



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4DR-TL-L10-835-DIM-UNV-OM-OF-SPC_.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-L10-835-DIM-UNV-OM-OF-SPC
 [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	1018
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	113
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	2528	2528	2528
55	734	734	734
65	258	258	258
75	115	115	115
85	57	57	57

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CANDELA TABULATION

	<u>0</u>
0.0	2059.899
0.5	2061.425
1.0	2067.527
1.5	2073.120
2.0	2085.832
2.5	2093.968
3.0	2095.494
3.5	2096.002
4.0	2084.307
4.5	2068.543
5.0	2038.542
5.5	2000.406
6.0	1957.692
6.5	1909.894
7.0	1858.028
7.5	1804.128
8.0	1748.702
8.5	1693.785
9.0	1639.885
9.5	1587.511
10.0	1537.678
10.5	1490.897
11.0	1447.167
11.5	1405.979
12.0	1366.825
12.5	1330.214
13.0	1295.636
13.5	1262.584
14.0	1231.058
14.5	1202.074
15.0	1175.632
15.5	1152.242
16.0	1132.919
16.5	1115.630
17.0	1099.359
17.5	1085.121
18.0	1072.409
18.5	1061.730
19.0	1054.103
19.5	1047.493
20.0	1041.899
20.5	1035.289
21.0	1028.678
21.5	1021.559
22.0	1013.932
22.5	1004.271
23.0	992.575
23.5	978.338
24.0	960.540
24.5	937.150
25.0	910.200
25.5	881.724
26.0	853.757
26.5	822.739

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CANDELA TABULATION - (Cont.)

27.0	790.196
27.5	753.076
28.0	710.871
28.5	664.598
29.0	616.292
29.5	566.968
30.0	514.593
30.5	460.337
31.0	403.539
31.5	346.944
32.0	292.535
32.5	241.635
33.0	197.346
33.5	159.565
34.0	127.733
34.5	101.292
35.0	79.833
35.5	63.663
36.0	53.290
36.5	47.849
37.0	44.595
37.5	41.747
38.0	39.256
38.5	36.967
39.0	34.883
39.5	33.001
40.0	31.221
40.5	29.543
41.0	27.967
41.5	26.543
42.0	25.170
42.5	23.899
43.0	22.628
43.5	21.509
44.0	20.391
44.5	19.323
45.0	18.357
45.5	17.390
46.0	16.424
46.5	15.509
47.0	14.543
47.5	13.628
48.0	12.763
48.5	11.950
49.0	11.136
49.5	10.322
50.0	9.509
50.5	8.746
51.0	8.085
51.5	7.475
52.0	6.865
52.5	6.356
53.0	5.848
53.5	5.441
54.0	5.034
54.5	4.627

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CANDELA TABULATION - (Cont.)

55.0	4.322
55.5	4.017
56.0	3.712
56.5	3.458
57.0	3.203
57.5	3.000
58.0	2.797
58.5	2.593
59.0	2.441
59.5	2.288
60.0	2.136
60.5	1.983
61.0	1.881
61.5	1.729
62.0	1.627
62.5	1.525
63.0	1.424
63.5	1.373
64.0	1.271
64.5	1.170
65.0	1.119
65.5	1.068
66.0	0.966
66.5	0.915
67.0	0.864
67.5	0.814
68.0	0.763
68.5	0.712
69.0	0.661
69.5	0.610
70.0	0.559
70.5	0.559
71.0	0.508
71.5	0.458
72.0	0.407
72.5	0.407
73.0	0.356
73.5	0.356
74.0	0.305
74.5	0.305
75.0	0.305
75.5	0.254
76.0	0.254
76.5	0.203
77.0	0.203
77.5	0.203
78.0	0.153
78.5	0.153
79.0	0.153
79.5	0.153
80.0	0.102
80.5	0.102
81.0	0.102
81.5	0.102
82.0	0.102
82.5	0.102

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CANDELA TABULATION - (Cont.)

83.0	0.102
83.5	0.051
84.0	0.051
84.5	0.051
85.0	0.051
85.5	0.051
86.0	0.051
86.5	0.051
87.0	0.051
87.5	0.051
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
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
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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
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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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	513.50	N.A.	50.40
0-30	906.96	N.A.	89.10
0-40	997.78	N.A.	98.00
0-60	1016.48	N.A.	99.80
0-80	1017.97	N.A.	100.00
0-90	1018.03	N.A.	100.00
10-90	841.65	N.A.	82.70
20-40	484.28	N.A.	47.60
20-50	498.74	N.A.	49.00
40-70	19.87	N.A.	2.00
60-80	1.49	N.A.	0.10
70-80	0.32	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	1018.03	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	176.39
10-20	337.11
20-30	393.46
30-40	90.83
40-50	14.45
50-60	4.25
60-70	1.17
70-80	0.32
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	110	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

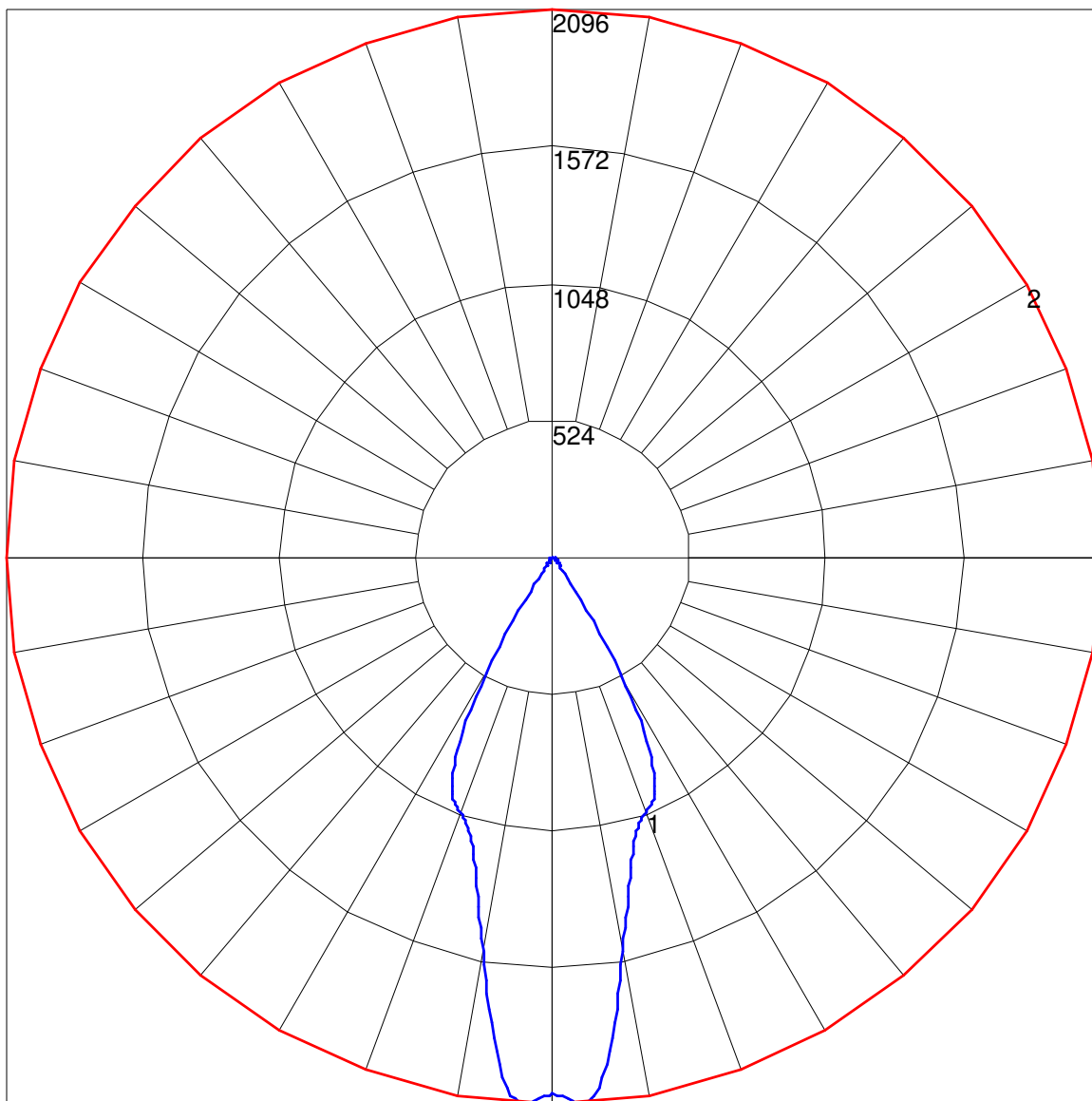
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UGR TABLE - CORRECTED

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 = 2096.002 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.)