



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4DR-L13-9TC-DIM-120-RW-OF-CS-AD_RED.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST] GEN FROM 12316380.16
 [TESTLAB] UL Verification Services Inc.
 [ISSUEDATE] 11 JAN 2021
 [MANUFAC] WILLIAMS INDOOR
 [OTHER] H.E. WILLIAMS, INC. - CARTHAGE, MO.
 [LUMCAT] 4DR-L13-9TC-DIM-120-RW-OF-CS-AD RED
 [LUMINAIRE] Black formed aluminum housing, white reflector, frosted pl
 [MORE] astic 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	97
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	24
Total Luminaire Watts	4.1
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.18
Spacing Criterion (90-270)	1.18
Spacing Criterion (Diagonal)	1.22
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	3030	3030	3030
55	2217	2217	2217
65	1594	1594	1594
75	950	950	950
85	727	727	727

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CANDELA TABULATION

	<u>0</u>
0.0	48.360
0.5	48.351
1.0	48.326
1.5	48.291
2.0	48.249
2.5	48.197
3.0	48.129
3.5	48.060
4.0	47.991
4.5	47.931
5.0	47.863
5.5	47.803
6.0	47.734
6.5	47.666
7.0	47.589
7.5	47.511
8.0	47.434
8.5	47.349
9.0	47.263
9.5	47.177
10.0	47.074
10.5	46.989
11.0	46.886
11.5	46.774
12.0	46.663
12.5	46.534
13.0	46.414
13.5	46.277
14.0	46.140
14.5	45.986
15.0	45.823
15.5	45.669
16.0	45.506
16.5	45.343
17.0	45.171
17.5	45.000
18.0	44.837
18.5	44.674
19.0	44.503
19.5	44.340
20.0	44.169
20.5	43.989
21.0	43.800
21.5	43.611
22.0	43.397
22.5	43.157
23.0	42.900
23.5	42.626
24.0	42.343
24.5	42.043
25.0	41.734
25.5	41.409
26.0	41.066
26.5	40.714

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CANDELA TABULATION - (Cont.)

27.0	40.354
27.5	39.994
28.0	39.617
28.5	39.249
29.0	38.863
29.5	38.486
30.0	38.083
30.5	37.680
31.0	37.251
31.5	36.823
32.0	36.377
32.5	35.914
33.0	35.451
33.5	34.971
34.0	34.483
34.5	33.986
35.0	33.480
35.5	32.949
36.0	32.409
36.5	31.869
37.0	31.311
37.5	30.754
38.0	30.206
38.5	29.623
39.0	29.049
39.5	28.466
40.0	27.874
40.5	27.274
41.0	26.683
41.5	26.091
42.0	25.500
42.5	24.909
43.0	24.317
43.5	23.734
44.0	23.151
44.5	22.569
45.0	22.003
45.5	21.446
46.0	20.889
46.5	20.340
47.0	19.817
47.5	19.294
48.0	18.780
48.5	18.283
49.0	17.829
49.5	17.374
50.0	16.920
50.5	16.483
51.0	16.046
51.5	15.626
52.0	15.223
52.5	14.854
53.0	14.503
53.5	14.126
54.0	13.766
54.5	13.406

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CANDELA TABULATION - (Cont.)

55.0	13.063
55.5	12.720
56.0	12.386
56.5	12.060
57.0	11.743
57.5	11.426
58.0	11.109
58.5	10.800
59.0	10.491
59.5	10.191
60.0	9.891
60.5	9.591
61.0	9.291
61.5	8.983
62.0	8.691
62.5	8.392
63.0	8.097
63.5	7.798
64.0	7.503
64.5	7.211
65.0	6.919
65.5	6.630
66.0	6.342
66.5	6.059
67.0	5.781
67.5	5.507
68.0	5.240
68.5	4.977
69.0	4.719
69.5	4.471
70.0	4.231
70.5	4.001
71.0	3.794
71.5	3.603
72.0	3.421
72.5	3.245
73.0	3.076
73.5	2.917
74.0	2.770
74.5	2.642
75.0	2.524
75.5	2.411
76.0	2.299
76.5	2.190
77.0	2.083
77.5	1.977
78.0	1.874
78.5	1.773
79.0	1.674
79.5	1.579
80.0	1.485
80.5	1.393
81.0	1.304
81.5	1.215
82.0	1.130
82.5	1.045

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CANDELA TABULATION - (Cont.)

83.0	0.963
83.5	0.882
84.0	0.803
84.5	0.726
85.0	0.651
85.5	0.577
86.0	0.505
86.5	0.434
87.0	0.365
87.5	0.297
88.0	0.235
88.5	0.190
89.0	0.154
89.5	0.121
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

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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
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131.0	0.000
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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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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	17.47	N.A.	18.10
0-30	36.60	N.A.	37.90
0-40	57.39	N.A.	59.40
0-60	86.16	N.A.	89.20
0-80	95.81	N.A.	99.20
0-90	96.56	N.A.	100.00
10-90	92.01	N.A.	95.30
20-40	39.92	N.A.	41.30
20-50	56.93	N.A.	59.00
40-70	35.64	N.A.	36.90
60-80	9.65	N.A.	10.00
70-80	2.78	N.A.	2.90
80-90	0.75	N.A.	0.80
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	96.56	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	4.54
10-20	12.92
20-30	19.13
30-40	20.79
40-50	17.02
50-60	11.75
60-70	6.87
70-80	2.78
80-90	0.75
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	110	106	103	100	108	104	101	98	100	97	95	96	94	92	93	91	89	87
2	102	95	89	84	99	93	88	83	90	85	81	86	83	80	84	81	78	76
3	94	85	78	72	92	84	77	72	81	75	71	78	73	69	76	72	68	66
4	87	77	69	63	85	75	68	63	73	67	62	71	65	61	69	64	60	58
5	81	69	61	56	79	68	61	55	66	60	55	64	59	54	63	58	54	52
6	75	63	55	49	73	62	55	49	61	54	49	59	53	48	57	52	48	46
7	70	58	50	44	68	57	50	44	56	49	44	54	48	44	53	47	43	42
8	66	53	45	40	64	53	45	40	51	45	40	50	44	40	49	43	39	38
9	61	49	42	36	60	49	41	36	47	41	36	46	40	36	45	40	36	34
10	58	46	38	33	57	45	38	33	44	38	33	43	37	33	42	37	33	31

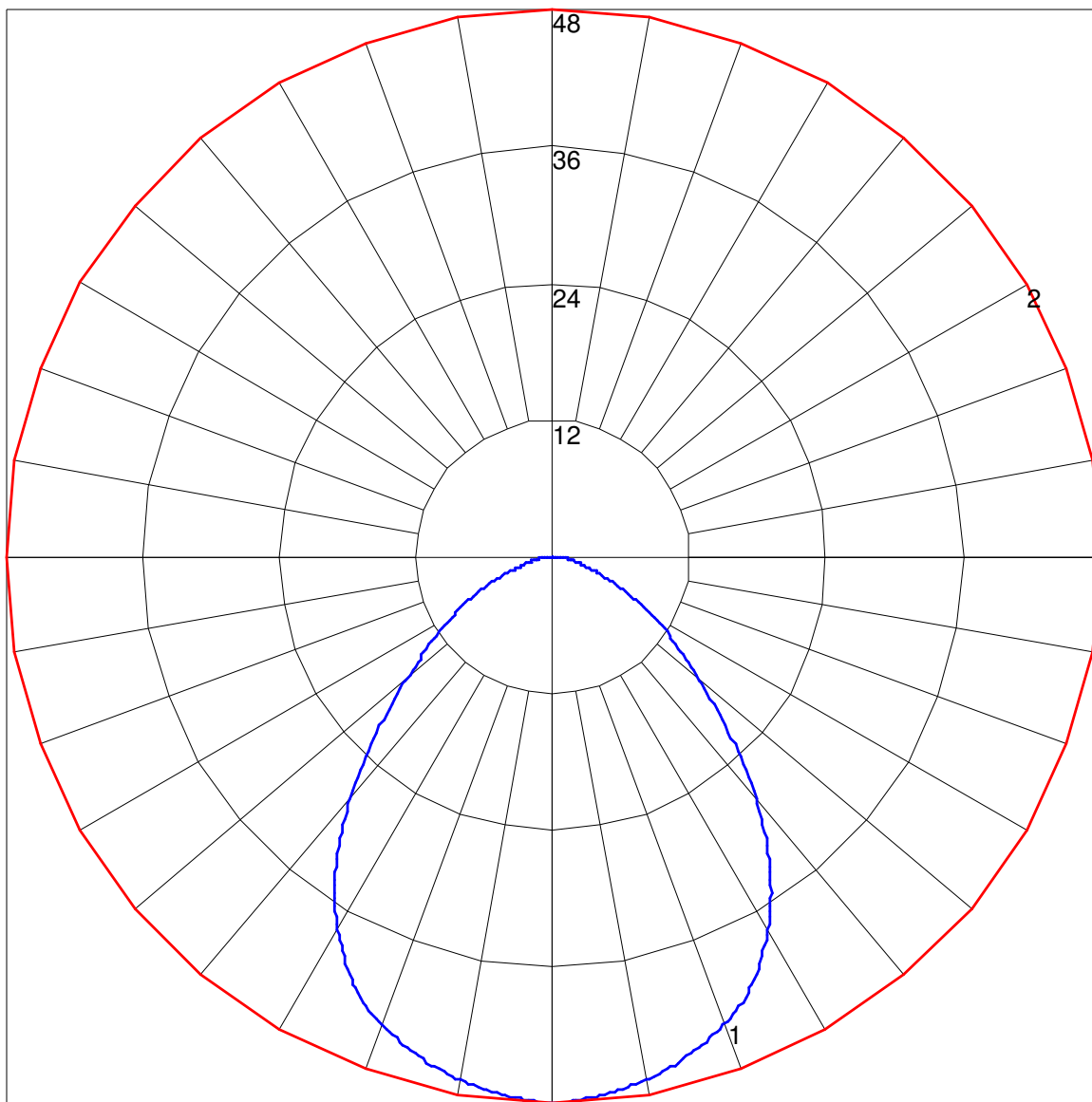
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UGR TABLE - CORRECTED

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	12.9	14.4	13.3	14.7	15.0	12.9	14.4	13.3	14.7	15.0
	3H	13.9	15.2	14.3	15.5	15.9	13.9	15.2	14.3	15.5	15.9
	4H	14.1	15.3	14.5	15.7	16.1	14.1	15.3	14.5	15.7	16.1
	6H	14.3	15.4	14.7	15.8	16.2	14.3	15.4	14.7	15.8	16.2
	8H	14.3	15.4	14.8	15.8	16.2	14.3	15.4	14.8	15.8	16.2
	12H	14.4	15.4	14.8	15.8	16.2	14.4	15.4	14.8	15.8	16.2
4H	2H	13.3	14.5	13.7	14.8	15.2	13.3	14.5	13.7	14.8	15.2
	3H	14.4	15.4	14.8	15.8	16.2	14.4	15.4	14.8	15.8	16.2
	4H	14.7	15.6	15.1	16.0	16.5	14.7	15.6	15.1	16.0	16.5
	6H	15.0	15.8	15.4	16.2	16.7	15.0	15.8	15.4	16.2	16.7
	8H	15.1	15.8	15.5	16.2	16.7	15.1	15.8	15.5	16.2	16.7
	12H	15.1	15.8	15.6	16.2	16.7	15.1	15.8	15.6	16.2	16.7
8H	4H	14.8	15.5	15.3	16.0	16.4	14.8	15.5	15.3	16.0	16.4
	6H	15.1	15.7	15.6	16.2	16.7	15.1	15.7	15.6	16.2	16.7
	8H	15.3	15.8	15.8	16.3	16.8	15.3	15.8	15.8	16.3	16.8
	12H	15.4	15.9	15.9	16.4	16.9	15.4	15.9	15.9	16.4	16.9
12H	4H	14.8	15.4	15.3	15.9	16.4	14.8	15.4	15.3	15.9	16.4
	6H	15.2	15.7	15.7	16.2	16.7	15.2	15.7	15.7	16.2	16.7
	8H	15.3	15.8	15.8	16.3	16.9	15.3	15.8	15.8	16.3	16.9

Maximum UGR = 16.9

POLAR GRAPH



Maximum Candela = 48.36 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.)