16.0	606.322
16.5	603.282
17.0	599.978
17.5	596.277
18.0	591.916
18.5	587.422
19.0	582.532
19.5	577.047
20.0	571.033
20.5	564.491
21.0	557.420
21.5	549.820
22.0	541.428
22.5	532.506
23.0	522.924
23.5	512.615
24.0	501.513
24.5	489.684
25.0	476.863
25.5	463.448
26.0	449.108
26.5	433.909

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : 4DR-TL-L15-940-(L11)-EM10W-DIM1-UNV-LW-OF-CS\_.IES****CANDELA TABULATION - (Cont.)**

27.0	418.181
27.5	401.792
28.0	385.139
28.5	368.419
29.0	352.030
29.5	335.972
30.0	320.508
30.5	305.970
31.0	292.356
31.5	279.933
32.0	268.632
32.5	258.455
33.0	249.402
33.5	241.339
34.0	234.136
34.5	227.792
35.0	222.043
35.5	216.822
36.0	212.196
36.5	207.835
37.0	203.870
37.5	200.169
38.0	196.733
38.5	193.428
39.0	190.388
39.5	187.415
40.0	184.639
40.5	181.864
41.0	179.220
41.5	176.643
42.0	174.198
42.5	171.753
43.0	169.308
43.5	166.863
44.0	164.417
44.5	161.972
45.0	159.527
45.5	157.082
46.0	154.637
46.5	152.192
47.0	149.615
47.5	147.037
48.0	144.460
48.5	141.817
49.0	139.107
49.5	136.398
50.0	133.754
50.5	131.045
51.0	128.335
51.5	125.626
52.0	122.983
52.5	120.339
53.0	117.630
53.5	114.854
54.0	112.013
54.5	109.171

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : 4DR-TL-L15-940-(L11)-EM10W-DIM1-UNV-LW-OF-CS\_.IES****CANDELA TABULATION - (Cont.)**

55.0	106.329
55.5	103.488
56.0	100.712
56.5	98.003
57.0	95.293
57.5	92.584
58.0	89.941
58.5	87.363
59.0	84.786
59.5	82.275
60.0	79.830
60.5	77.385
61.0	75.006
61.5	72.693
62.0	70.380
62.5	68.067
63.0	65.859
63.5	63.665
64.0	61.511
64.5	59.390
65.0	57.315
65.5	55.293
66.0	53.297
66.5	51.354
67.0	49.457
67.5	47.594
68.0	45.790
68.5	44.025
69.0	42.261
69.5	40.556
70.0	38.897
70.5	37.265
71.0	35.672
71.5	34.119
72.0	32.619
72.5	31.139
73.0	29.698
73.5	28.297
74.0	26.923
74.5	25.594
75.0	24.299
75.5	23.044
76.0	21.814
76.5	20.618
77.0	19.475
77.5	18.338
78.0	17.241
78.5	16.177
79.0	15.133
79.5	14.129
80.0	13.144
80.5	12.186
81.0	11.241
81.5	10.322
82.0	9.424
82.5	8.551

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : 4DR-TL-L15-940-(L11)-EM10W-DIM1-UNV-LW-OF-CS\_.IES****CANDELA TABULATION - (Cont.)**

83.0	7.686
83.5	6.846
84.0	6.027
84.5	5.227
85.0	4.461
85.5	3.721
86.0	3.013
86.5	2.346
87.0	1.758
87.5	1.269
88.0	0.886
88.5	0.562
89.0	0.350
89.5	0.238
90.0	0.165
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-L15-940-(L11)-EM10W-DIM1-UNV-LW-OF-CS\_.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-L15-940-(L11)-EM10W-DIM1-UNV-LW-OF-CS\_.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-L15-940-(L11)-EM10W-DIM1-UNV-LW-OF-CS\_.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-L15-940-(L11)-EM10W-DIM1-UNV-LW-OF-CS\_.IES****ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	230.48	N.A.	25.80
0-30	442.09	N.A.	49.50
0-40	586.23	N.A.	65.60
0-60	804.12	N.A.	90.00
0-80	887.64	N.A.	99.40
0-90	893.23	N.A.	100.00
10-90	833.79	N.A.	93.30
20-40	355.75	N.A.	39.80
20-50	478.60	N.A.	53.60
40-70	275.20	N.A.	30.80
60-80	83.52	N.A.	9.40
70-80	26.22	N.A.	2.90
80-90	5.59	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	893.23	N.A.	100.00

Total Luminaire Efficiency = N.A.%

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	59.43
10-20	171.05
20-30	211.61
30-40	144.14
40-50	122.86
50-60	95.03
60-70	57.31
70-80	26.22
80-90	5.59
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	108	104	101	109	105	102	100	101	99	96	97	95	94	94	92	91	89
2	103	97	91	87	101	95	90	86	92	88	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	20.2	21.6	20.6	21.9	22.2	20.2	21.6	20.6	21.9	22.2
	3H	21.3	22.5	21.7	22.9	23.2	21.3	22.5	21.7	22.9	23.2
	4H	21.7	22.8	22.1	23.2	23.5	21.7	22.8	22.1	23.2	23.5
	6H	21.9	22.9	22.3	23.3	23.7	21.9	22.9	22.3	23.3	23.7
	8H	21.9	22.9	22.4	23.3	23.7	21.9	22.9	22.4	23.3	23.7
	12H	21.9	22.9	22.4	23.3	23.7	21.9	22.9	22.4	23.3	23.7

### UGR Viewed Endwise

4H	2H	20.6	21.7	21.0	22.1	22.4	20.6	21.7	21.0	22.1	22.4
	3H	21.9	22.8	22.3	23.2	23.6	21.9	22.8	22.3	23.2	23.6
	4H	22.3	23.2	22.7	23.6	24.0	22.3	23.2	22.7	23.6	24.0
	6H	22.6	23.4	23.1	23.8	24.3	22.6	23.4	23.1	23.8	24.3
	8H	22.7	23.4	23.2	23.8	24.3	22.7	23.4	23.2	23.8	24.3
	12H	22.7	23.3	23.2	23.8	24.3	22.7	23.3	23.2	23.8	24.3

8H	4H	22.4	23.1	22.9	23.6	24.0	22.4	23.1	22.9	23.6	24.0
	6H	22.8	23.4	23.3	23.9	24.4	22.8	23.4	23.3	23.9	24.4
	8H	22.9	23.4	23.5	24.0	24.4	22.9	23.4	23.5	24.0	24.4
	12H	23.0	23.5	23.5	23.9	24.5	23.0	23.5	23.5	23.9	24.5

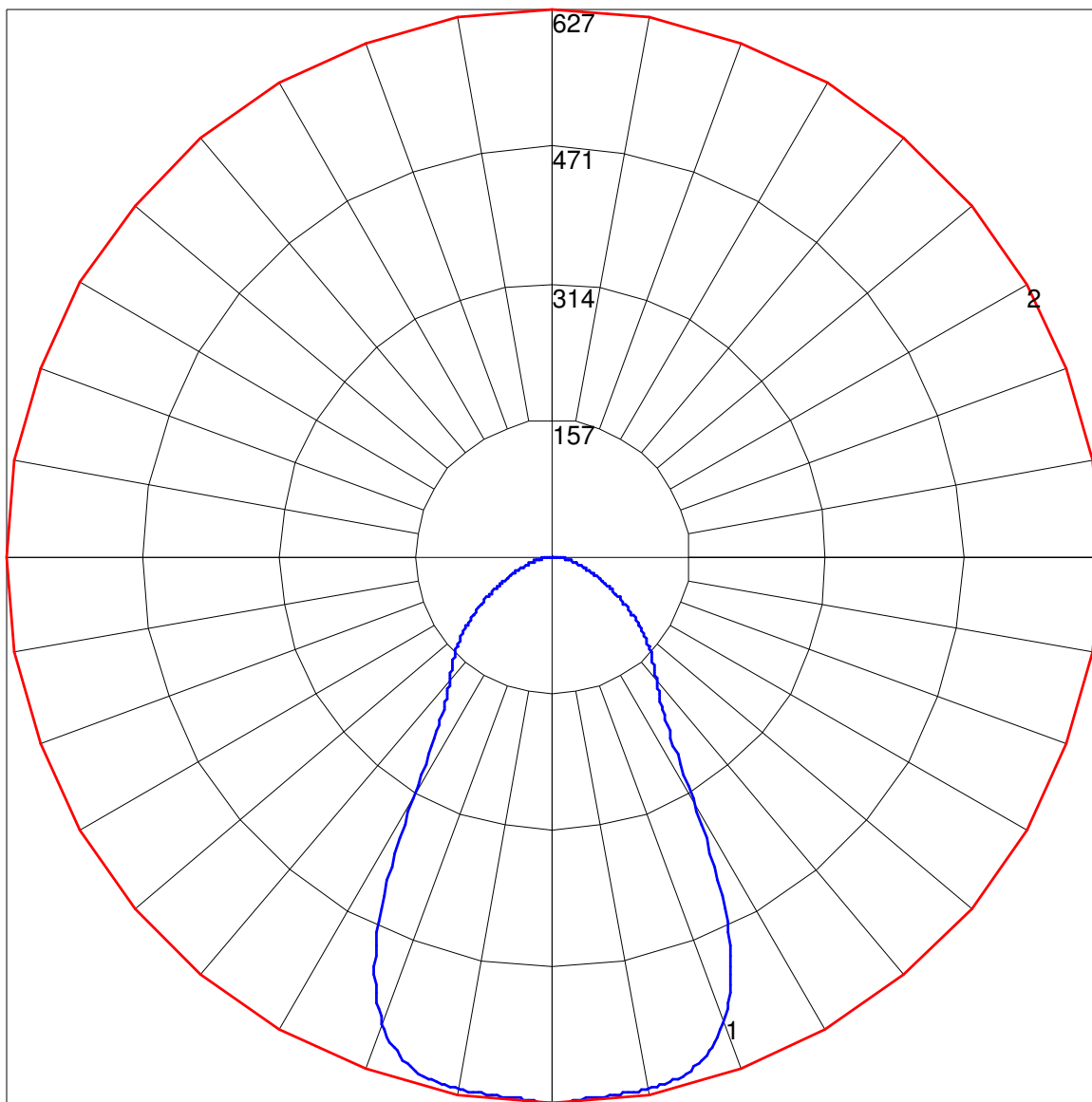
12H	4H	22.4	23.0	22.9	23.5	24.0	22.4	23.0	22.9	23.5	24.0
	6H	22.8	23.3	23.4	23.8	24.3	22.8	23.3	23.4	23.8	24.3
	8H	23.0	23.4	23.5	23.9	24.5	23.0	23.4	23.5	23.9	24.5

Maximum UGR = 24.5

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## POLAR GRAPH



Maximum Candela = 627.469 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.)