



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4DR-TL-L15-835-EM-10W-DIM-UNV-RW-OF-CS_EM MODE.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN FROM 12316380.12

[TESTLAB] UL Verification Services Inc.

[ISSUEDATE] 04 MAR 2023

[MANUFAC] WILLIAMS INDOOR

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

[LUMCAT] 4DR-TL-L15-835-EM-10W-DIM-UNV-RW-OF-CS EM MODE ONLY

[LUMINAIRE] Black formed aluminum housing, white reflector, clear glass

[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	685
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	171
Total Luminaire Watts	4
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	15849	15849	15849
55	12797	12797	12797
65	8279	8279	8279
75	4616	4616	4616
85	2372	2372	2372

IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4DR-TL-L15-835-EM-10W-DIM-UNV-RW-OF-CS_EM MODE.IES

CANDELA TABULATION

	<u>0</u>
0.0	550.382
0.5	550.382
1.0	549.864
1.5	548.828
2.0	547.793
2.5	546.757
3.0	545.204
3.5	543.651
4.0	542.098
4.5	540.027
5.0	538.473
5.5	536.402
6.0	534.331
6.5	532.260
7.0	530.189
7.5	528.118
8.0	526.047
8.5	523.458
9.0	521.387
9.5	519.316
10.0	517.349
10.5	515.226
11.0	513.051
11.5	510.928
12.0	508.909
12.5	506.890
13.0	504.870
13.5	502.799
14.0	500.728
14.5	498.657
15.0	496.534
15.5	494.360
16.0	492.082
16.5	489.804
17.0	487.474
17.5	484.988
18.0	482.348
18.5	479.500
19.0	476.756
19.5	473.805
20.0	470.595
20.5	466.918
21.0	462.673
21.5	458.065
22.0	452.783
22.5	446.933
23.0	440.305
23.5	432.850
24.0	424.669
24.5	415.401
25.0	405.046
25.5	393.603
26.0	381.229
26.5	368.078

IES INDOOR REPORT**PHOTOMETRIC FILENAME : 4DR-TL-L15-835-EM-10W-DIM-UNV-RW-OF-CS_EM MODE.IES****CANDELA TABULATION - (Cont.)**

27.0	354.253
27.5	340.222
28.0	325.517
28.5	310.968
29.0	296.471
29.5	281.974
30.0	267.735
30.5	253.756
31.0	240.553
31.5	227.764
32.0	215.700
32.5	204.464
33.0	194.057
33.5	184.686
34.0	176.246
34.5	168.894
35.0	162.422
35.5	156.934
36.0	152.119
36.5	148.080
37.0	144.508
37.5	141.453
38.0	138.657
38.5	136.172
39.0	133.945
39.5	131.926
40.0	130.114
40.5	128.405
41.0	126.748
41.5	125.247
42.0	123.745
42.5	122.347
43.0	120.949
43.5	119.500
44.0	118.050
44.5	116.600
45.0	115.099
45.5	113.545
46.0	111.940
46.5	110.283
47.0	108.575
47.5	106.814
48.0	105.054
48.5	103.190
49.0	101.274
49.5	99.255
50.0	97.236
50.5	95.165
51.0	92.990
51.5	90.867
52.0	88.693
52.5	86.518
53.0	84.447
53.5	82.169
54.0	79.891
54.5	77.613

IES INDOOR REPORT**PHOTOMETRIC FILENAME : 4DR-TL-L15-835-EM-10W-DIM-UNV-RW-OF-CS_EM MODE.IES****CANDELA TABULATION - (Cont.)**

55.0	75.386
55.5	73.108
56.0	70.882
56.5	68.707
57.0	66.533
57.5	64.358
58.0	62.235
58.5	60.164
59.0	58.093
59.5	56.074
60.0	54.054
60.5	52.087
61.0	50.171
61.5	48.255
62.0	46.443
62.5	44.579
63.0	42.819
63.5	41.007
64.0	39.298
64.5	37.590
65.0	35.933
65.5	34.276
66.0	32.671
66.5	31.118
67.0	29.616
67.5	28.115
68.0	26.665
68.5	25.215
69.0	23.817
69.5	22.471
70.0	21.228
70.5	20.037
71.0	18.950
71.5	17.915
72.0	16.931
72.5	15.999
73.0	15.119
73.5	14.342
74.0	13.565
74.5	12.892
75.0	12.271
75.5	11.701
76.0	11.080
76.5	10.511
77.0	9.941
77.5	9.372
78.0	8.854
78.5	8.284
79.0	7.766
79.5	7.249
80.0	6.731
80.5	6.213
81.0	5.747
81.5	5.281
82.0	4.763
82.5	4.349

IES INDOOR REPORT**PHOTOMETRIC FILENAME : 4DR-TL-L15-835-EM-10W-DIM-UNV-RW-OF-CS_EM MODE.IES****CANDELA TABULATION - (Cont.)**

83.0	3.883
83.5	3.417
84.0	3.003
84.5	2.537
85.0	2.123
85.5	1.760
86.0	1.398
86.5	1.139
87.0	0.880
87.5	0.673
88.0	0.466
88.5	0.311
89.0	0.155
89.5	0.052
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-L15-835-EM-10W-DIM-UNV-RW-OF-CS_EM MODE.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-L15-835-EM-10W-DIM-UNV-RW-OF-CS_EM MODE.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-L15-835-EM-10W-DIM-UNV-RW-OF-CS_EM MODE.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-L15-835-EM-10W-DIM-UNV-RW-OF-CS_EM MODE.IES****ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	190.51	N.A.	27.80
0-30	368.65	N.A.	53.80
0-40	477.21	N.A.	69.60
0-60	632.86	N.A.	92.40
0-80	682.38	N.A.	99.60
0-90	685.18	N.A.	100.00
10-90	634.49	N.A.	92.60
20-40	286.71	N.A.	41.80
20-50	375.04	N.A.	54.70
40-70	191.64	N.A.	28.00
60-80	49.52	N.A.	7.20
70-80	13.52	N.A.	2.00
80-90	2.80	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	685.18	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	50.69
10-20	139.82
20-30	178.15
30-40	108.56
40-50	88.33
50-60	67.32
60-70	36.00
70-80	13.52
80-90	2.80
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

IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4DR-TL-L15-835-EM-10W-DIM-UNV-RW-OF-CS_EM MODE.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	112	108	105	102	109	106	103	101	102	100	97	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	97	89	83	78	95	88	82	77	85	80	76	83	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	79	69	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	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

IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4DR-TL-L15-835-EM-10W-DIM-UNV-RW-OF-CS_EM MODE.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	18.3	19.6	18.7	19.9	20.2	18.3	19.6	18.7	19.9	20.2
	3H	19.1	20.2	19.4	20.6	20.9	19.1	20.2	19.4	20.6	20.9
	4H	19.2	20.3	19.6	20.7	21.0	19.2	20.3	19.6	20.7	21.0
	6H	19.3	20.3	19.8	20.7	21.1	19.3	20.3	19.8	20.7	21.1
	8H	19.4	20.3	19.8	20.7	21.1	19.4	20.3	19.8	20.7	21.1
	12H	19.3	20.2	19.8	20.6	21.1	19.3	20.2	19.8	20.6	21.1

UGR Viewed Endwise

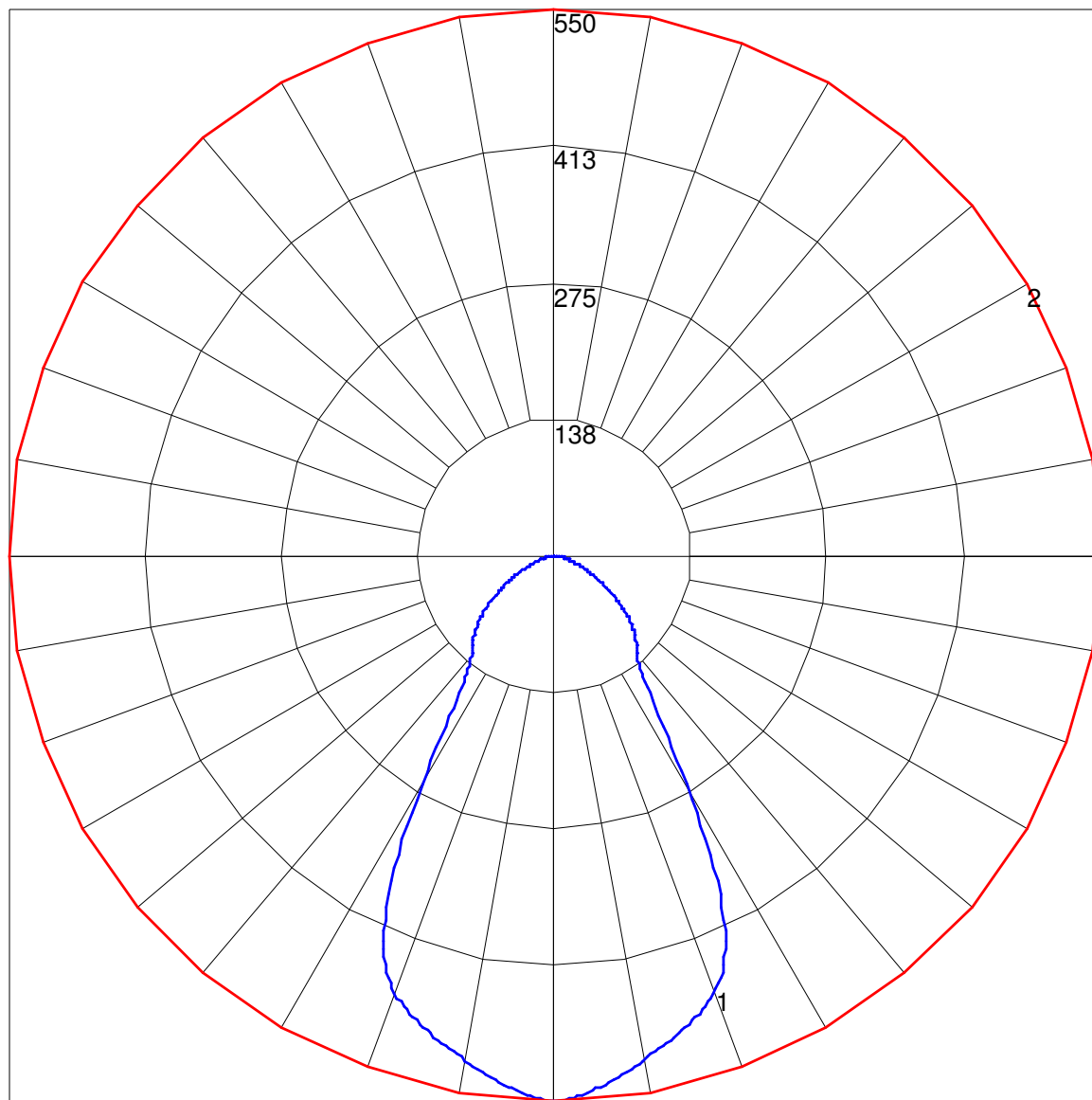
4H	2H	18.6	19.6	19.0	20.0	20.4	18.6	19.6	19.0	20.0	20.4
	3H	19.5	20.4	19.9	20.8	21.2	19.5	20.4	19.9	20.8	21.2
	4H	19.7	20.5	20.1	20.9	21.4	19.7	20.5	20.1	20.9	21.4
	6H	19.9	20.6	20.3	21.0	21.5	19.9	20.6	20.3	21.0	21.5
	8H	19.9	20.5	20.4	21.0	21.5	19.9	20.5	20.4	21.0	21.5
	12H	19.9	20.5	20.4	21.0	21.4	19.9	20.5	20.4	21.0	21.4
8H	4H	19.8	20.4	20.2	20.8	21.3	19.8	20.4	20.2	20.8	21.3
	6H	20.0	20.5	20.5	21.0	21.5	20.0	20.5	20.5	21.0	21.5
	8H	20.0	20.5	20.6	21.0	21.5	20.0	20.5	20.6	21.0	21.5
	12H	20.1	20.5	20.6	21.0	21.5	20.1	20.5	20.6	21.0	21.5
12H	4H	19.7	20.3	20.2	20.8	21.2	19.7	20.3	20.2	20.8	21.2
	6H	20.0	20.4	20.5	20.9	21.4	20.0	20.4	20.5	20.9	21.4
	8H	20.0	20.4	20.6	20.9	21.5	20.0	20.4	20.6	20.9	21.5

Maximum UGR = 21.5

IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4DR-TL-L15-835-EM-10W-DIM-UNV-RW-OF-CS_EM MODE.IES

POLAR GRAPH



Maximum Candela = 550.382 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.)