



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4DR-TL-L10-940-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-L10-940-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	471
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	52
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	10903	10903	10903
55	8804	8804	8804
65	5695	5695	5695
75	3176	3176	3176
85	1631	1631	1631

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CANDELA TABULATION

	<u>0</u>
0.0	378.631
0.5	378.631
1.0	378.274
1.5	377.562
2.0	376.850
2.5	376.137
3.0	375.069
3.5	374.000
4.0	372.931
4.5	371.507
5.0	370.438
5.5	369.013
6.0	367.589
6.5	366.164
7.0	364.739
7.5	363.314
8.0	361.890
8.5	360.109
9.0	358.684
9.5	357.259
10.0	355.906
10.5	354.445
11.0	352.949
11.5	351.489
12.0	350.100
12.5	348.711
13.0	347.321
13.5	345.897
14.0	344.472
14.5	343.047
15.0	341.587
15.5	340.091
16.0	338.523
16.5	336.956
17.0	335.353
17.5	333.644
18.0	331.827
18.5	329.868
19.0	327.980
19.5	325.950
20.0	323.742
20.5	321.213
21.0	318.292
21.5	315.122
22.0	311.489
22.5	307.464
23.0	302.904
23.5	297.775
24.0	292.147
24.5	285.772
25.0	278.648
25.5	270.776
26.0	262.263
26.5	253.216

IES INDOOR REPORT**PHOTOMETRIC FILENAME : 4DR-TL-L10-940-DIM-UNV-RW-OF-WH-AD-WETCC_.IES****CANDELA TABULATION - (Cont.)**

27.0	243.706
27.5	234.053
28.0	223.937
28.5	213.928
29.0	203.955
29.5	193.981
30.0	184.186
30.5	174.569
31.0	165.486
31.5	156.688
32.0	148.389
32.5	140.660
33.0	133.500
33.5	127.053
34.0	121.247
34.5	116.189
35.0	111.737
35.5	107.961
36.0	104.649
36.5	101.870
37.0	99.413
37.5	97.311
38.0	95.388
38.5	93.678
39.0	92.146
39.5	90.757
40.0	89.511
40.5	88.335
41.0	87.195
41.5	86.162
42.0	85.130
42.5	84.168
43.0	83.206
43.5	82.209
44.0	81.211
44.5	80.214
45.0	79.181
45.5	78.113
46.0	77.008
46.5	75.869
47.0	74.693
47.5	73.482
48.0	72.271
48.5	70.989
49.0	69.671
49.5	68.282
50.0	66.893
50.5	65.468
51.0	63.972
51.5	62.511
52.0	61.015
52.5	59.519
53.0	58.095
53.5	56.527
54.0	54.960
54.5	53.393

IES INDOOR REPORT**PHOTOMETRIC FILENAME : 4DR-TL-L10-940-DIM-UNV-RW-OF-WH-AD-WETCC_.IES****CANDELA TABULATION - (Cont.)**

55.0	51.861
55.5	50.294
56.0	48.762
56.5	47.266
57.0	45.770
57.5	44.274
58.0	42.814
58.5	41.389
59.0	39.965
59.5	38.575
60.0	37.186
60.5	35.833
61.0	34.515
61.5	33.197
62.0	31.950
62.5	30.668
63.0	29.457
63.5	28.210
64.0	27.035
64.5	25.859
65.0	24.720
65.5	23.580
66.0	22.476
66.5	21.407
67.0	20.374
67.5	19.341
68.0	18.344
68.5	17.346
69.0	16.385
69.5	15.459
70.0	14.604
70.5	13.785
71.0	13.037
71.5	12.324
72.0	11.647
72.5	11.006
73.0	10.401
73.5	9.866
74.0	9.332
74.5	8.869
75.0	8.442
75.5	8.050
76.0	7.622
76.5	7.231
77.0	6.839
77.5	6.447
78.0	6.091
78.5	5.699
79.0	5.343
79.5	4.987
80.0	4.630
80.5	4.274
81.0	3.954
81.5	3.633
82.0	3.277
82.5	2.992

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83.0	2.671
83.5	2.351
84.0	2.066
84.5	1.745
85.0	1.460
85.5	1.211
86.0	0.962
86.5	0.784
87.0	0.606
87.5	0.463
88.0	0.321
88.5	0.214
89.0	0.107
89.5	0.036
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-L10-940-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-L10-940-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

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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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Zone	Lumens	%Lamp	%Fixt
0-20	131.06	N.A.	27.80
0-30	253.61	N.A.	53.80
0-40	328.30	N.A.	69.60
0-60	435.37	N.A.	92.40
0-80	469.44	N.A.	99.60
0-90	471.36	N.A.	100.00
10-90	436.49	N.A.	92.60
20-40	197.24	N.A.	41.80
20-50	258.00	N.A.	54.70
40-70	131.84	N.A.	28.00
60-80	34.07	N.A.	7.20
70-80	9.30	N.A.	2.00
80-90	1.93	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	471.36	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	34.87
10-20	96.18
20-30	122.55
30-40	74.68
40-50	60.76
50-60	46.31
60-70	24.76
70-80	9.30
80-90	1.93
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	98	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	17.0	18.3	17.4	18.6	18.9	17.0	18.3	17.4	18.6	18.9
	3H	17.8	18.9	18.1	19.3	19.6	17.8	18.9	18.1	19.3	19.6
	4H	17.9	19.0	18.3	19.4	19.7	17.9	19.0	18.3	19.4	19.7
	6H	18.0	19.0	18.5	19.4	19.8	18.0	19.0	18.5	19.4	19.8
	8H	18.1	19.0	18.5	19.4	19.8	18.1	19.0	18.5	19.4	19.8
	12H	18.0	18.9	18.5	19.3	19.8	18.0	18.9	18.5	19.3	19.8

UGR Viewed Endwise

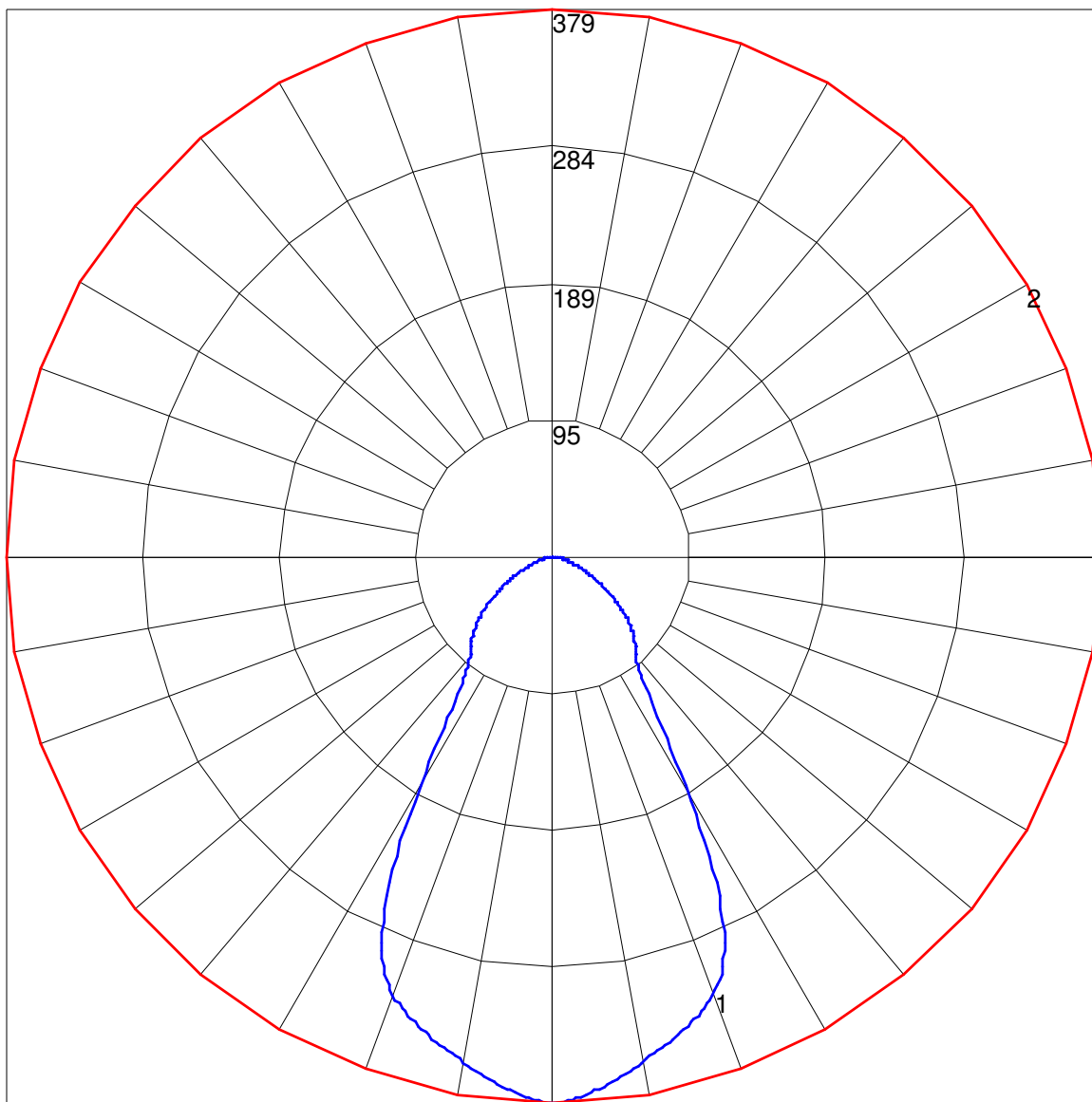
4H	2H	17.3	18.3	17.7	18.7	19.1	17.3	18.3	17.7	18.7	19.1
	3H	18.2	19.1	18.6	19.5	19.9	18.2	19.1	18.6	19.5	19.9
	4H	18.4	19.2	18.8	19.6	20.1	18.4	19.2	18.8	19.6	20.1
	6H	18.6	19.3	19.0	19.7	20.2	18.6	19.3	19.0	19.7	20.2
	8H	18.6	19.2	19.1	19.7	20.2	18.6	19.2	19.1	19.7	20.2
	12H	18.6	19.2	19.1	19.7	20.1	18.6	19.2	19.1	19.7	20.1
8H	4H	18.5	19.1	18.9	19.5	20.0	18.5	19.1	18.9	19.5	20.0
	6H	18.7	19.2	19.2	19.7	20.2	18.7	19.2	19.2	19.7	20.2
	8H	18.7	19.2	19.3	19.7	20.2	18.7	19.2	19.3	19.7	20.2
	12H	18.8	19.2	19.3	19.7	20.2	18.8	19.2	19.3	19.7	20.2
12H	4H	18.4	19.0	18.9	19.5	19.9	18.4	19.0	18.9	19.5	19.9
	6H	18.7	19.1	19.2	19.6	20.1	18.7	19.1	19.2	19.6	20.1
	8H	18.7	19.1	19.3	19.6	20.2	18.7	19.1	19.3	19.6	20.2

Maximum UGR = 20.2

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POLAR GRAPH



Maximum Candela = 378.631 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.)