



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4DR-TL-L50-835-DIM-UNV-OM-OF-CS-WET-CC\_.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002  
 [TEST] GEN FROM 12316380.04  
 [TESTLAB] UL Verification Services Inc.  
 [ISSUEDATE] 26 JULY 2023  
 [MANUFAC] WILLIAMS INDOOR  
 [OTHER] H.E. WILLIAMS, INC. - CARTHAGE, MO.  
 [LUMCAT] 4DR-TL-L50-835-DIM-UNV-OM-OF-CS-WET-CC  
 [LUMINAIRE] 4.5 INCH ROUND LED RECESSED DOWNLIGHT  
 [MORE] WITH OPEN SPECULAR TRIM AND WET LOCATION  
 [LAMP] BRIDGELUX VERO LED COB  
 [ \_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	4213
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	93
Total Luminaire Watts	45.2
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	0.56
Spacing Criterion (90-270)	0.56
Spacing Criterion (Diagonal)	0.76
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	10460	10460	10460
55	3036	3036	3036
65	1066	1066	1066
75	475	475	475
85	235	235	235

CANDELA TABULATION

	<u>0</u>
0.0	8524.074
0.5	8530.387
1.0	8555.637
1.5	8578.783
2.0	8631.388
2.5	8665.055
3.0	8671.367
3.5	8673.472
4.0	8625.075
4.5	8559.845
5.0	8435.698
5.5	8277.884
6.0	8101.132
6.5	7903.338
7.0	7688.711
7.5	7465.667
8.0	7236.310
8.5	7009.057
9.0	6786.013
9.5	6569.282
10.0	6363.071
10.5	6169.485
11.0	5988.525
11.5	5818.086
12.0	5656.063
12.5	5504.561
13.0	5361.476
13.5	5224.704
14.0	5094.244
14.5	4974.305
15.0	4864.888
15.5	4768.095
16.0	4688.136
16.5	4616.593
17.0	4549.259
17.5	4490.342
18.0	4437.737
18.5	4393.549
19.0	4361.986
19.5	4334.632
20.0	4311.486
20.5	4284.131
21.0	4256.777
21.5	4227.318
22.0	4195.755
22.5	4155.775
23.0	4107.379
23.5	4048.462
24.0	3974.815
24.5	3878.022
25.0	3766.500
25.5	3648.666
26.0	3532.935
26.5	3404.580

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : 4DR-TL-L50-835-DIM-UNV-OM-OF-CS-WET-CC\_.IES****CANDELA TABULATION - (Cont.)**

27.0	3269.911
27.5	3116.306
28.0	2941.658
28.5	2750.176
29.0	2550.278
29.5	2346.172
30.0	2129.440
30.5	1904.923
31.0	1669.885
31.5	1435.689
32.0	1210.541
32.5	999.911
33.0	816.636
33.5	660.295
34.0	528.573
34.5	419.155
35.0	330.358
35.5	263.445
36.0	220.519
36.5	198.004
37.0	184.537
37.5	172.754
38.0	162.443
38.5	152.975
39.0	144.347
39.5	136.562
40.0	129.197
40.5	122.253
41.0	115.730
41.5	109.839
42.0	104.157
42.5	98.897
43.0	93.636
43.5	89.007
44.0	84.378
44.5	79.959
45.0	75.961
45.5	71.963
46.0	67.965
46.5	64.178
47.0	60.180
47.5	56.392
48.0	52.815
48.5	49.448
49.0	46.082
49.5	42.715
50.0	39.348
50.5	36.192
51.0	33.457
51.5	30.932
52.0	28.407
52.5	26.302
53.0	24.198
53.5	22.515
54.0	20.831
54.5	19.148

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : 4DR-TL-L50-835-DIM-UNV-OM-OF-CS-WET-CC\_.IES****CANDELA TABULATION - (Cont.)**

55.0	17.886
55.5	16.623
56.0	15.361
56.5	14.308
57.0	13.256
57.5	12.415
58.0	11.573
58.5	10.731
59.0	10.100
59.5	9.469
60.0	8.838
60.5	8.206
61.0	7.786
61.5	7.154
62.0	6.733
62.5	6.313
63.0	5.892
63.5	5.681
64.0	5.260
64.5	4.840
65.0	4.629
65.5	4.419
66.0	3.998
66.5	3.788
67.0	3.577
67.5	3.367
68.0	3.156
68.5	2.946
69.0	2.735
69.5	2.525
70.0	2.315
70.5	2.315
71.0	2.104
71.5	1.894
72.0	1.683
72.5	1.683
73.0	1.473
73.5	1.473
74.0	1.263
74.5	1.263
75.0	1.263
75.5	1.052
76.0	1.052
76.5	0.842
77.0	0.842
77.5	0.842
78.0	0.631
78.5	0.631
79.0	0.631
79.5	0.631
80.0	0.421
80.5	0.421
81.0	0.421
81.5	0.421
82.0	0.421
82.5	0.421

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : 4DR-TL-L50-835-DIM-UNV-OM-OF-CS-WET-CC\_.IES****CANDELA TABULATION - (Cont.)**

83.0	0.421
83.5	0.210
84.0	0.210
84.5	0.210
85.0	0.210
85.5	0.210
86.0	0.210
86.5	0.210
87.0	0.210
87.5	0.210
88.0	0.000
88.5	0.000
89.0	0.000
89.5	0.000
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-L50-835-DIM-UNV-OM-OF-CS-WET-CC\_.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-L50-835-DIM-UNV-OM-OF-CS-WET-CC\_.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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**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-L50-835-DIM-UNV-OM-OF-CS-WET-CC\_.IES****ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	2124.9	N.A.	50.40
0-30	3753.08	N.A.	89.10
0-40	4128.92	N.A.	98.00
0-60	4206.31	N.A.	99.80
0-80	4212.47	N.A.	100.00
0-90	4212.72	N.A.	100.00
10-90	3482.82	N.A.	82.70
20-40	2004.02	N.A.	47.60
20-50	2063.83	N.A.	49.00
40-70	82.24	N.A.	2.00
60-80	6.16	N.A.	0.10
70-80	1.31	N.A.	0.00
80-90	0.25	N.A.	0.00
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	4212.72	N.A.	100.00

Total Luminaire Efficiency = N.A.%

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	729.90
10-20	1395.00
20-30	1628.17
30-40	375.85
40-50	59.81
50-60	17.58
60-70	4.85
70-80	1.31
80-90	0.25
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	114	112	109	107	112	110	108	106	106	104	103	102	101	99	98	98	97	95
2	109	105	102	99	107	103	100	97	100	98	95	97	95	93	95	93	91	90
3	105	99	95	91	103	98	94	91	95	92	89	93	90	88	91	88	87	85
4	100	94	89	85	99	93	88	85	91	87	84	89	86	83	87	84	82	81
5	96	89	84	80	95	88	83	80	86	82	79	85	81	78	83	80	78	76
6	92	85	79	76	91	84	79	75	82	78	75	81	77	74	80	77	74	73
7	89	80	75	72	87	80	75	71	79	74	71	78	74	71	76	73	70	69
8	85	77	72	68	84	76	71	68	75	71	68	74	70	67	73	70	67	66
9	82	73	68	65	81	73	68	65	72	67	64	71	67	64	70	67	64	63
10	79	70	65	62	78	70	65	62	69	64	61	68	64	61	67	64	61	60

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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

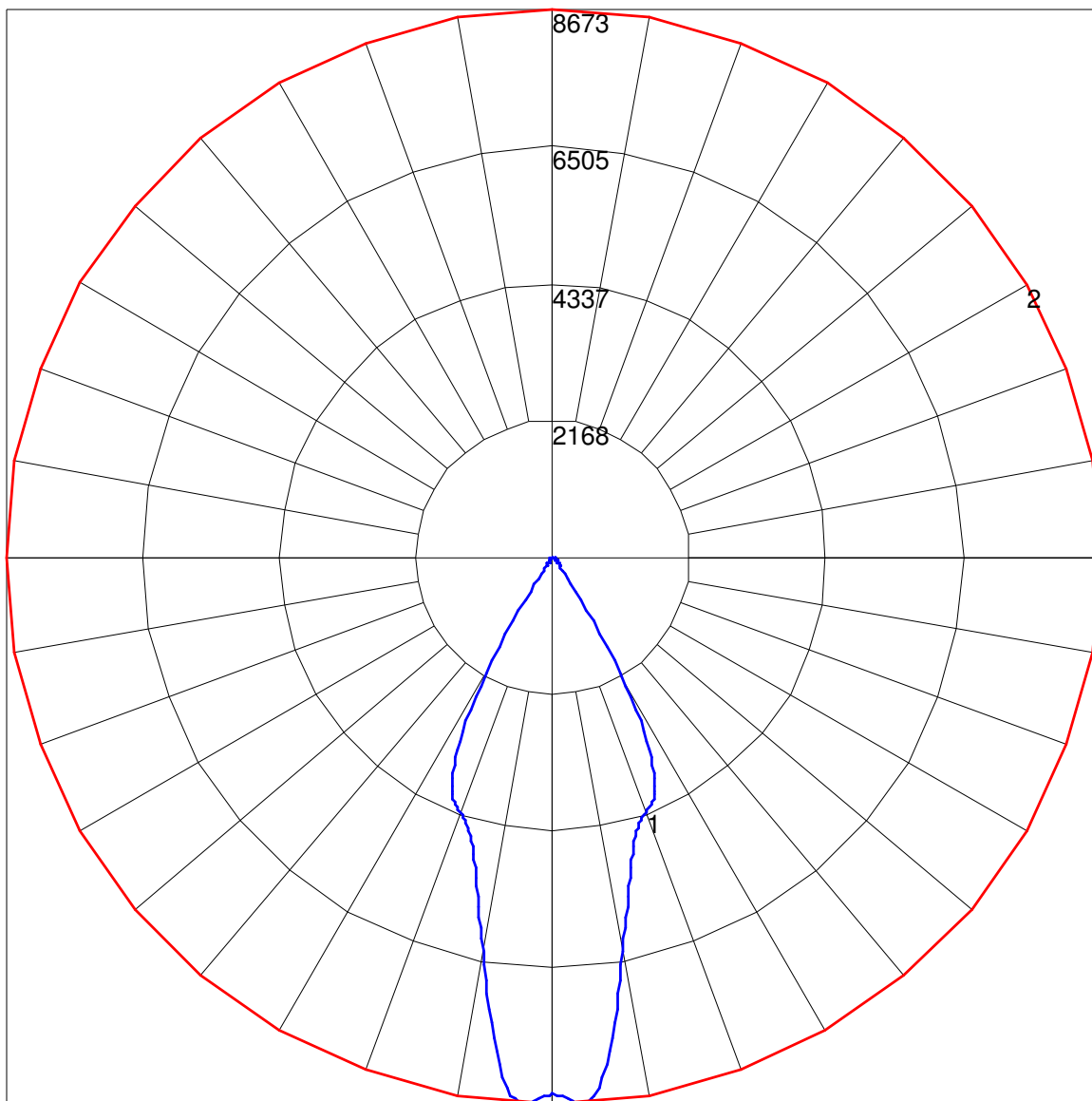
X=2H	Y=2H	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
	3H	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
	4H	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
	6H	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
	8H	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
	12H	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0

### UGR Viewed Endwise

4H	2H	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
	3H	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
	4H	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
	6H	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
	8H	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
	12H	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
8H	4H	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
	6H	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
	8H	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
	12H	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
12H	4H	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
	6H	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
	8H	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0

Maximum UGR = 5.0

POLAR GRAPH



Maximum Candela = 8673.472 Located At Horizontal Angle = 0, Vertical Angle = 3.5  
# 1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)  
# 2 - Horizontal Cone Through Vertical Angle (3.5) (Through Max. Cd.)