



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4DR-TL-L20-835-DIM-UNV-LW-OF-CS-AD-WET-CC\_.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002  
 [TEST]GEN FROM 12316380.11  
 [TESTLAB] UL Verification Services Inc.  
 [ISSUEDATE] 04-16-2021  
 [MANUFAC] WILLIAMS INDOOR  
 [OTHER] H.E. WILLIAMS, INC. - CARTHAGE, MO.  
 [LUMCAT] 4DR-TL-L20-835-DIM-UNV-LW-OF-CS-AD-WET-CC  
 [LUMINAIRE] Black formed aluminum housing, white reflector, frosted pl  
 [MORE] astic 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	1149
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	58
Total Luminaire Watts	19.8
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.20
Spacing Criterion (90-270)	1.20
Spacing Criterion (Diagonal)	1.28
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	41483	41483	41483
55	35407	35407	35407
65	30201	30201	30201
75	24974	24974	24974
85	15455	15455	15455

# IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4DR-TL-L20-835-DIM-UNV-LW-OF-CS-AD-WET-CC\_.IES

## CANDELA TABULATION

	<u>0</u>
0.0	483.647
0.5	483.561
1.0	483.302
1.5	483.043
2.0	482.526
2.5	482.009
3.0	481.319
3.5	480.629
4.0	479.940
4.5	479.250
5.0	478.647
5.5	477.957
6.0	477.267
6.5	476.577
7.0	475.802
7.5	474.939
8.0	474.077
8.5	473.215
9.0	472.267
9.5	471.319
10.0	470.284
10.5	469.249
11.0	468.129
11.5	466.922
12.0	465.715
12.5	464.422
13.0	463.042
13.5	461.577
14.0	460.025
14.5	458.387
15.0	456.663
15.5	454.938
16.0	453.128
16.5	451.404
17.0	449.507
17.5	447.610
18.0	445.714
18.5	443.817
19.0	441.920
19.5	440.024
20.0	438.127
20.5	436.230
21.0	434.248
21.5	432.179
22.0	430.023
22.5	427.609
23.0	425.195
23.5	422.523
24.0	419.850
24.5	417.005
25.0	414.074
25.5	411.143
26.0	408.039
26.5	404.936

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : 4DR-TL-L20-835-DIM-UNV-LW-OF-CS-AD-WET-CC\_.IES****CANDELA TABULATION - (Cont.)**

27.0	401.746
27.5	398.470
28.0	395.194
28.5	392.004
29.0	388.814
29.5	385.538
30.0	382.348
30.5	378.986
31.0	375.538
31.5	372.175
32.0	368.727
32.5	365.278
33.0	361.744
33.5	358.123
34.0	354.588
34.5	350.967
35.0	347.346
35.5	343.639
36.0	339.932
36.5	336.139
37.0	332.346
37.5	328.552
38.0	324.673
38.5	320.707
39.0	316.914
39.5	312.948
40.0	308.982
40.5	305.103
41.0	301.051
41.5	297.171
42.0	293.119
42.5	289.154
43.0	285.102
43.5	280.963
44.0	276.825
44.5	272.687
45.0	268.463
45.5	264.325
46.0	260.100
46.5	255.876
47.0	251.652
47.5	247.341
48.0	243.117
48.5	238.806
49.0	234.582
49.5	230.357
50.0	226.133
50.5	221.995
51.0	217.857
51.5	213.718
52.0	209.666
52.5	205.615
53.0	201.649
53.5	197.683
54.0	193.717
54.5	189.838

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : 4DR-TL-L20-835-DIM-UNV-LW-OF-CS-AD-WET-CC\_.IES****CANDELA TABULATION - (Cont.)**

55.0	185.872
55.5	181.993
56.0	178.458
56.5	174.665
57.0	171.044
57.5	167.423
58.0	163.802
58.5	160.181
59.0	156.733
59.5	153.284
60.0	149.836
60.5	146.560
61.0	143.197
61.5	139.749
62.0	136.387
62.5	133.024
63.0	129.748
63.5	126.472
64.0	123.196
64.5	120.006
65.0	116.817
65.5	113.627
66.0	110.437
66.5	107.333
67.0	104.316
67.5	101.299
68.0	98.281
68.5	95.350
69.0	92.419
69.5	89.488
70.0	86.556
70.5	83.711
71.0	80.884
71.5	78.073
72.0	75.297
72.5	72.564
73.0	69.840
73.5	67.142
74.0	64.469
74.5	61.796
75.0	59.158
75.5	56.555
76.0	53.951
76.5	51.373
77.0	48.830
77.5	46.296
78.0	43.795
78.5	41.338
79.0	38.899
79.5	36.485
80.0	34.131
80.5	31.812
81.0	29.519
81.5	27.243
82.0	25.010
82.5	22.812

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : 4DR-TL-L20-835-DIM-UNV-LW-OF-CS-AD-WET-CC\_.IES****CANDELA TABULATION - (Cont.)**

83.0	20.639
83.5	18.492
84.0	16.397
84.5	14.337
85.0	12.328
85.5	10.406
86.0	8.613
86.5	7.043
87.0	5.612
87.5	4.328
88.0	3.224
88.5	2.354
89.0	1.638
89.5	1.060
90.0	0.655
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-L20-835-DIM-UNV-LW-OF-CS-AD-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-L20-835-DIM-UNV-LW-OF-CS-AD-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

**IES INDOOR REPORT**

**PHOTOMETRIC FILENAME : 4DR-TL-L20-835-DIM-UNV-LW-OF-CS-AD-WET-CC\_.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-L20-835-DIM-UNV-LW-OF-CS-AD-WET-CC\_.IES****ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	174.14	N.A.	15.20
0-30	364.36	N.A.	31.70
0-40	581.24	N.A.	50.60
0-60	954.75	N.A.	83.10
0-80	1133.52	N.A.	98.70
0-90	1148.76	N.A.	100.00
10-90	1103.33	N.A.	96.00
20-40	407.10	N.A.	35.40
20-50	613.85	N.A.	53.40
40-70	489.51	N.A.	42.60
60-80	178.77	N.A.	15.60
70-80	62.77	N.A.	5.50
80-90	15.24	N.A.	1.30
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	1148.78	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	45.43
10-20	128.71
20-30	190.23
30-40	216.87
40-50	206.75
50-60	166.77
60-70	116.00
70-80	62.77
80-90	15.24
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

# IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4DR-TL-L20-835-DIM-UNV-LW-OF-CS-AD-WET-CC\_.IES

## 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	110	105	101	97	107	103	99	96	99	96	93	95	92	90	91	89	87	85
2	100	92	86	81	98	91	85	80	87	82	78	84	80	76	81	77	74	72
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62
4	84	73	65	58	82	72	64	58	69	62	57	67	61	56	65	60	56	53
5	78	66	57	51	76	65	56	50	62	55	50	60	54	49	59	53	49	47
6	72	59	51	45	70	58	50	44	57	49	44	55	49	44	53	48	43	41
7	67	54	46	40	65	53	45	40	52	44	39	50	44	39	49	43	39	37
8	63	49	41	36	61	49	41	35	48	40	35	46	40	35	45	39	35	33
9	59	46	38	32	57	45	37	32	44	37	32	43	36	32	42	36	32	30
10	55	42	34	29	54	42	34	29	41	34	29	40	33	29	39	33	29	27

# IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4DR-TL-L20-835-DIM-UNV-LW-OF-CS-AD-WET-CC\_.IES

## 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	23.2	24.8	23.6	25.1	25.4	23.2	24.8	23.6	25.1	25.4
	3H	24.8	26.2	25.2	26.6	26.9	24.8	26.2	25.2	26.6	26.9
	4H	25.4	26.7	25.8	27.1	27.4	25.4	26.7	25.8	27.1	27.4
	6H	25.8	27.0	26.2	27.4	27.8	25.8	27.0	26.2	27.4	27.8
	8H	25.9	27.1	26.3	27.5	27.9	25.9	27.1	26.3	27.5	27.9
	12H	26.0	27.1	26.4	27.5	27.9	26.0	27.1	26.4	27.5	27.9

### UGR Viewed Endwise

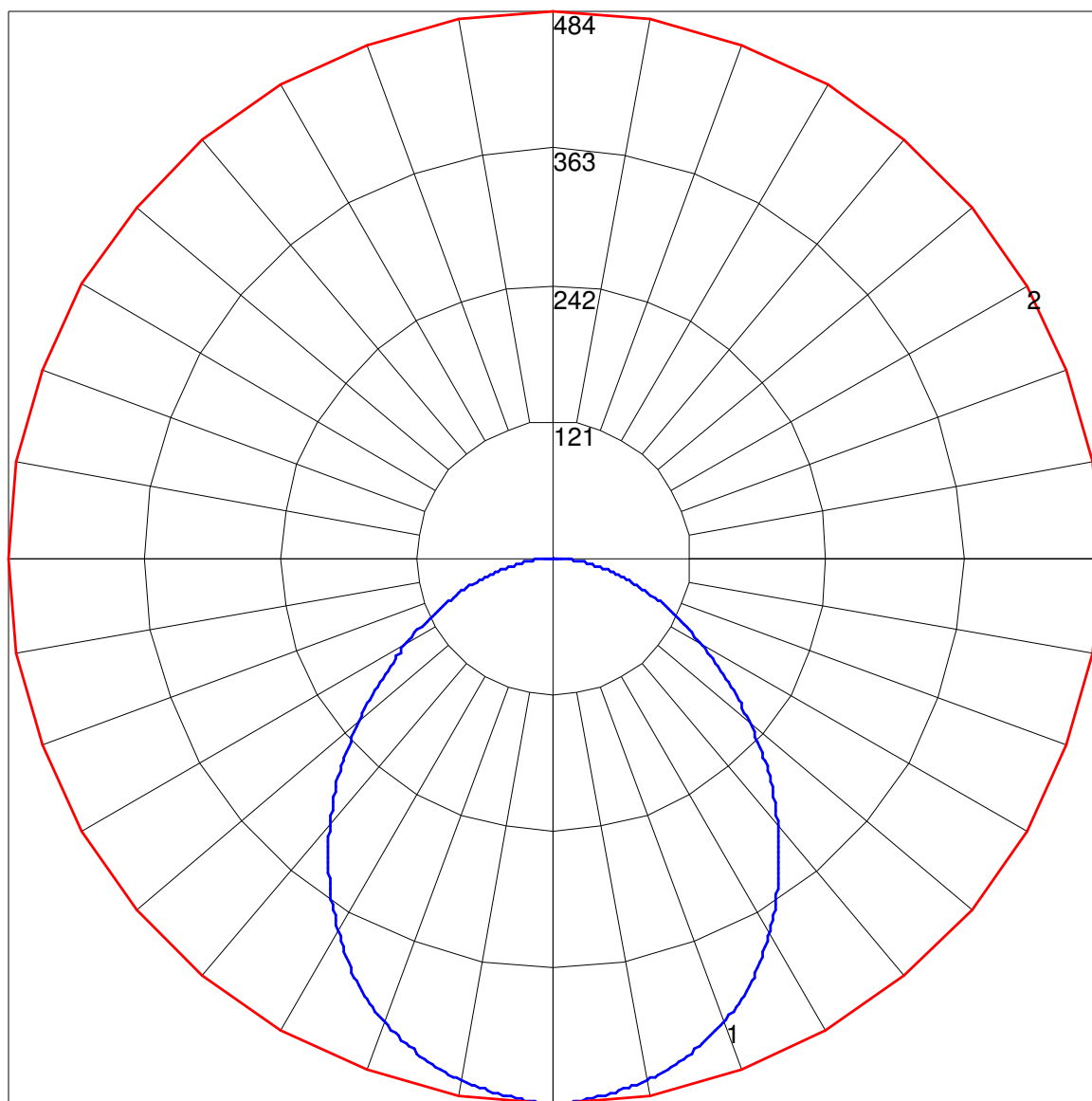
4H	2H	23.8	25.1	24.2	25.5	25.8	23.8	25.1	24.2	25.5	25.8
	3H	25.6	26.7	26.0	27.1	27.5	25.6	26.7	26.0	27.1	27.5
	4H	26.3	27.3	26.7	27.7	28.1	26.3	27.3	26.7	27.7	28.1
	6H	26.8	27.7	27.3	28.1	28.6	26.8	27.7	27.3	28.1	28.6
	8H	26.9	27.8	27.4	28.2	28.7	26.9	27.8	27.4	28.2	28.7
	12H	27.0	27.8	27.5	28.2	28.7	27.0	27.8	27.5	28.2	28.7

8H	4H	26.5	27.3	27.0	27.8	28.3	26.5	27.3	27.0	27.8	28.3
	6H	27.1	27.8	27.6	28.3	28.8	27.1	27.8	27.6	28.3	28.8
	8H	27.4	28.0	27.9	28.5	29.0	27.4	28.0	27.9	28.5	29.0
	12H	27.5	28.0	28.0	28.5	29.1	27.5	28.0	28.0	28.5	29.1

12H	4H	26.6	27.3	27.0	27.8	28.2	26.6	27.3	27.0	27.8	28.2
	6H	27.2	27.8	27.7	28.3	28.8	27.2	27.8	27.7	28.3	28.8
	8H	27.4	28.0	28.0	28.5	29.0	27.4	28.0	28.0	28.5	29.0

Maximum UGR = 29.1

POLAR GRAPH



Maximum Candela = 483.647 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.)