



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4DR-TL-L15-840-(L11)-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] 11, JAN 2021
 [MANUFAC] WILLIAMS INDOOR
 [OTHER] H.E. WILLIAMS, INC. - CARTHAGE, MO.
 [LUMCAT] 4DR-TL-L15-840-DIM1-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	1107
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	101
Total Luminaire Watts	11
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	2749	2749	2749
55	798	798	798
65	280	280	280
75	125	125	125
85	61	61	61

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CANDELA TABULATION

	<u>0</u>
0.0	2239.988
0.5	2241.647
1.0	2248.282
1.5	2254.365
2.0	2268.189
2.5	2277.036
3.0	2278.695
3.5	2279.247
4.0	2266.530
4.5	2249.388
5.0	2216.764
5.5	2175.293
6.0	2128.846
6.5	2076.869
7.0	2020.468
7.5	1961.856
8.0	1901.585
8.5	1841.866
9.0	1783.254
9.5	1726.300
10.0	1672.112
10.5	1621.241
11.0	1573.687
11.5	1528.898
12.0	1486.321
12.5	1446.509
13.0	1408.909
13.5	1372.967
14.0	1338.685
14.5	1307.167
15.0	1278.413
15.5	1252.978
16.0	1231.966
16.5	1213.166
17.0	1195.471
17.5	1179.989
18.0	1166.165
18.5	1154.553
19.0	1146.259
19.5	1139.071
20.0	1132.988
20.5	1125.800
21.0	1118.612
21.5	1110.870
22.0	1102.576
22.5	1092.070
23.0	1079.353
23.5	1063.870
24.0	1044.517
24.5	1019.081
25.0	989.775
25.5	958.810
26.0	928.398
26.5	894.668

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CANDELA TABULATION - (Cont.)

27.0	859.280
27.5	818.914
28.0	773.020
28.5	722.702
29.0	670.172
29.5	616.536
30.0	559.582
30.5	500.583
31.0	438.819
31.5	377.276
32.0	318.110
32.5	262.760
33.0	214.599
33.5	173.515
34.0	138.900
34.5	110.147
35.0	86.813
35.5	69.229
36.0	57.949
36.5	52.032
37.0	48.493
37.5	45.397
38.0	42.688
38.5	40.199
39.0	37.932
39.5	35.886
40.0	33.951
40.5	32.126
41.0	30.412
41.5	28.864
42.0	27.371
42.5	25.989
43.0	24.606
43.5	23.390
44.0	22.173
44.5	21.012
45.0	19.961
45.5	18.911
46.0	17.860
46.5	16.865
47.0	15.814
47.5	14.819
48.0	13.879
48.5	12.994
49.0	12.110
49.5	11.225
50.0	10.340
50.5	9.511
51.0	8.792
51.5	8.128
52.0	7.465
52.5	6.912
53.0	6.359
53.5	5.917
54.0	5.474
54.5	5.032

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CANDELA TABULATION - (Cont.)

55.0	4.700
55.5	4.368
56.0	4.037
56.5	3.760
57.0	3.484
57.5	3.262
58.0	3.041
58.5	2.820
59.0	2.654
59.5	2.488
60.0	2.322
60.5	2.156
61.0	2.046
61.5	1.880
62.0	1.769
62.5	1.659
63.0	1.548
63.5	1.493
64.0	1.382
64.5	1.272
65.0	1.216
65.5	1.161
66.0	1.051
66.5	0.995
67.0	0.940
67.5	0.885
68.0	0.829
68.5	0.774
69.0	0.719
69.5	0.664
70.0	0.608
70.5	0.608
71.0	0.553
71.5	0.498
72.0	0.442
72.5	0.442
73.0	0.387
73.5	0.387
74.0	0.332
74.5	0.332
75.0	0.332
75.5	0.276
76.0	0.276
76.5	0.221
77.0	0.221
77.5	0.221
78.0	0.166
78.5	0.166
79.0	0.166
79.5	0.166
80.0	0.111
80.5	0.111
81.0	0.111
81.5	0.111
82.0	0.111
82.5	0.111

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CANDELA TABULATION - (Cont.)

83.0	0.111
83.5	0.055
84.0	0.055
84.5	0.055
85.0	0.055
85.5	0.055
86.0	0.055
86.5	0.055
87.0	0.055
87.5	0.055
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
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
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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Zone	Lumens	%Lamp	%Fixt
0-20	558.39	N.A.	50.40
0-30	986.25	N.A.	89.10
0-40	1085.01	N.A.	98.00
0-60	1105.35	N.A.	99.80
0-80	1106.97	N.A.	100.00
0-90	1107.03	N.A.	100.00
10-90	915.23	N.A.	82.70
20-40	526.62	N.A.	47.60
20-50	542.34	N.A.	49.00
40-70	21.61	N.A.	2.00
60-80	1.62	N.A.	0.10
70-80	0.34	N.A.	0.00
80-90	0.07	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	1107.03	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	191.81
10-20	366.58
20-30	427.86
30-40	98.77
40-50	15.72
50-60	4.62
60-70	1.27
70-80	0.34
80-90	0.07
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

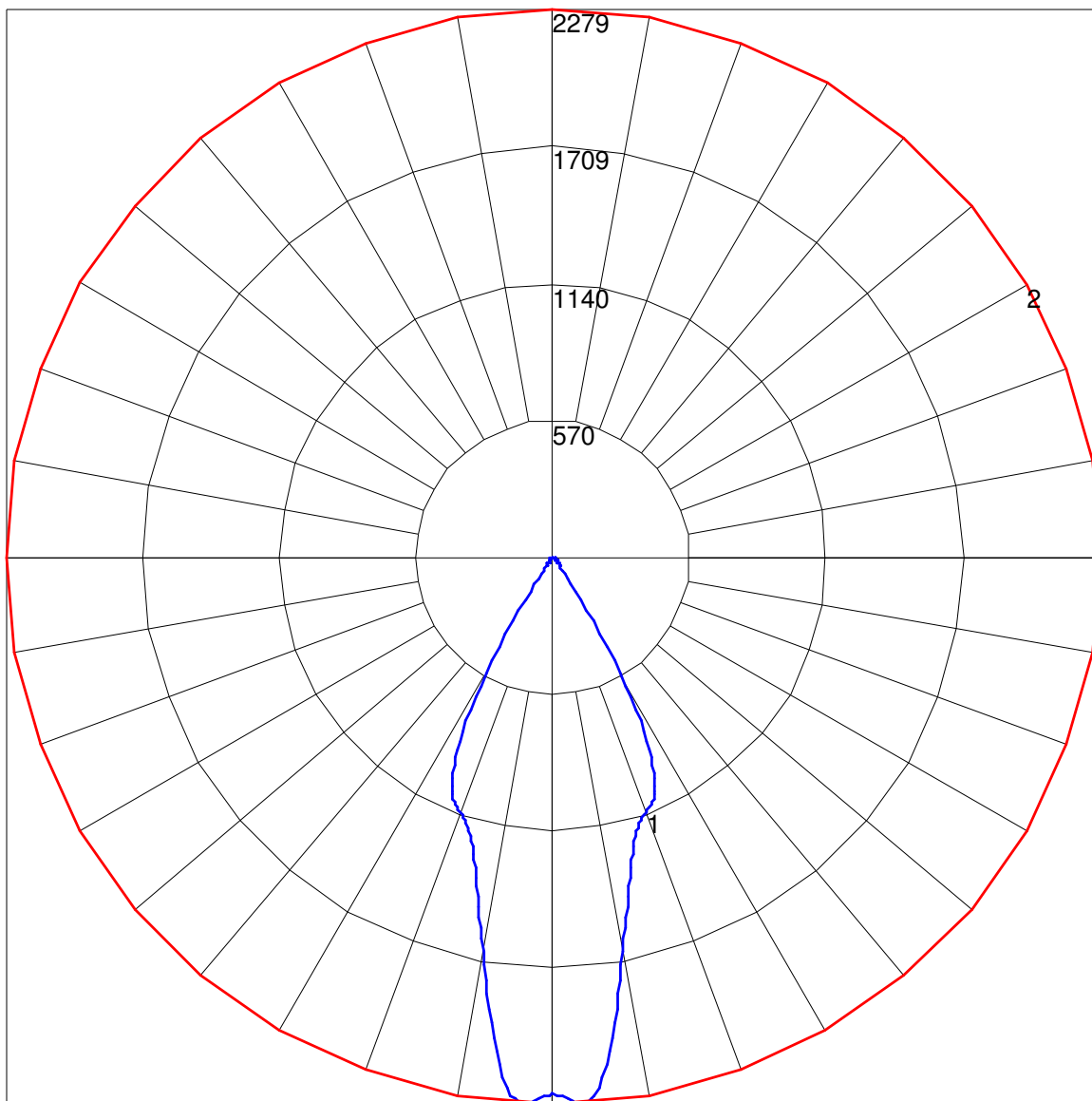
X=2H	Y=2H	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
	3H	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
	4H	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
	6H	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
	8H	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
	12H	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4

UGR Viewed Endwise

4H	2H	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
	3H	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
	4H	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
	6H	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
	8H	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
	12H	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
8H	4H	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
	6H	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
	8H	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
	12H	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
12H	4H	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
	6H	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
	8H	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4

Maximum UGR = 0.4

POLAR GRAPH



Maximum Candela = 2279.247 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.)