



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4DR-TL-L40-830-DIM-UNV-RM-OF-CS_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN FROM 12316380.14

[TESTLAB] UL Verification Services Inc.

[ISSUEDATE] 07/16/2025

[MANUFAC] WILLIAMS INDOOR

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

[LUMCAT] 4DR-TL-L40-830-DIM-UNV-RM-OF-CS

[LUMINAIRE] 4 INCH ROUND, RECESSED LED DOWNLIGHT

[MORE] W/MEDIUM DISTRIBUTION, REGRESSED LENS TRIM

[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	3438
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	90
Total Luminaire Watts	38
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	0.52
Spacing Criterion (90-270)	0.52
Spacing Criterion (Diagonal)	0.52
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	19722	19722	19722
55	13717	13717	13717
65	9793	9793	9793
75	6555	6555	6555
85	5348	5348	5348

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CANDELA TABULATION

	<u>0</u>
0.0	9910.813
0.5	9903.154
1.0	9880.177
1.5	9843.796
2.0	9794.013
2.5	9730.825
3.0	9656.150
3.5	9568.071
4.0	9466.588
4.5	9357.447
5.0	9236.817
5.5	9102.783
6.0	8959.176
6.5	8805.995
7.0	8641.325
7.5	8465.167
8.0	8281.350
8.5	8086.044
9.0	7884.994
9.5	7676.285
10.0	7459.917
10.5	7237.804
11.0	7009.947
11.5	6778.261
12.0	6542.745
12.5	6309.144
13.0	6075.543
13.5	5840.027
14.0	5602.596
14.5	5365.166
15.0	5131.565
15.5	4899.878
16.0	4668.192
16.5	4442.250
17.0	4218.223
17.5	3998.025
18.0	3781.657
18.5	3571.033
19.0	3369.983
19.5	3172.762
20.0	2981.286
20.5	2799.383
21.0	2623.225
21.5	2454.726
22.0	2295.801
22.5	2144.535
23.0	2002.842
23.5	1867.277
24.0	1738.988
24.5	1618.166
25.0	1505.195
25.5	1400.075
26.0	1302.039
26.5	1210.130

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CANDELA TABULATION - (Cont.)

27.0	1124.732
27.5	1045.652
28.0	972.125
28.5	903.577
29.0	840.772
29.5	782.181
30.0	727.993
30.5	678.209
31.0	632.255
31.5	589.747
32.0	550.494
32.5	514.497
33.0	481.180
33.5	450.161
34.0	421.822
34.5	395.399
35.0	371.081
35.5	348.678
36.0	327.807
36.5	308.660
37.0	290.852
37.5	274.768
38.0	259.833
38.5	246.430
39.0	233.984
39.5	222.687
40.0	212.539
40.5	202.965
41.0	194.348
41.5	186.306
42.0	178.839
42.5	171.946
43.0	165.436
43.5	159.308
44.0	153.564
44.5	148.203
45.0	143.224
45.5	138.629
46.0	134.225
46.5	130.012
47.0	125.991
47.5	122.353
48.0	118.907
48.5	115.460
49.0	112.205
49.5	109.141
50.0	106.269
50.5	103.397
51.0	100.717
51.5	97.844
52.0	95.355
52.5	92.675
53.0	90.377
53.5	87.888
54.0	85.398
54.5	83.101

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CANDELA TABULATION - (Cont.)

55.0	80.803
55.5	78.505
56.0	76.399
56.5	74.293
57.0	72.187
57.5	70.080
58.0	67.974
58.5	66.059
59.0	64.145
59.5	62.230
60.0	60.315
60.5	58.400
61.0	56.486
61.5	54.762
62.0	52.847
62.5	51.124
63.0	49.209
63.5	47.486
64.0	45.763
64.5	44.040
65.0	42.508
65.5	40.784
66.0	39.253
66.5	37.529
67.0	35.998
67.5	34.466
68.0	32.934
68.5	31.594
69.0	30.062
69.5	28.721
70.0	27.381
70.5	26.232
71.0	25.083
71.5	23.935
72.0	22.786
72.5	21.828
73.0	20.871
73.5	19.914
74.0	19.148
74.5	18.190
75.0	17.424
75.5	16.658
76.0	15.893
76.5	15.318
77.0	14.552
77.5	13.786
78.0	13.212
78.5	12.446
79.0	11.872
79.5	11.297
80.0	10.531
80.5	9.957
81.0	9.382
81.5	8.808
82.0	8.042
82.5	7.468

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CANDELA TABULATION - (Cont.)

83.0	6.893
83.5	6.319
84.0	5.744
84.5	5.170
85.0	4.787
85.5	4.212
86.0	3.638
86.5	3.064
87.0	2.681
87.5	2.298
88.0	1.915
88.5	1.532
89.0	1.340
89.5	0.957
90.0	0.766
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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PHOTOMETRIC FILENAME : 4DR-TL-L40-830-DIM-UNV-RM-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
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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

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PHOTOMETRIC FILENAME : 4DR-TL-L40-830-DIM-UNV-RM-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
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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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PHOTOMETRIC FILENAME : 4DR-TL-L40-830-DIM-UNV-RM-OF-CS_.IES

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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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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	2217.7	N.A.	64.50
0-30	2937.42	N.A.	85.40
0-40	3184.38	N.A.	92.60
0-60	3371.07	N.A.	98.10
0-80	3432.37	N.A.	99.80
0-90	3437.8	N.A.	100.00
10-90	2613.3	N.A.	76.00
20-40	966.67	N.A.	28.10
20-50	1080.54	N.A.	31.40
40-70	229.04	N.A.	6.70
60-80	61.29	N.A.	1.80
70-80	18.94	N.A.	0.60
80-90	5.43	N.A.	0.20
90-110	0.02	N.A.	0.00
90-120	0.02	N.A.	0.00
90-130	0.02	N.A.	0.00
90-150	0.02	N.A.	0.00
90-180	0.02	N.A.	0.00
110-180	0.00	N.A.	0.00
0-180	3437.82	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	824.49
10-20	1393.21
20-30	719.72
30-40	246.96
40-50	113.87
50-60	72.82
60-70	42.35
70-80	18.94
80-90	5.43
90-100	0.02
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	114	112	109	107	112	109	107	106	105	104	102	102	101	99	98	97	96	95
2	109	105	101	98	107	103	100	97	100	98	95	97	95	93	95	93	91	90
3	105	99	95	92	103	98	94	91	95	92	89	93	90	88	91	89	87	85
4	101	94	90	86	99	93	89	85	91	87	84	89	86	83	87	85	83	81
5	97	90	85	81	95	89	84	81	87	83	80	86	82	79	84	81	79	77
6	93	86	81	77	92	85	80	77	84	79	76	82	79	76	81	78	75	74
7	90	82	77	74	89	81	77	73	80	76	73	79	75	73	78	75	72	71
8	87	79	74	70	86	78	74	70	77	73	70	76	73	70	75	72	69	68
9	84	76	71	68	83	75	71	67	74	70	67	74	70	67	73	69	67	66
10	81	73	68	65	80	73	68	65	72	68	65	71	67	65	71	67	64	63

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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	13.7	14.7	14.1	15.0	15.3	13.7	14.7	14.1	15.0	15.3
	3H	14.7	15.5	15.0	15.9	16.3	14.7	15.5	15.0	15.9	16.3
	4H	15.0	15.8	15.4	16.1	16.5	15.0	15.8	15.4	16.1	16.5
	6H	15.2	15.9	15.6	16.3	16.7	15.2	15.9	15.6	16.3	16.7
	8H	15.2	15.9	15.7	16.3	16.7	15.2	15.9	15.7	16.3	16.7
	12H	15.3	15.9	15.7	16.3	16.7	15.3	15.9	15.7	16.3	16.7

UGR Viewed Endwise

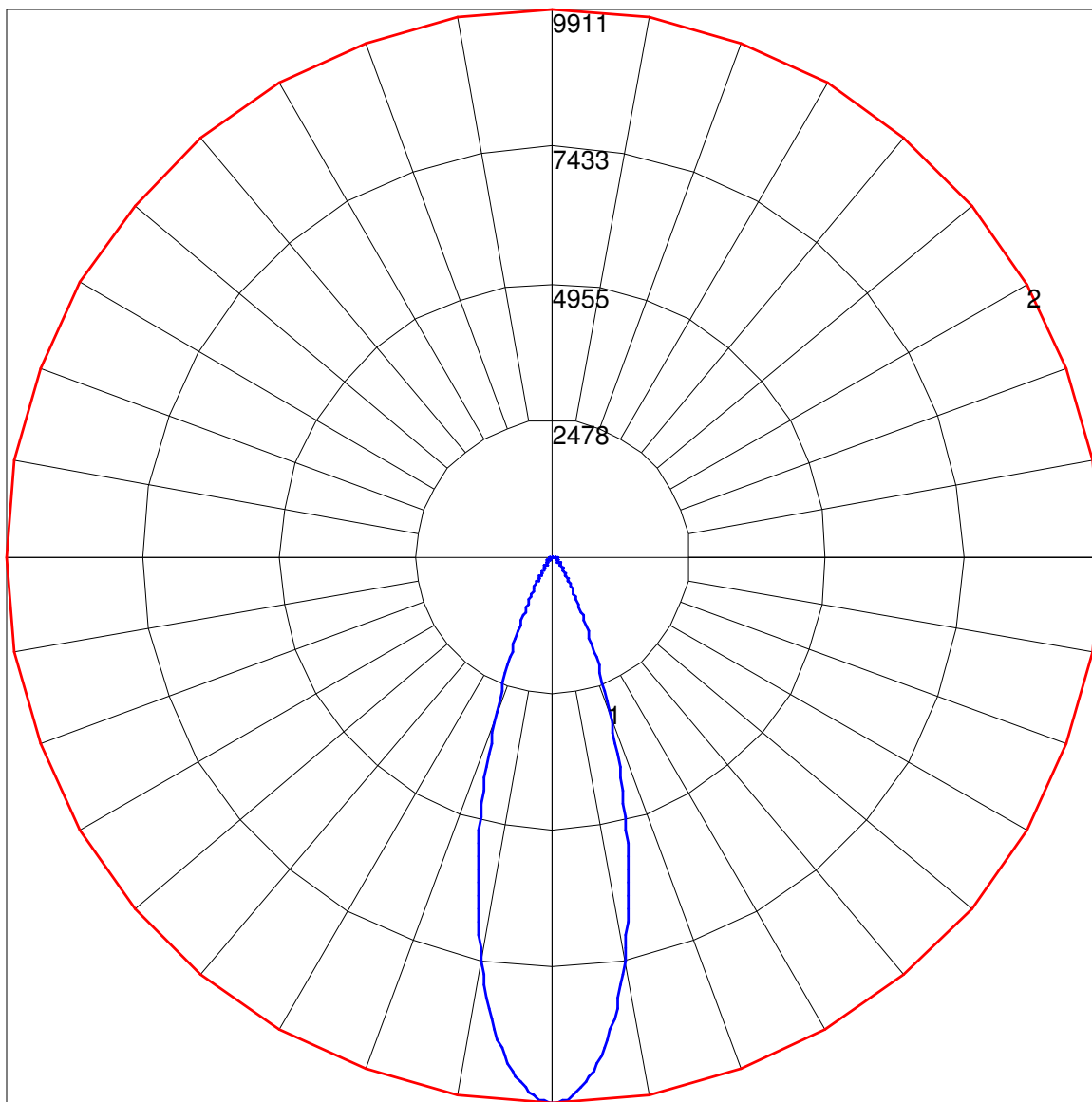
4H	2H	14.0	14.8	14.4	15.2	15.5	14.0	14.8	14.4	15.2	15.5
	3H	15.1	15.8	15.5	16.2	16.6	15.1	15.8	15.5	16.2	16.6
	4H	15.5	16.1	15.9	16.5	16.9	15.5	16.1	15.9	16.5	16.9
	6H	15.8	16.3	16.3	16.7	17.2	15.8	16.3	16.3	16.7	17.2
	8H	15.9	16.4	16.4	16.8	17.3	15.9	16.4	16.4	16.8	17.3
	12H	15.9	16.3	16.4	16.8	17.3	15.9	16.3	16.4	16.8	17.3

8H	4H	15.6	16.0	16.0	16.5	17.0	15.6	16.0	16.0	16.5	17.0
	6H	16.0	16.3	16.5	16.8	17.3	16.0	16.3	16.5	16.8	17.3
	8H	16.1	16.4	16.7	17.0	17.5	16.1	16.4	16.7	17.0	17.5
	12H	16.3	16.5	16.8	17.0	17.6	16.3	16.5	16.8	17.0	17.6

12H	4H	15.5	15.9	16.0	16.4	16.9	15.5	15.9	16.0	16.4	16.9
	6H	16.0	16.3	16.5	16.8	17.3	16.0	16.3	16.5	16.8	17.3
	8H	16.2	16.4	16.7	16.9	17.5	16.2	16.4	16.7	16.9	17.5

Maximum UGR = 17.6

POLAR GRAPH



Maximum Candela = 9910.813 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.)