

IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4DR-TL-L10-835-DIM-UNV-RW-OF-WH-IP_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST]GEN FROM 12316380.12

[TESTLAB] UL Verification Services Inc.

[ISSUE DATE] 10/02/2019

[MANUFAC] WILLIAMS INDOOR

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

[LUMCAT] 4DR-TL-L10-835-DIM-UNV-RW-OF-WH-IP

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

[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	660
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	73
Total Luminaire Watts	9
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	15270	15270	15270
55	12330	12330	12330
65	7976	7976	7976
75	4448	4448	4448
85	2285	2285	2285

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CANDELA TABULATION

	<u>0</u>
0.0	530.295
0.5	530.295
1.0	529.796
1.5	528.798
2.0	527.800
2.5	526.803
3.0	525.306
3.5	523.810
4.0	522.313
4.5	520.317
5.0	518.821
5.5	516.825
6.0	514.830
6.5	512.834
7.0	510.839
7.5	508.844
8.0	506.848
8.5	504.354
9.0	502.358
9.5	500.363
10.0	498.467
10.5	496.422
11.0	494.327
11.5	492.281
12.0	490.336
12.5	488.390
13.0	486.444
13.5	484.449
14.0	482.454
14.5	480.458
15.0	478.413
15.5	476.317
16.0	474.122
16.5	471.927
17.0	469.683
17.5	467.288
18.0	464.744
18.5	462.000
19.0	459.356
19.5	456.512
20.0	453.419
20.5	449.878
21.0	445.787
21.5	441.347
22.0	436.258
22.5	430.621
23.0	424.236
23.5	417.052
24.0	409.170
24.5	400.240
25.0	390.263
25.5	379.238
26.0	367.315
26.5	354.644

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CANDELA TABULATION - (Cont.)

27.0	341.324
27.5	327.805
28.0	313.637
28.5	299.619
29.0	285.651
29.5	271.683
30.0	257.964
30.5	244.494
31.0	231.773
31.5	219.451
32.0	207.828
32.5	197.002
33.0	186.975
33.5	177.946
34.0	169.814
34.5	162.730
35.0	156.494
35.5	151.206
36.0	146.567
36.5	142.676
37.0	139.234
37.5	136.290
38.0	133.596
38.5	131.202
39.0	129.057
39.5	127.111
40.0	125.365
40.5	123.719
41.0	122.122
41.5	120.676
42.0	119.229
42.5	117.882
43.0	116.535
43.5	115.138
44.0	113.741
44.5	112.345
45.0	110.898
45.5	109.401
46.0	107.855
46.5	106.259
47.0	104.612
47.5	102.916
48.0	101.220
48.5	99.424
49.0	97.578
49.5	95.633
50.0	93.687
50.5	91.692
51.0	89.596
51.5	87.551
52.0	85.456
52.5	83.361
53.0	81.365
53.5	79.170
54.0	76.975
54.5	74.780

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CANDELA TABULATION - (Cont.)

55.0	72.635
55.5	70.440
56.0	68.295
56.5	66.200
57.0	64.104
57.5	62.009
58.0	59.964
58.5	57.968
59.0	55.973
59.5	54.027
60.0	52.082
60.5	50.186
61.0	48.340
61.5	46.494
62.0	44.748
62.5	42.952
63.0	41.256
63.5	39.510
64.0	37.864
64.5	36.218
65.0	34.621
65.5	33.025
66.0	31.478
66.5	29.982
67.0	28.535
67.5	27.088
68.0	25.692
68.5	24.295
69.0	22.948
69.5	21.651
70.0	20.454
70.5	19.306
71.0	18.259
71.5	17.261
72.0	16.313
72.5	15.415
73.0	14.567
73.5	13.819
74.0	13.070
74.5	12.422
75.0	11.823
75.5	11.274
76.0	10.676
76.5	10.127
77.0	9.578
77.5	9.029
78.0	8.531
78.5	7.982
79.0	7.483
79.5	6.984
80.0	6.485
80.5	5.986
81.0	5.537
81.5	5.088
82.0	4.590
82.5	4.190

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CANDELA TABULATION - (Cont.)

83.0	3.741
83.5	3.293
84.0	2.893
84.5	2.444
85.0	2.045
85.5	1.696
86.0	1.347
86.5	1.098
87.0	0.848
87.5	0.649
88.0	0.449
88.5	0.299
89.0	0.150
89.5	0.050
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

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PHOTOMETRIC FILENAME : 4DR-TL-L10-835-DIM-UNV-RW-OF-WH-IP_.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
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133.5	0.000
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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-DIM-UNV-RW-OF-WH-IP_.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
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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
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156.0	0.000
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157.0	0.000
157.5	0.000
158.0	0.000
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159.0	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-L10-835-DIM-UNV-RW-OF-WH-IP_.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	183.55	N.A.	27.80
0-30	355.20	N.A.	53.80
0-40	459.80	N.A.	69.60
0-60	609.76	N.A.	92.40
0-80	657.48	N.A.	99.60
0-90	660.17	N.A.	100.00
10-90	611.33	N.A.	92.60
20-40	276.24	N.A.	41.80
20-50	361.35	N.A.	54.70
40-70	184.65	N.A.	28.00
60-80	47.71	N.A.	7.20
70-80	13.03	N.A.	2.00
80-90	2.70	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	660.17	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	48.84
10-20	134.71
20-30	171.65
30-40	104.60
40-50	85.10
50-60	64.86
60-70	34.68
70-80	13.03
80-90	2.70
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	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

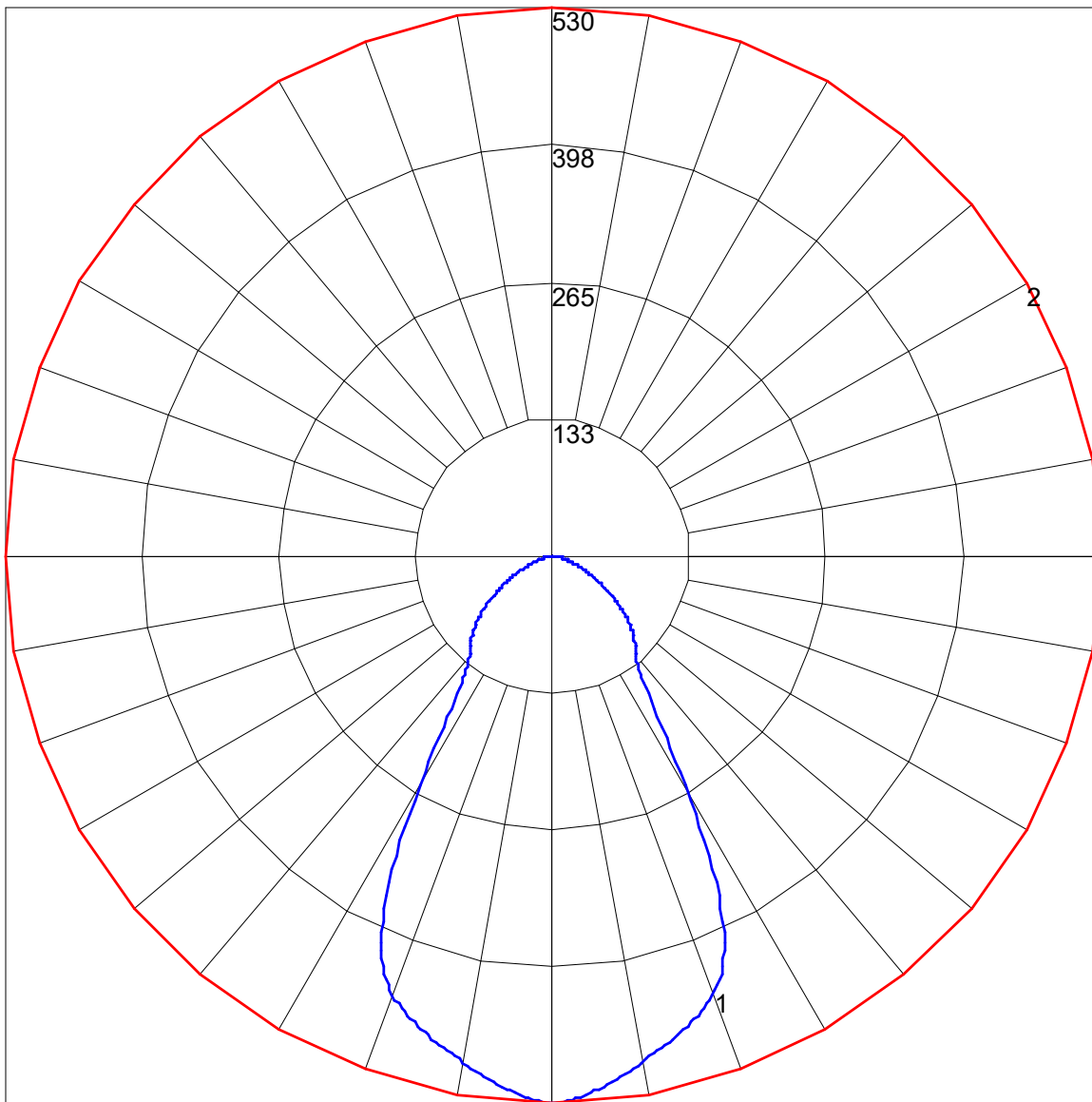
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UGR TABLE - CORRECTED

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					UGR Viewed Endwise				
X=2H	Y=2H	18.2	19.5	18.6	19.8	20.1	18.2	19.5	18.6	19.8	20.1
	3H	19.0	20.1	19.3	20.4	20.8	19.0	20.1	19.3	20.4	20.8
	4H	19.1	20.2	19.5	20.6	20.9	19.1	20.2	19.5	20.6	20.9
	6H	19.2	20.2	19.7	20.6	21.0	19.2	20.2	19.7	20.6	21.0
	8H	19.3	20.2	19.7	20.6	21.0	19.3	20.2	19.7	20.6	21.0
	12H	19.2	20.1	19.7	20.5	20.9	19.2	20.1	19.7	20.5	20.9
4H	2H	18.5	19.5	18.9	19.9	20.3	18.5	19.5	18.9	19.9	20.3
	3H	19.4	20.2	19.8	20.7	21.1	19.4	20.2	19.8	20.7	21.1
	4H	19.6	20.4	20.0	20.8	21.3	19.6	20.4	20.0	20.8	21.3
	6H	19.8	20.5	20.2	20.9	21.4	19.8	20.5	20.2	20.9	21.4
	8H	19.8	20.4	20.3	20.9	21.4	19.8	20.4	20.3	20.9	21.4
	12H	19.8	20.4	20.3	20.9	21.3	19.8	20.4	20.3	20.9	21.3
8H	4H	19.7	20.3	20.1	20.7	21.2	19.7	20.3	20.1	20.7	21.2
	6H	19.9	20.4	20.4	20.9	21.4	19.9	20.4	20.4	20.9	21.4
	8H	19.9	20.4	20.5	20.9	21.4	19.9	20.4	20.5	20.9	21.4
	12H	20.0	20.4	20.5	20.9	21.4	20.0	20.4	20.5	20.9	21.4
12H	4H	19.6	20.2	20.1	20.7	21.1	19.6	20.2	20.1	20.7	21.1
	6H	19.9	20.3	20.4	20.8	21.3	19.9	20.3	20.4	20.8	21.3
	8H	19.9	20.3	20.5	20.8	21.4	19.9	20.3	20.5	20.8	21.4

Maximum UGR = 21.4

POLAR GRAPH



Maximum Candela = 530.295 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.)