



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4DR-TL-L10-840-EM7W-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.
 [ISSUE DATE] 03-28-2024
 [MANUFAC] WILLIAMS INDOOR
 [OTHER] H.E. WILLIAMS, INC. - CARTHAGE, MO.
 [LUMCAT] 4DR-TL-L10-840-EM7W-DIM-UNV-RW-OF-CS
 [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	518
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	74
Total Luminaire Watts	7
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	11985	11985	11985
55	9677	9677	9677
65	6260	6260	6260
75	3491	3491	3491
85	1793	1793	1793

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CANDELA TABULATION

	<u>0</u>
0.0	416.201
0.5	416.201
1.0	415.810
1.5	415.026
2.0	414.243
2.5	413.460
3.0	412.286
3.5	411.111
4.0	409.937
4.5	408.370
5.0	407.196
5.5	405.630
6.0	404.063
6.5	402.497
7.0	400.931
7.5	399.365
8.0	397.799
8.5	395.841
9.0	394.275
9.5	392.709
10.0	391.221
10.5	389.616
11.0	387.971
11.5	386.366
12.0	384.839
12.5	383.312
13.0	381.785
13.5	380.219
14.0	378.653
14.5	377.087
15.0	375.481
15.5	373.837
16.0	372.114
16.5	370.392
17.0	368.630
17.5	366.750
18.0	364.753
18.5	362.600
19.0	360.525
19.5	358.293
20.0	355.866
20.5	353.086
21.0	349.875
21.5	346.390
22.0	342.397
22.5	337.972
23.0	332.961
23.5	327.323
24.0	321.137
24.5	314.128
25.0	306.297
25.5	297.644
26.0	288.287
26.5	278.342

IES INDOOR REPORT**PHOTOMETRIC FILENAME : 4DR-TL-L10-840-EM7W-DIM-UNV-RW-OF-CS_EM MODE.IES****CANDELA TABULATION - (Cont.)**

27.0	267.888
27.5	257.277
28.0	246.158
28.5	235.156
29.0	224.193
29.5	213.230
30.0	202.462
30.5	191.891
31.0	181.907
31.5	172.236
32.0	163.113
32.5	154.617
33.0	146.747
33.5	139.660
34.0	133.278
34.5	127.719
35.0	122.824
35.5	118.674
36.0	115.033
36.5	111.979
37.0	109.277
37.5	106.967
38.0	104.853
38.5	102.974
39.0	101.290
39.5	99.763
40.0	98.393
40.5	97.101
41.0	95.848
41.5	94.712
42.0	93.577
42.5	92.520
43.0	91.462
43.5	90.366
44.0	89.270
44.5	88.174
45.0	87.038
45.5	85.863
46.0	84.650
46.5	83.397
47.0	82.105
47.5	80.774
48.0	79.442
48.5	78.033
49.0	76.584
49.5	75.057
50.0	73.530
50.5	71.964
51.0	70.320
51.5	68.714
52.0	67.070
52.5	65.425
53.0	63.859
53.5	62.137
54.0	60.414
54.5	58.691

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55.0	57.007
55.5	55.285
56.0	53.601
56.5	51.957
57.0	50.312
57.5	48.668
58.0	47.062
58.5	45.496
59.0	43.930
59.5	42.403
60.0	40.876
60.5	39.388
61.0	37.940
61.5	36.491
62.0	35.121
62.5	33.711
63.0	32.380
63.5	31.010
64.0	29.717
64.5	28.425
65.0	27.172
65.5	25.920
66.0	24.706
66.5	23.531
67.0	22.396
67.5	21.260
68.0	20.164
68.5	19.068
69.0	18.011
69.5	16.993
70.0	16.053
70.5	15.152
71.0	14.330
71.5	13.547
72.0	12.803
72.5	12.098
73.0	11.433
73.5	10.846
74.0	10.258
74.5	9.749
75.0	9.279
75.5	8.849
76.0	8.379
76.5	7.948
77.0	7.517
77.5	7.087
78.0	6.695
78.5	6.265
79.0	5.873
79.5	5.481
80.0	5.090
80.5	4.698
81.0	4.346
81.5	3.994
82.0	3.602
82.5	3.289

IES INDOOR REPORT**PHOTOMETRIC FILENAME : 4DR-TL-L10-840-EM7W-DIM-UNV-RW-OF-CS_EM MODE.IES****CANDELA TABULATION - (Cont.)**

83.0	2.937
83.5	2.584
84.0	2.271
84.5	1.919
85.0	1.605
85.5	1.331
86.0	1.057
86.5	0.861
87.0	0.666
87.5	0.509
88.0	0.352
88.5	0.235
89.0	0.117
89.5	0.039
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-L10-840-EM7W-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-L10-840-EM7W-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

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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-L10-840-EM7W-DIM-UNV-RW-OF-CS_EM MODE.IES****ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	144.06	N.A.	27.80
0-30	278.78	N.A.	53.80
0-40	360.87	N.A.	69.60
0-60	478.57	N.A.	92.40
0-80	516.02	N.A.	99.60
0-90	518.14	N.A.	100.00
10-90	479.80	N.A.	92.60
20-40	216.81	N.A.	41.80
20-50	283.60	N.A.	54.70
40-70	144.92	N.A.	28.00
60-80	37.45	N.A.	7.20
70-80	10.23	N.A.	2.00
80-90	2.12	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	518.14	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	38.33
10-20	105.73
20-30	134.72
30-40	82.09
40-50	66.79
50-60	50.90
60-70	27.22
70-80	10.23
80-90	2.12
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

X=2H	Y=2H	17.3	18.6	17.7	18.9	19.2	17.3	18.6	17.7	18.9	19.2
	3H	18.1	19.2	18.4	19.6	19.9	18.1	19.2	18.4	19.6	19.9
	4H	18.2	19.3	18.6	19.7	20.0	18.2	19.3	18.6	19.7	20.0
	6H	18.3	19.3	18.8	19.7	20.1	18.3	19.3	18.8	19.7	20.1
	8H	18.4	19.3	18.8	19.7	20.1	18.4	19.3	18.8	19.7	20.1
	12H	18.3	19.2	18.8	19.6	20.1	18.3	19.2	18.8	19.6	20.1

UGR Viewed Endwise

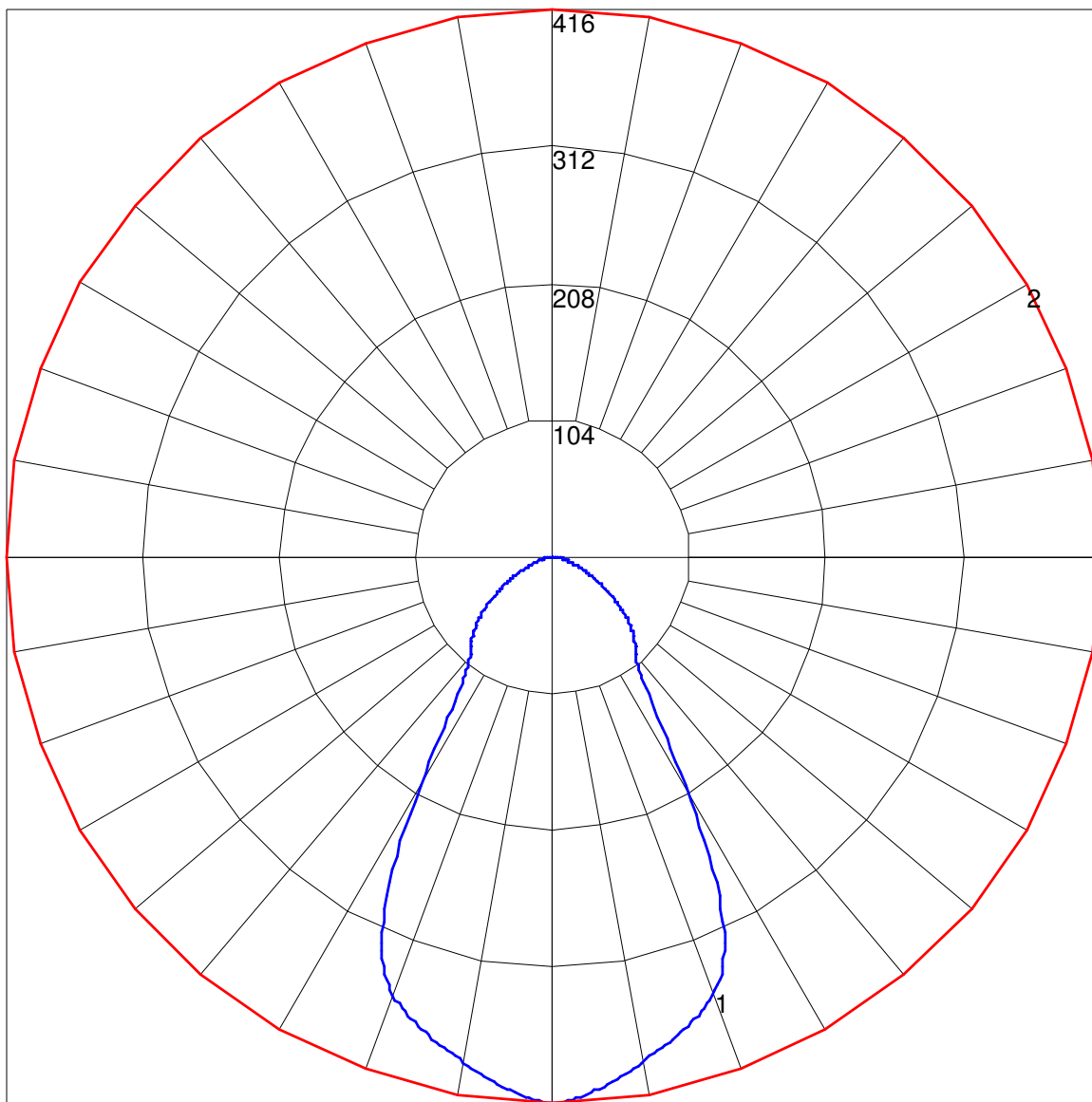
4H	2H	17.6	18.6	18.0	19.0	19.4	17.6	18.6	18.0	19.0	19.4
	3H	18.5	19.4	18.9	19.8	20.2	18.5	19.4	18.9	19.8	20.2
	4H	18.7	19.5	19.1	19.9	20.4	18.7	19.5	19.1	19.9	20.4
	6H	18.9	19.6	19.3	20.0	20.5	18.9	19.6	19.3	20.0	20.5
	8H	18.9	19.5	19.4	20.0	20.5	18.9	19.5	19.4	20.0	20.5
	12H	18.9	19.5	19.4	20.0	20.4	18.9	19.5	19.4	20.0	20.4
8H	4H	18.8	19.4	19.2	19.8	20.3	18.8	19.4	19.2	19.8	20.3
	6H	19.0	19.5	19.5	20.0	20.5	19.0	19.5	19.5	20.0	20.5
	8H	19.0	19.5	19.6	20.0	20.5	19.0	19.5	19.6	20.0	20.5
	12H	19.1	19.5	19.6	20.0	20.5	19.1	19.5	19.6	20.0	20.5
12H	4H	18.7	19.3	19.2	19.8	20.2	18.7	19.3	19.2	19.8	20.2
	6H	19.0	19.4	19.5	19.9	20.4	19.0	19.4	19.5	19.9	20.4
	8H	19.0	19.4	19.6	19.9	20.5	19.0	19.4	19.6	19.9	20.5

Maximum UGR = 20.5

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POLAR GRAPH



Maximum Candela = 416.201 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.)