



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4DR-TL-L10-835-(L5)-DIM-UNV-LW-OF-CS-AD_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST] GEN FROM 12316380.07
 [TESTLAB] UL Verification Services Inc.
 [ISSUEDATE] 11-07-2023
 [MANUFAC] WILLIAMS INDOOR
 [OTHER] H.E. WILLIAMS, INC. - CARTHAGE, MO.
 [LUMCAT] 4DR-TL-L10-835-(L5)-DIM1-UNV-LW-OF-CS-AD
 [LUMINAIRE] Black formed aluminum housing, clear semi specular reflector, clear patt
 [MORE] erved glass 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	286
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	63
Total Luminaire Watts	4.5
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.00
Spacing Criterion (90-270)	1.00
Spacing Criterion (Diagonal)	0.90
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	7880	7880	7880
55	6475	6475	6475
65	4737	4737	4737
75	3279	3279	3279
85	1788	1788	1788

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CANDELA TABULATION

	<u>0</u>
0.0	200.575
0.5	200.511
1.0	200.385
1.5	200.216
2.0	200.047
2.5	199.857
3.0	199.603
3.5	199.455
4.0	199.350
4.5	199.286
5.0	199.202
5.5	199.117
6.0	199.054
6.5	198.969
7.0	198.906
7.5	198.864
8.0	198.843
8.5	198.779
9.0	198.716
9.5	198.589
10.0	198.505
10.5	198.357
11.0	198.209
11.5	198.019
12.0	197.808
12.5	197.554
13.0	197.258
13.5	196.920
14.0	196.498
14.5	195.991
15.0	195.378
15.5	194.639
16.0	193.815
16.5	192.843
17.0	191.787
17.5	190.604
18.0	189.210
18.5	187.774
19.0	186.210
19.5	184.457
20.0	182.535
20.5	180.443
21.0	178.183
21.5	175.754
22.0	173.071
22.5	170.219
23.0	167.156
23.5	163.861
24.0	160.312
24.5	156.531
25.0	152.433
25.5	148.144
26.0	143.560
26.5	138.702

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27.0	133.674
27.5	128.436
28.0	123.112
28.5	117.768
29.0	112.529
29.5	107.396
30.0	102.453
30.5	97.805
31.0	93.454
31.5	89.482
32.0	85.870
32.5	82.617
33.0	79.723
33.5	77.146
34.0	74.843
34.5	72.815
35.0	70.978
35.5	69.309
36.0	67.830
36.5	66.436
37.0	65.168
37.5	63.985
38.0	62.887
38.5	61.831
39.0	60.859
39.5	59.908
40.0	59.021
40.5	58.134
41.0	57.289
41.5	56.465
42.0	55.684
42.5	54.902
43.0	54.120
43.5	53.339
44.0	52.557
44.5	51.776
45.0	50.994
45.5	50.212
46.0	49.431
46.5	48.649
47.0	47.825
47.5	47.001
48.0	46.178
48.5	45.333
49.0	44.467
49.5	43.600
50.0	42.756
50.5	41.889
51.0	41.023
51.5	40.157
52.0	39.312
52.5	38.467
53.0	37.601
53.5	36.714
54.0	35.806
54.5	34.897

IES INDOOR REPORT**PHOTOMETRIC FILENAME : 4DR-TL-L10-835-(L5)-DIM-UNV-LW-OF-CS-AD_.IES****CANDELA TABULATION - (Cont.)**

55.0	33.989
55.5	33.081
56.0	32.193
56.5	31.327
57.0	30.461
57.5	29.595
58.0	28.750
58.5	27.926
59.0	27.102
59.5	26.300
60.0	25.518
60.5	24.737
61.0	23.976
61.5	23.237
62.0	22.497
62.5	21.758
63.0	21.052
63.5	20.351
64.0	19.662
64.5	18.984
65.0	18.321
65.5	17.675
66.0	17.037
66.5	16.416
67.0	15.809
67.5	15.214
68.0	14.637
68.5	14.073
69.0	13.509
69.5	12.964
70.0	12.434
70.5	11.912
71.0	11.403
71.5	10.906
72.0	10.427
72.5	9.954
73.0	9.493
73.5	9.045
74.0	8.606
74.5	8.181
75.0	7.767
75.5	7.366
76.0	6.973
76.5	6.591
77.0	6.225
77.5	5.862
78.0	5.511
78.5	5.171
79.0	4.837
79.5	4.516
80.0	4.202
80.5	3.895
81.0	3.593
81.5	3.300
82.0	3.012
82.5	2.733

IES INDOOR REPORT**PHOTOMETRIC FILENAME : 4DR-TL-L10-835-(L5)-DIM-UNV-LW-OF-CS-AD_.IES****CANDELA TABULATION - (Cont.)**

83.0	2.457
83.5	2.188
84.0	1.927
84.5	1.671
85.0	1.426
85.5	1.189
86.0	0.963
86.5	0.750
87.0	0.562
87.5	0.406
88.0	0.283
88.5	0.180
89.0	0.112
89.5	0.076
90.0	0.053
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-L10-835-(L5)-DIM-UNV-LW-OF-CS-AD_.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
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121.0	0.000
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124.0	0.000
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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-L10-835-(L5)-DIM-UNV-LW-OF-CS-AD_.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

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Zone	Lumens	%Lamp	%Fixt
0-20	73.68	N.A.	25.80
0-30	141.32	N.A.	49.50
0-40	187.39	N.A.	65.60
0-60	257.04	N.A.	90.00
0-80	283.74	N.A.	99.40
0-90	285.53	N.A.	100.00
10-90	266.53	N.A.	93.30
20-40	113.72	N.A.	39.80
20-50	152.99	N.A.	53.60
40-70	87.97	N.A.	30.80
60-80	26.70	N.A.	9.40
70-80	8.38	N.A.	2.90
80-90	1.79	N.A.	0.60
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	285.53	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	19.00
10-20	54.68
20-30	67.64
30-40	46.08
40-50	39.27
50-60	30.38
60-70	18.32
70-80	8.38
80-90	1.79
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	111	107	104	101	108	105	102	99	101	99	96	97	95	93	94	92	91	89
2	103	97	91	87	101	95	90	86	92	87	84	88	85	82	85	83	80	78
3	96	88	81	76	94	86	80	75	83	78	74	81	76	73	78	75	71	70
4	90	80	73	67	87	78	72	67	76	70	66	74	69	65	72	68	64	62
5	84	73	66	60	82	72	65	60	70	64	59	68	63	59	66	62	58	56
6	78	67	60	54	77	66	59	54	65	58	54	63	58	53	62	57	53	51
7	74	62	55	50	72	61	54	49	60	54	49	59	53	49	57	52	48	47
8	69	58	50	45	68	57	50	45	56	50	45	55	49	45	54	49	45	43
9	65	54	47	42	64	53	47	42	52	46	42	51	46	42	50	45	41	40
10	62	50	44	39	61	50	43	39	49	43	39	48	43	39	47	42	38	37

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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	16.3	17.7	16.7	18.0	18.3	UGR Viewed Endwise	16.3	17.7	16.7	18.0	18.3
	3H	17.4	18.7	17.8	19.0	19.4		17.4	18.7	17.8	19.0	19.4
	4H	17.8	18.9	18.2	19.3	19.7		17.8	18.9	18.2	19.3	19.7
	6H	18.0	19.1	18.4	19.4	19.8		18.0	19.1	18.4	19.4	19.8
	8H	18.0	19.0	18.5	19.4	19.8		18.0	19.0	18.5	19.4	19.8
	12H	18.1	19.0	18.5	19.4	19.8		18.1	19.0	18.5	19.4	19.8

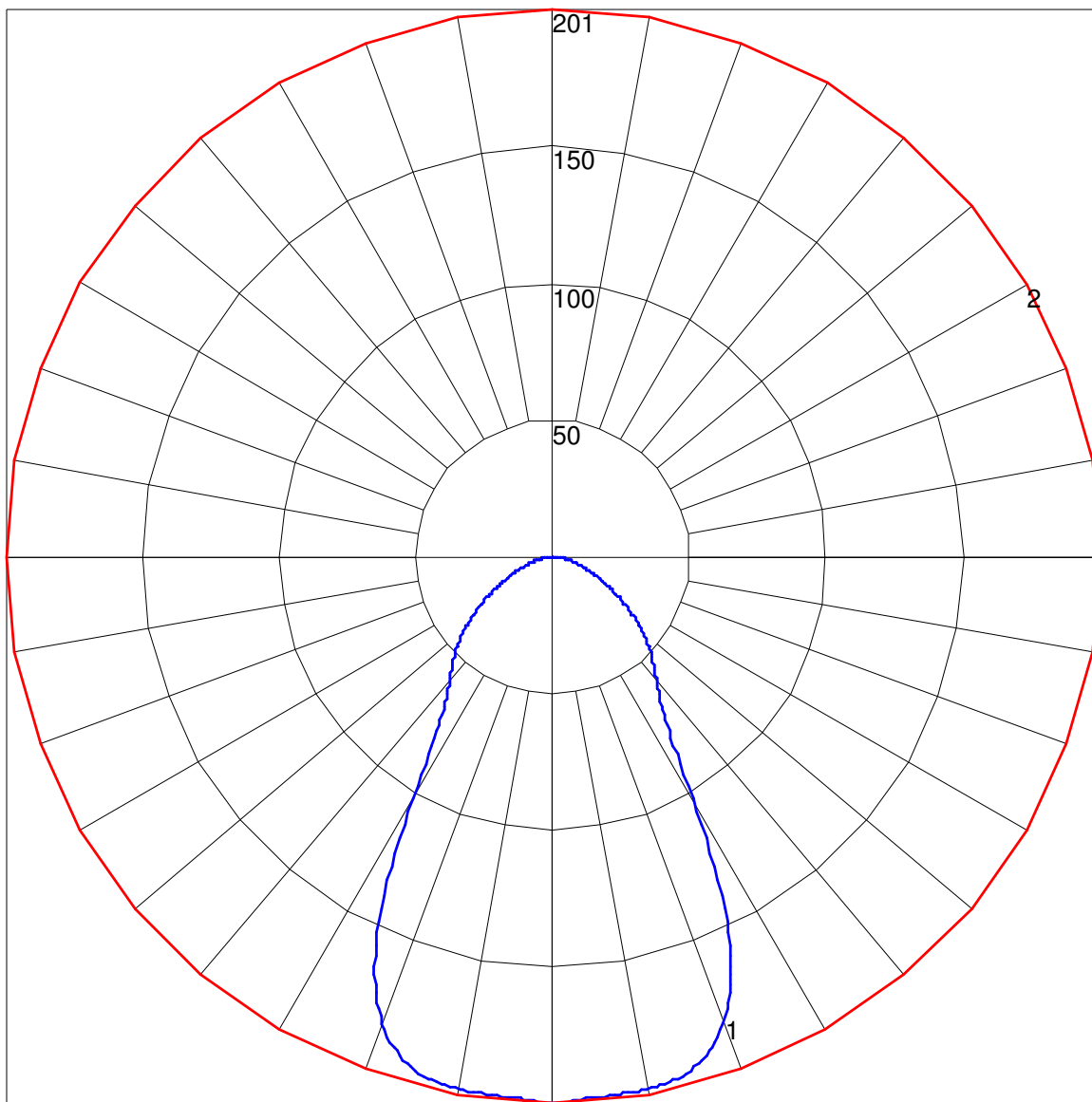
4H	2H	16.7	17.8	17.1	18.2	18.6	16.7	17.8	17.1	18.2	18.6
	3H	18.0	19.0	18.4	19.4	19.8	18.0	19.0	18.4	19.4	19.8
	4H	18.5	19.3	18.9	19.7	20.2	18.5	19.3	18.9	19.7	20.2
	6H	18.8	19.5	19.2	19.9	20.4	18.8	19.5	19.2	19.9	20.4
	8H	18.8	19.5	19.3	20.0	20.4	18.8	19.5	19.3	20.0	20.4
	12H	18.9	19.5	19.3	19.9	20.4	18.9	19.5	19.3	19.9	20.4

8H	4H	18.6	19.3	19.1	19.7	20.2	18.6	19.3	19.1	19.7	20.2
	6H	19.0	19.5	19.5	20.0	20.5	19.0	19.5	19.5	20.0	20.5
	8H	19.1	19.6	19.6	20.1	20.6	19.1	19.6	19.6	20.1	20.6
	12H	19.2	19.6	19.7	20.1	20.6	19.2	19.6	19.7	20.1	20.6

12H	4H	18.6	19.2	19.1	19.7	20.1	18.6	19.2	19.1	19.7	20.1
	6H	19.0	19.5	19.5	19.9	20.5	19.0	19.5	19.5	19.9	20.5
	8H	19.1	19.5	19.6	20.0	20.6	19.1	19.5	19.6	20.0	20.6

Maximum UGR = 20.6

POLAR GRAPH



Maximum Candela = 200.575 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.)