



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4DR-TL-L10-940-DIM-UNV-LW-OF-CS-PD\_.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002  
 [TEST] GEN FROM 12316380.07  
 [TESTLAB] UL Verification Services Inc.  
 [ISSUEDATE] 02-14-2022  
 [MANUFAC] WILLIAMS INDOOR  
 [OTHER] H.E. WILLIAMS, INC. - CARTHAGE, MO.  
 [LUMCAT] 4DR-TL-L10-940-DIM-UNV-LW-OF-CS-PD  
 [LUMINAIRE] Black formed aluminum housing, 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	481
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	53
Total Luminaire Watts	9
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	13277	13277	13277
55	10910	10910	10910
65	7981	7981	7981
75	5525	5525	5525
85	3012	3012	3012

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CANDELA TABULATION

	<u>0</u>
0.0	337.969
0.5	337.862
1.0	337.648
1.5	337.364
2.0	337.079
2.5	336.758
3.0	336.331
3.5	336.082
4.0	335.904
4.5	335.797
5.0	335.655
5.5	335.513
6.0	335.406
6.5	335.263
7.0	335.157
7.5	335.085
8.0	335.050
8.5	334.943
9.0	334.836
9.5	334.623
10.0	334.480
10.5	334.231
11.0	333.982
11.5	333.662
12.0	333.306
12.5	332.879
13.0	332.380
13.5	331.811
14.0	331.099
14.5	330.245
15.0	329.212
15.5	327.967
16.0	326.578
16.5	324.941
17.0	323.161
17.5	321.168
18.0	318.819
18.5	316.398
19.0	313.764
19.5	310.810
20.0	307.571
20.5	304.047
21.0	300.239
21.5	296.145
22.0	291.625
22.5	286.820
23.0	281.658
23.5	276.106
24.0	270.126
24.5	263.754
25.0	256.849
25.5	249.623
26.0	241.899
26.5	233.713

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**CANDELA TABULATION - (Cont.)**

<b>27.0</b>	225.241
<b>27.5</b>	216.414
<b>28.0</b>	207.444
<b>28.5</b>	198.439
<b>29.0</b>	189.611
<b>29.5</b>	180.962
<b>30.0</b>	172.633
<b>30.5</b>	164.802
<b>31.0</b>	157.470
<b>31.5</b>	150.778
<b>32.0</b>	144.691
<b>32.5</b>	139.210
<b>33.0</b>	134.333
<b>33.5</b>	129.991
<b>34.0</b>	126.111
<b>34.5</b>	122.694
<b>35.0</b>	119.597
<b>35.5</b>	116.785
<b>36.0</b>	114.294
<b>36.5</b>	111.944
<b>37.0</b>	109.809
<b>37.5</b>	107.815
<b>38.0</b>	105.964
<b>38.5</b>	104.185
<b>39.0</b>	102.547
<b>39.5</b>	100.946
<b>40.0</b>	99.451
<b>40.5</b>	97.956
<b>41.0</b>	96.532
<b>41.5</b>	95.144
<b>42.0</b>	93.827
<b>42.5</b>	92.510
<b>43.0</b>	91.193
<b>43.5</b>	89.876
<b>44.0</b>	88.559
<b>44.5</b>	87.242
<b>45.0</b>	85.925
<b>45.5</b>	84.608
<b>46.0</b>	83.291
<b>46.5</b>	81.974
<b>47.0</b>	80.586
<b>47.5</b>	79.197
<b>48.0</b>	77.809
<b>48.5</b>	76.386
<b>49.0</b>	74.926
<b>49.5</b>	73.467
<b>50.0</b>	72.043
<b>50.5</b>	70.584
<b>51.0</b>	69.124
<b>51.5</b>	67.665
<b>52.0</b>	66.241
<b>52.5</b>	64.817
<b>53.0</b>	63.358
<b>53.5</b>	61.863
<b>54.0</b>	60.332
<b>54.5</b>	58.802

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CANDELA TABULATION - (Cont.)

55.0	57.271
55.5	55.741
56.0	54.246
56.5	52.786
57.0	51.327
57.5	49.868
58.0	48.444
58.5	47.056
59.0	45.668
59.5	44.315
60.0	42.998
60.5	41.681
61.0	40.400
61.5	39.154
62.0	37.908
62.5	36.662
63.0	35.473
63.5	34.292
64.0	33.131
64.5	31.989
65.0	30.871
65.5	29.782
66.0	28.707
66.5	27.660
67.0	26.639
67.5	25.635
68.0	24.663
68.5	23.713
69.0	22.763
69.5	21.844
70.0	20.951
70.5	20.072
71.0	19.214
71.5	18.377
72.0	17.569
72.5	16.772
73.0	15.996
73.5	15.242
74.0	14.501
74.5	13.786
75.0	13.088
75.5	12.412
76.0	11.750
76.5	11.105
77.0	10.490
77.5	9.877
78.0	9.287
78.5	8.714
79.0	8.151
79.5	7.610
80.0	7.080
80.5	6.564
81.0	6.055
81.5	5.560
82.0	5.076
82.5	4.606

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CANDELA TABULATION - (Cont.)

83.0	4.140
83.5	3.688
84.0	3.246
84.5	2.816
85.0	2.403
85.5	2.004
86.0	1.623
86.5	1.264
87.0	0.947
87.5	0.683
88.0	0.477
88.5	0.303
89.0	0.189
89.5	0.128
90.0	0.089
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  
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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
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124.5	0.000
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125.5	0.000
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126.5	0.000
127.0	0.000
127.5	0.000
128.0	0.000
128.5	0.000
129.0	0.000
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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

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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
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148.5	0.000
149.0	0.000
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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
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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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**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	124.14	N.A.	25.80
0-30	238.12	N.A.	49.50
0-40	315.76	N.A.	65.60
0-60	433.11	N.A.	90.00
0-80	478.10	N.A.	99.40
0-90	481.11	N.A.	100.00
10-90	449.10	N.A.	93.30
20-40	191.61	N.A.	39.80
20-50	257.79	N.A.	53.60
40-70	148.23	N.A.	30.80
60-80	44.99	N.A.	9.40
70-80	14.12	N.A.	2.90
80-90	3.01	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	481.11	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	32.01
10-20	92.13
20-30	113.98
30-40	77.64
40-50	66.17
50-60	51.19
60-70	30.87
70-80	14.12
80-90	3.01
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	108	104	101	109	105	102	100	101	99	96	97	95	94	94	92	91	89
2	103	97	91	87	101	95	90	86	92	88	84	89	85	82	86	83	80	78
3	96	88	81	76	94	86	80	75	83	78	74	81	76	73	78	75	72	70
4	90	80	73	67	88	79	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	67	62	58	56
6	79	67	60	54	77	66	59	54	65	58	54	63	58	53	62	57	53	51
7	74	62	55	50	72	62	54	49	60	54	49	59	53	49	58	52	49	47
8	69	58	51	46	68	57	50	45	56	50	45	55	49	45	54	49	45	43
9	66	54	47	42	64	53	47	42	52	46	42	51	46	42	50	45	41	40
10	62	51	44	39	61	50	43	39	49	43	39	48	43	39	47	42	39	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	18.1	19.5	18.5	19.8	20.1	18.1	19.5	18.5	19.8	20.1
	3H	19.2	20.4	19.6	20.8	21.1	19.2	20.4	19.6	20.8	21.1
	4H	19.6	20.7	20.0	21.1	21.4	19.6	20.7	20.0	21.1	21.4
	6H	19.8	20.8	20.2	21.2	21.6	19.8	20.8	20.2	21.2	21.6
	8H	19.8	20.8	20.3	21.2	21.6	19.8	20.8	20.3	21.2	21.6
	12H	19.8	20.8	20.3	21.2	21.6	19.8	20.8	20.3	21.2	21.6

UGR Viewed Endwise

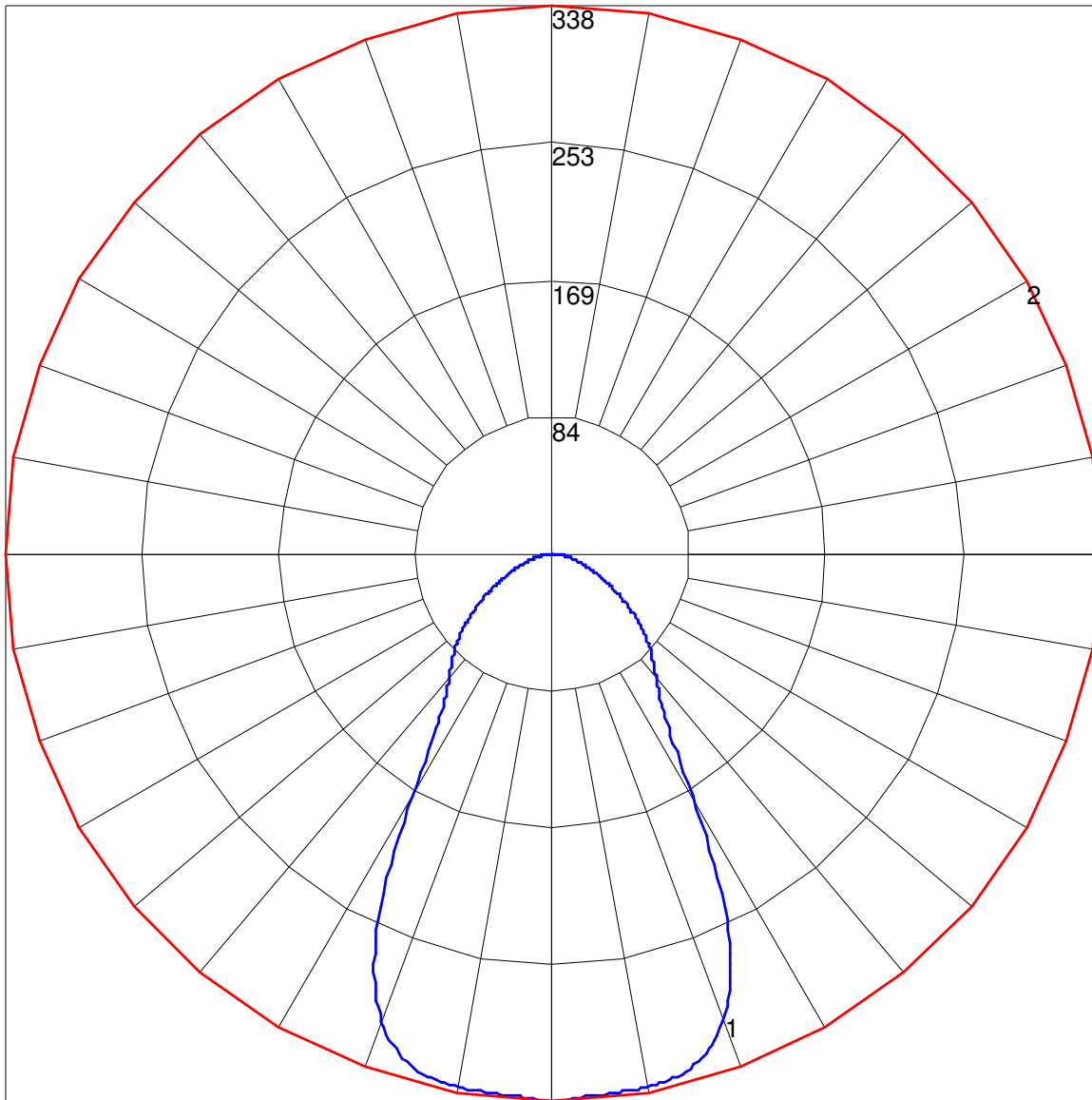
4H	2H	18.5	19.6	18.9	20.0	20.3	18.5	19.6	18.9	20.0	20.3
	3H	19.8	20.7	20.2	21.1	21.5	19.8	20.7	20.2	21.1	21.5
	4H	20.2	21.1	20.6	21.5	21.9	20.2	21.1	20.6	21.5	21.9
	6H	20.5	21.3	21.0	21.7	22.2	20.5	21.3	21.0	21.7	22.2
	8H	20.6	21.3	21.1	21.7	22.2	20.6	21.3	21.1	21.7	22.2
	12H	20.6	21.2	21.1	21.7	22.2	20.6	21.2	21.1	21.7	22.2

8H	4H	20.3	21.0	20.8	21.5	21.9	20.3	21.0	20.8	21.5	21.9
	6H	20.7	21.3	21.2	21.8	22.3	20.7	21.3	21.2	21.8	22.3
	8H	20.8	21.3	21.4	21.9	22.3	20.8	21.3	21.4	21.9	22.3
	12H	20.9	21.4	21.4	21.8	22.4	20.9	21.4	21.4	21.8	22.4

12H	4H	20.3	20.9	20.8	21.4	21.9	20.3	20.9	20.8	21.4	21.9
	6H	20.7	21.2	21.3	21.7	22.2	20.7	21.2	21.3	21.7	22.2
	8H	20.9	21.3	21.4	21.8	22.4	20.9	21.3	21.4	21.8	22.4

Maximum UGR = 22.4

POLAR GRAPH



Maximum Candela = 337.969 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.)