



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4DR-TL-L10-840-DIM-UNV-OM-OF-CS\_.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002  
 [TEST]GEN FROM 12316380.04  
 [TESTLAB] UL Verification Services Inc.  
 [ISSUEDATE] 10/02/2019  
 [MANUFAC] WILLIAMS INDOOR  
 [OTHER] H.E. WILLIAMS, INC. - CARTHAGE, MO.  
 [LUMCAT] 4DR-TL-L10-840-DIM-UNV-OM-OF-CS  
 [LUMINAIRE] Black formed aluminum housing, specular reflector, no lens  
 [MORE] 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	1009
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	112
Total Luminaire Watts	9
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	0.56
Spacing Criterion (90-270)	0.56
Spacing Criterion (Diagonal)	0.76
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	2505	2505	2505
55	727	727	727
65	256	256	256
75	114	114	114
85	56	56	56

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CANDELA TABULATION

	<u>0</u>
0.0	2041.668
0.5	2043.180
1.0	2049.227
1.5	2054.771
2.0	2067.371
2.5	2075.435
3.0	2076.947
3.5	2077.451
4.0	2065.859
4.5	2050.235
5.0	2020.500
5.5	1982.701
6.0	1940.365
6.5	1892.990
7.0	1841.583
7.5	1788.160
8.0	1733.225
8.5	1678.794
9.0	1625.371
9.5	1573.460
10.0	1524.069
10.5	1477.702
11.0	1434.358
11.5	1393.535
12.0	1354.728
12.5	1318.440
13.0	1284.169
13.5	1251.410
14.0	1220.162
14.5	1191.435
15.0	1165.227
15.5	1142.044
16.0	1122.892
16.5	1105.756
17.0	1089.629
17.5	1075.517
18.0	1062.917
18.5	1052.333
19.0	1044.773
19.5	1038.221
20.0	1032.678
20.5	1026.126
21.0	1019.574
21.5	1012.518
22.0	1004.958
22.5	995.382
23.0	983.790
23.5	969.679
24.0	952.039
24.5	928.855
25.0	902.144
25.5	873.920
26.0	846.201
26.5	815.457

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**CANDELA TABULATION - (Cont.)**

27.0	783.202
27.5	746.411
28.0	704.579
28.5	658.716
29.0	610.837
29.5	561.950
30.0	510.039
30.5	456.263
31.0	399.967
31.5	343.873
32.0	289.946
32.5	239.497
33.0	195.599
33.5	158.152
34.0	126.603
34.5	100.395
35.0	79.127
35.5	63.100
36.0	52.818
36.5	47.426
37.0	44.200
37.5	41.378
38.0	38.908
38.5	36.640
39.0	34.574
39.5	32.709
40.0	30.945
40.5	29.282
41.0	27.720
41.5	26.308
42.0	24.948
42.5	23.688
43.0	22.428
43.5	21.319
44.0	20.210
44.5	19.152
45.0	18.194
45.5	17.236
46.0	16.279
46.5	15.372
47.0	14.414
47.5	13.507
48.0	12.650
48.5	11.844
49.0	11.037
49.5	10.231
50.0	9.425
50.5	8.669
51.0	8.013
51.5	7.409
52.0	6.804
52.5	6.300
53.0	5.796
53.5	5.393
54.0	4.990
54.5	4.586

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CANDELA TABULATION - (Cont.)

55.0	4.284
55.5	3.982
56.0	3.679
56.5	3.427
57.0	3.175
57.5	2.974
58.0	2.772
58.5	2.570
59.0	2.419
59.5	2.268
60.0	2.117
60.5	1.966
61.0	1.865
61.5	1.714
62.0	1.613
62.5	1.512
63.0	1.411
63.5	1.361
64.0	1.260
64.5	1.159
65.0	1.109
65.5	1.058
66.0	0.958
66.5	0.907
67.0	0.857
67.5	0.806
68.0	0.756
68.5	0.706
69.0	0.655
69.5	0.605
70.0	0.554
70.5	0.554
71.0	0.504
71.5	0.454
72.0	0.403
72.5	0.403
73.0	0.353
73.5	0.353
74.0	0.302
74.5	0.302
75.0	0.302
75.5	0.252
76.0	0.252
76.5	0.202
77.0	0.202
77.5	0.202
78.0	0.151
78.5	0.151
79.0	0.151
79.5	0.151
80.0	0.101
80.5	0.101
81.0	0.101
81.5	0.101
82.0	0.101
82.5	0.101

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CANDELA TABULATION - (Cont.)

83.0	0.101
83.5	0.050
84.0	0.050
84.5	0.050
85.0	0.050
85.5	0.050
86.0	0.050
86.5	0.050
87.0	0.050
87.5	0.050
88.0	0.000
88.5	0.000
89.0	0.000
89.5	0.000
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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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
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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
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146.5	0.000
147.0	0.000
147.5	0.000
148.0	0.000
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149.5	0.000
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151.0	0.000
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156.0	0.000
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158.5	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	508.95	N.A.	50.40
0-30	898.93	N.A.	89.10
0-40	988.95	N.A.	98.00
0-60	1007.49	N.A.	99.80
0-80	1008.96	N.A.	100.00
0-90	1009.02	N.A.	100.00
10-90	834.20	N.A.	82.70
20-40	480.00	N.A.	47.60
20-50	494.32	N.A.	49.00
40-70	19.70	N.A.	2.00
60-80	1.48	N.A.	0.10
70-80	0.31	N.A.	0.00
80-90	0.06	N.A.	0.00
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	1009.02	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	174.82
10-20	334.13
20-30	389.98
30-40	90.02
40-50	14.33
50-60	4.21
60-70	1.16
70-80	0.31
80-90	0.06
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	114	112	109	108	112	110	108	106	106	104	103	102	101	100	98	98	97	95
2	109	105	102	99	107	103	100	97	100	98	95	97	95	93	95	93	91	90
3	105	99	95	91	103	98	94	91	95	92	89	93	90	88	91	88	87	85
4	100	94	89	85	99	93	88	85	91	87	84	89	86	83	87	84	82	81
5	96	89	84	80	95	88	83	80	86	82	79	85	81	78	83	80	78	76
6	92	85	79	76	91	84	79	75	82	78	75	81	77	74	80	77	74	73
7	89	80	75	72	87	80	75	71	79	74	71	78	74	71	76	73	70	69
8	85	77	72	68	84	76	71	68	75	71	68	74	70	67	73	70	67	66
9	82	73	68	65	81	73	68	65	72	67	64	71	67	64	70	67	64	63
10	79	70	65	62	78	70	65	62	69	64	61	68	64	61	67	64	61	60

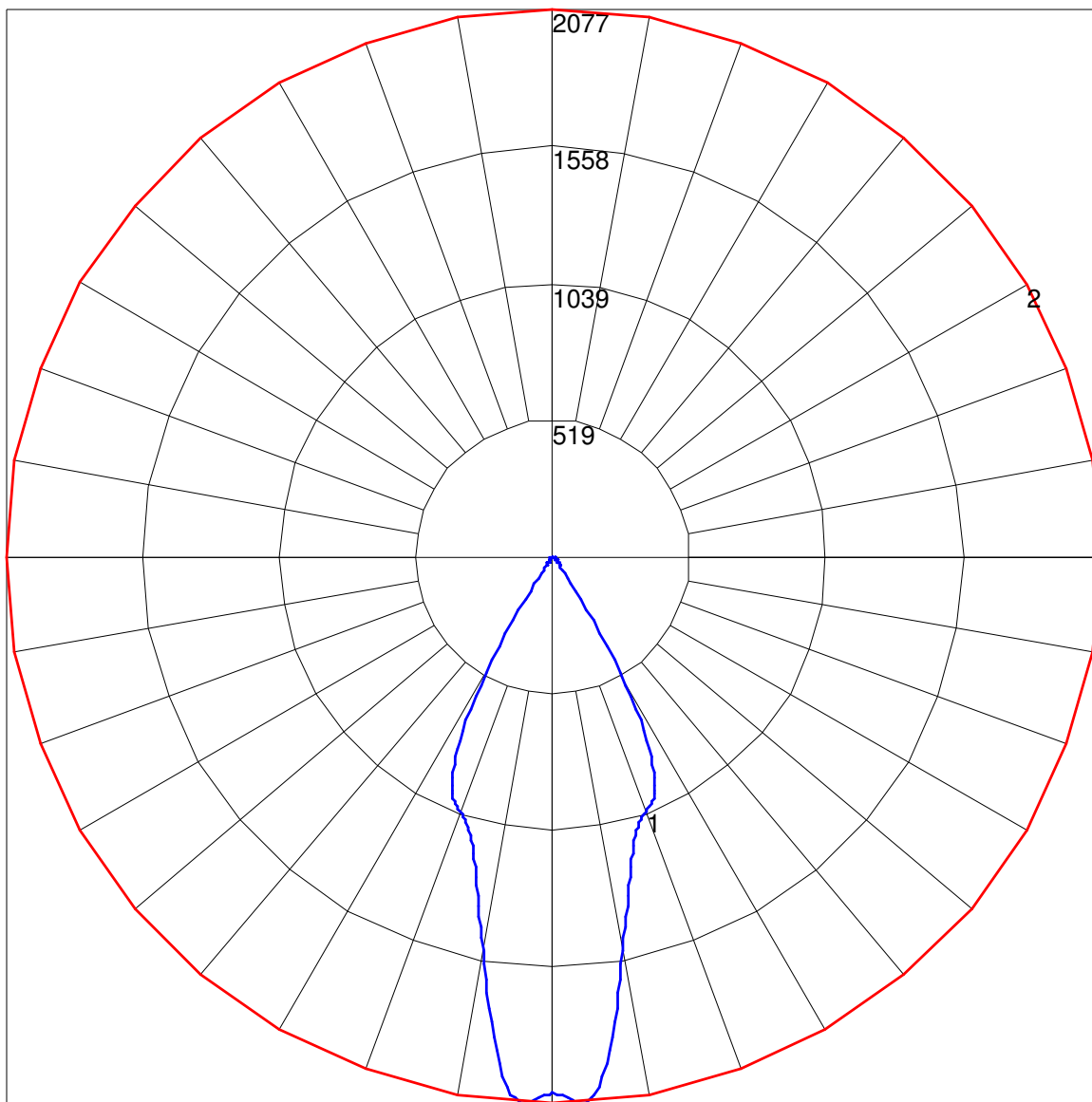
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**UGR TABLE - CORRECTED**

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	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	3H	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	4H	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	6H	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	8H	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	12H	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
4H	2H	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	3H	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	4H	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	6H	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	8H	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	12H	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
8H	4H	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	6H	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	8H	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	12H	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
12H	4H	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	6H	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	8H	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

Maximum UGR = 0.1

POLAR GRAPH



Maximum Candela = 2077.451 Located At Horizontal Angle = 0, Vertical Angle = 3.5  
# 1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)  
# 2 - Horizontal Cone Through Vertical Angle (3.5) (Through Max. Cd.)