



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4DR-TL-L15-830-DIM-UNV-RW-OF-WH_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN FROM 12316380.12

[TESTLAB] UL Verification Services Inc.

[ISSUEDATE] 03/17/2023

[MANUFAC] WILLIAMS INDOOR

[OTHER] H.E. WILLIAMS, INC. - CARTHAGE, MO.

[LUMCAT] 4DR-TL-L15-830-DIM-UNV-RW-OF-WH

[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	953
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	69
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	22038	22038	22038
55	17794	17794	17794
65	11511	11511	11511
75	6419	6419	6419
85	3298	3298	3298

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CANDELA TABULATION

	<u>0</u>
0.0	765.312
0.5	765.312
1.0	764.592
1.5	763.152
2.0	761.712
2.5	760.272
3.0	758.112
3.5	755.952
4.0	753.793
4.5	750.913
5.0	748.753
5.5	745.873
6.0	742.993
6.5	740.113
7.0	737.234
7.5	734.354
8.0	731.474
8.5	727.874
9.0	724.994
9.5	722.115
10.0	719.379
10.5	716.427
11.0	713.403
11.5	710.451
12.0	707.644
12.5	704.836
13.0	702.028
13.5	699.148
14.0	696.268
14.5	693.388
15.0	690.437
15.5	687.413
16.0	684.245
16.5	681.077
17.0	677.837
17.5	674.382
18.0	670.710
18.5	666.750
19.0	662.934
19.5	658.831
20.0	654.367
20.5	649.255
21.0	643.352
21.5	636.944
22.0	629.600
22.5	621.465
23.0	612.250
23.5	601.882
24.0	590.507
24.5	577.620
25.0	563.221
25.5	547.310
26.0	530.103
26.5	511.816

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CANDELA TABULATION - (Cont.)

27.0	492.593
27.5	473.082
28.0	452.636
28.5	432.405
29.0	412.246
29.5	392.087
30.0	372.289
30.5	352.850
31.0	334.491
31.5	316.708
32.0	299.933
32.5	284.310
33.0	269.839
33.5	256.808
34.0	245.073
34.5	234.849
35.0	225.850
35.5	218.218
36.0	211.523
36.5	205.907
37.0	200.939
37.5	196.692
38.0	192.804
38.5	189.348
39.0	186.252
39.5	183.444
40.0	180.925
40.5	178.549
41.0	176.245
41.5	174.157
42.0	172.069
42.5	170.125
43.0	168.181
43.5	166.166
44.0	164.150
44.5	162.134
45.0	160.046
45.5	157.886
46.0	155.654
46.5	153.350
47.0	150.975
47.5	148.527
48.0	146.079
48.5	143.487
49.0	140.823
49.5	138.015
50.0	135.207
50.5	132.328
51.0	129.304
51.5	126.352
52.0	123.328
52.5	120.304
53.0	117.425
53.5	114.257
54.0	111.089
54.5	107.921

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CANDELA TABULATION - (Cont.)

55.0	104.825
55.5	101.658
56.0	98.562
56.5	95.538
57.0	92.514
57.5	89.490
58.0	86.539
58.5	83.659
59.0	80.779
59.5	77.971
60.0	75.163
60.5	72.427
61.0	69.764
61.5	67.100
62.0	64.580
62.5	61.988
63.0	59.540
63.5	57.020
64.0	54.645
64.5	52.269
65.0	49.965
65.5	47.661
66.0	45.429
66.5	43.269
67.0	41.181
67.5	39.094
68.0	37.078
68.5	35.062
69.0	33.118
69.5	31.246
70.0	29.518
70.5	27.862
71.0	26.350
71.5	24.910
72.0	23.543
72.5	22.247
73.0	21.023
73.5	19.943
74.0	18.863
74.5	17.927
75.0	17.063
75.5	16.271
76.0	15.407
76.5	14.615
77.0	13.823
77.5	13.031
78.0	12.311
78.5	11.519
79.0	10.799
79.5	10.079
80.0	9.359
80.5	8.639
81.0	7.991
81.5	7.344
82.0	6.624
82.5	6.048

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CANDELA TABULATION - (Cont.)

83.0	5.400
83.5	4.752
84.0	4.176
84.5	3.528
85.0	2.952
85.5	2.448
86.0	1.944
86.5	1.584
87.0	1.224
87.5	0.936
88.0	0.648
88.5	0.432
89.0	0.216
89.5	0.072
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

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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
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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

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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
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153.5	0.000
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158.0	0.000
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159.5	0.000
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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

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	264.90	N.A.	27.80
0-30	512.62	N.A.	53.80
0-40	663.57	N.A.	69.60
0-60	880.00	N.A.	92.40
0-80	948.86	N.A.	99.60
0-90	952.75	N.A.	100.00
10-90	882.26	N.A.	92.60
20-40	398.67	N.A.	41.80
20-50	521.49	N.A.	54.70
40-70	266.48	N.A.	28.00
60-80	68.86	N.A.	7.20
70-80	18.80	N.A.	2.00
80-90	3.89	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	952.75	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	70.49
10-20	194.41
20-30	247.72
30-40	150.96
40-50	122.82
50-60	93.60
60-70	50.06
70-80	18.80
80-90	3.89
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	94	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	82	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	78	68	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	44	66	56	49	44	54	48	44	53	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	19.5	20.8	19.9	21.1	21.4	19.5	20.8	19.9	21.1	21.4
	3H	20.3	21.4	20.6	21.8	22.1	20.3	21.4	20.6	21.8	22.1
	4H	20.4	21.5	20.8	21.9	22.2	20.4	21.5	20.8	21.9	22.2
	6H	20.5	21.5	21.0	21.9	22.3	20.5	21.5	21.0	21.9	22.3
	8H	20.6	21.5	21.0	21.9	22.3	20.6	21.5	21.0	21.9	22.3
	12H	20.5	21.4	21.0	21.8	22.3	20.5	21.4	21.0	21.8	22.3

UGR Viewed Endwise

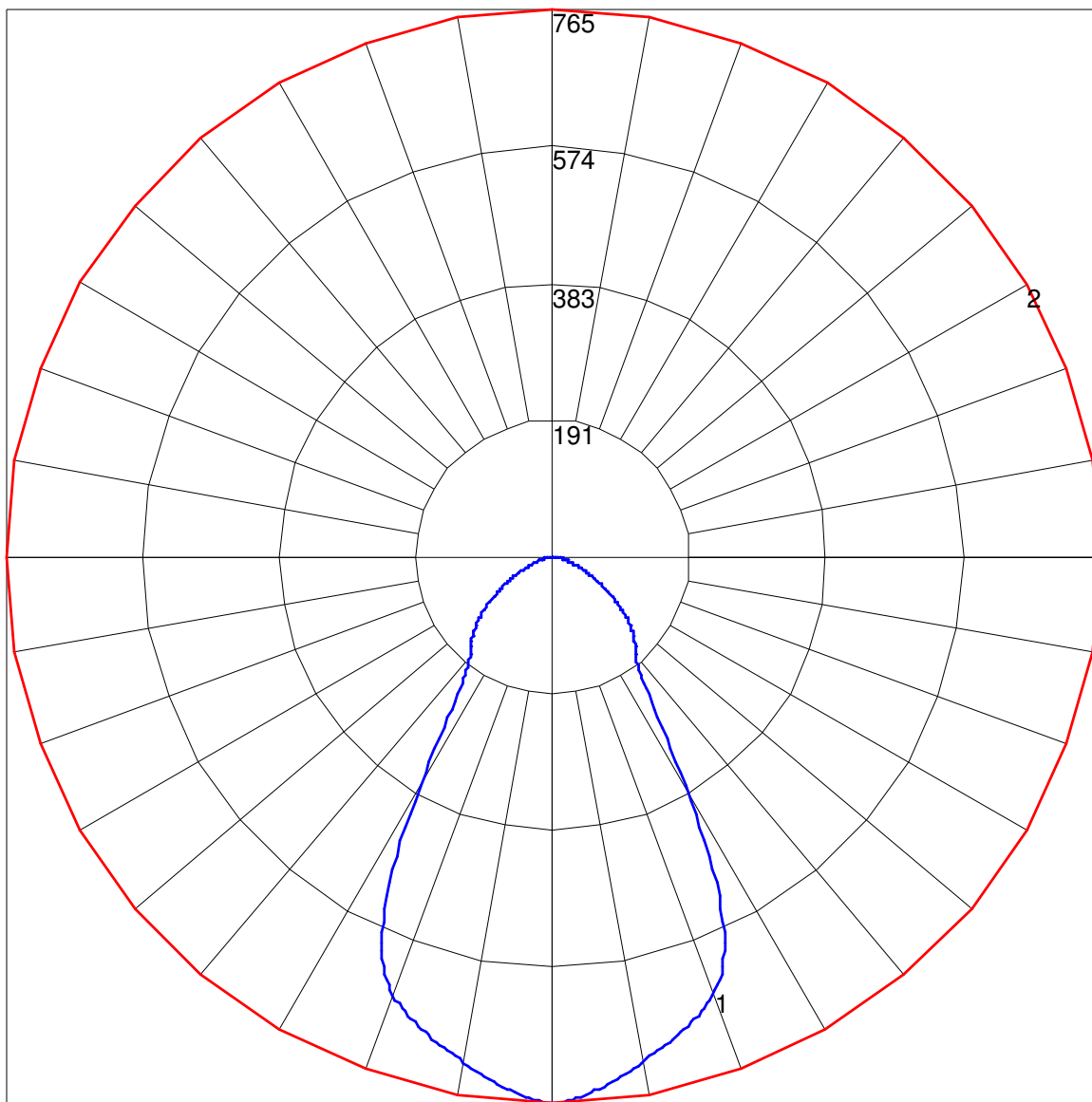
4H	2H	19.8	20.8	20.2	21.2	21.6	19.8	20.8	20.2	21.2	21.6
	3H	20.7	21.6	21.1	22.0	22.4	20.7	21.6	21.1	22.0	22.4
	4H	20.9	21.7	21.3	22.1	22.6	20.9	21.7	21.3	22.1	22.6
	6H	21.1	21.8	21.5	22.2	22.7	21.1	21.8	21.5	22.2	22.7
	8H	21.1	21.7	21.6	22.2	22.7	21.1	21.7	21.6	22.2	22.7
	12H	21.1	21.7	21.6	22.2	22.6	21.1	21.7	21.6	22.2	22.6

8H	4H	21.0	21.6	21.4	22.0	22.5	21.0	21.6	21.4	22.0	22.5
	6H	21.2	21.7	21.7	22.2	22.7	21.2	21.7	21.7	22.2	22.7
	8H	21.2	21.7	21.8	22.2	22.7	21.2	21.7	21.8	22.2	22.7
	12H	21.3	21.7	21.8	22.2	22.7	21.3	21.7	21.8	22.2	22.7

12H	4H	20.9	21.5	21.4	22.0	22.4	20.9	21.5	21.4	22.0	22.4
	6H	21.2	21.6	21.7	22.1	22.6	21.2	21.6	21.7	22.1	22.6
	8H	21.2	21.6	21.8	22.1	22.7	21.2	21.6	21.8	22.1	22.7

Maximum UGR = 22.7

POLAR GRAPH



Maximum Candela = 765.312 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.)