



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4DR-L13-9TC-DIM-120-RW-OF-CS-AD\_GREEN.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 GREEN

[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	308
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	29
Total Luminaire Watts	10.8
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	9660	9660	9660
55	7070	7070	7070
65	5082	5082	5082
75	3028	3028	3028
85	2317	2317	2317

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CANDELA TABULATION

	<u>0</u>
0.0	154.191
0.5	154.164
1.0	154.082
1.5	153.973
2.0	153.836
2.5	153.672
3.0	153.453
3.5	153.235
4.0	153.016
4.5	152.825
5.0	152.606
5.5	152.415
6.0	152.196
6.5	151.978
7.0	151.732
7.5	151.486
8.0	151.240
8.5	150.966
9.0	150.693
9.5	150.420
10.0	150.092
10.5	149.819
11.0	149.491
11.5	149.135
12.0	148.780
12.5	148.370
13.0	147.988
13.5	147.550
14.0	147.113
14.5	146.621
15.0	146.102
15.5	145.610
16.0	145.091
16.5	144.571
17.0	144.025
17.5	143.478
18.0	142.959
18.5	142.440
19.0	141.893
19.5	141.374
20.0	140.827
20.5	140.253
21.0	139.652
21.5	139.051
22.0	138.368
22.5	137.602
23.0	136.783
23.5	135.908
24.0	135.006
24.5	134.050
25.0	133.066
25.5	132.027
26.0	130.934
26.5	129.814

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : 4DR-L13-9TC-DIM-120-RW-OF-CS-AD\_GREEN.IES****CANDELA TABULATION - (Cont.)**

27.0	128.666
27.5	127.518
28.0	126.316
28.5	125.140
29.0	123.911
29.5	122.708
30.0	121.424
30.5	120.139
31.0	118.773
31.5	117.406
32.0	115.985
32.5	114.509
33.0	113.034
33.5	111.503
34.0	109.945
34.5	108.360
35.0	106.748
35.5	105.053
36.0	103.332
36.5	101.610
37.0	99.834
37.5	98.057
38.0	96.308
38.5	94.450
39.0	92.619
39.5	90.760
40.0	88.875
40.5	86.961
41.0	85.076
41.5	83.190
42.0	81.304
42.5	79.419
43.0	77.533
43.5	75.675
44.0	73.816
44.5	71.958
45.0	70.154
45.5	68.378
46.0	66.601
46.5	64.852
47.0	63.185
47.5	61.518
48.0	59.878
48.5	58.293
49.0	56.845
49.5	55.396
50.0	53.948
50.5	52.554
51.0	51.160
51.5	49.821
52.0	48.537
52.5	47.361
53.0	46.241
53.5	45.039
54.0	43.891
54.5	42.743

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55.0	41.650
55.5	40.557
56.0	39.491
56.5	38.452
57.0	37.441
57.5	36.430
58.0	35.419
58.5	34.435
59.0	33.451
59.5	32.494
60.0	31.538
60.5	30.581
61.0	29.625
61.5	28.641
62.0	27.712
62.5	26.758
63.0	25.815
63.5	24.864
64.0	23.924
64.5	22.992
65.0	22.060
65.5	21.139
66.0	20.221
66.5	19.319
67.0	18.431
67.5	17.559
68.0	16.706
68.5	15.867
69.0	15.047
69.5	14.255
70.0	13.490
70.5	12.757
71.0	12.096
71.5	11.489
72.0	10.907
72.5	10.347
73.0	9.808
73.5	9.300
74.0	8.833
74.5	8.423
75.0	8.048
75.5	7.688
76.0	7.330
76.5	6.983
77.0	6.641
77.5	6.305
78.0	5.974
78.5	5.652
79.0	5.337
79.5	5.034
80.0	4.733
80.5	4.441
81.0	4.157
81.5	3.875
82.0	3.602
82.5	3.331

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CANDELA TABULATION - (Cont.)

83.0	3.069
83.5	2.812
84.0	2.561
84.5	2.315
85.0	2.074
85.5	1.839
86.0	1.610
86.5	1.383
87.0	1.164
87.5	0.946
88.0	0.749
88.5	0.607
89.0	0.492
89.5	0.385
90.0	0.284
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****PHOTOMETRIC FILENAME : 4DR-L13-9TC-DIM-120-RW-OF-CS-AD\_GREEN.IES****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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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	55.70	N.A.	18.10
0-30	116.70	N.A.	37.90
0-40	182.97	N.A.	59.40
0-60	274.70	N.A.	89.20
0-80	305.47	N.A.	99.20
0-90	307.86	N.A.	100.00
10-90	293.37	N.A.	95.30
20-40	127.27	N.A.	41.30
20-50	181.53	N.A.	59.00
40-70	113.65	N.A.	36.90
60-80	30.77	N.A.	10.00
70-80	8.85	N.A.	2.90
80-90	2.39	N.A.	0.80
90-110	0.01	N.A.	0.00
90-120	0.01	N.A.	0.00
90-130	0.01	N.A.	0.00
90-150	0.01	N.A.	0.00
90-180	0.01	N.A.	0.00
110-180	0.00	N.A.	0.00
0-180	307.87	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	14.49
10-20	41.21
20-30	61.00
30-40	66.28
40-50	54.26
50-60	37.47
60-70	21.91
70-80	8.85
80-90	2.39
90-100	0.01
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	107	103	100	108	104	101	98	100	98	95	96	94	92	93	91	90	88
2	102	95	90	85	100	93	88	84	90	86	82	87	83	80	84	81	78	76
3	94	85	78	73	92	84	77	72	81	75	71	78	74	70	76	72	69	67
4	87	77	69	63	85	76	68	63	73	67	62	71	66	61	69	64	61	59
5	81	70	62	56	79	69	61	55	67	60	55	65	59	54	63	58	54	52
6	75	63	55	50	74	63	55	49	61	54	49	59	53	49	58	52	48	46
7	70	58	50	45	69	57	50	44	56	49	44	54	48	44	53	48	44	42
8	66	53	46	40	64	53	45	40	51	45	40	50	44	40	49	44	39	38
9	62	49	42	37	60	49	42	37	48	41	36	47	41	36	46	40	36	34
10	58	46	38	34	57	45	38	33	44	38	33	43	37	33	43	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

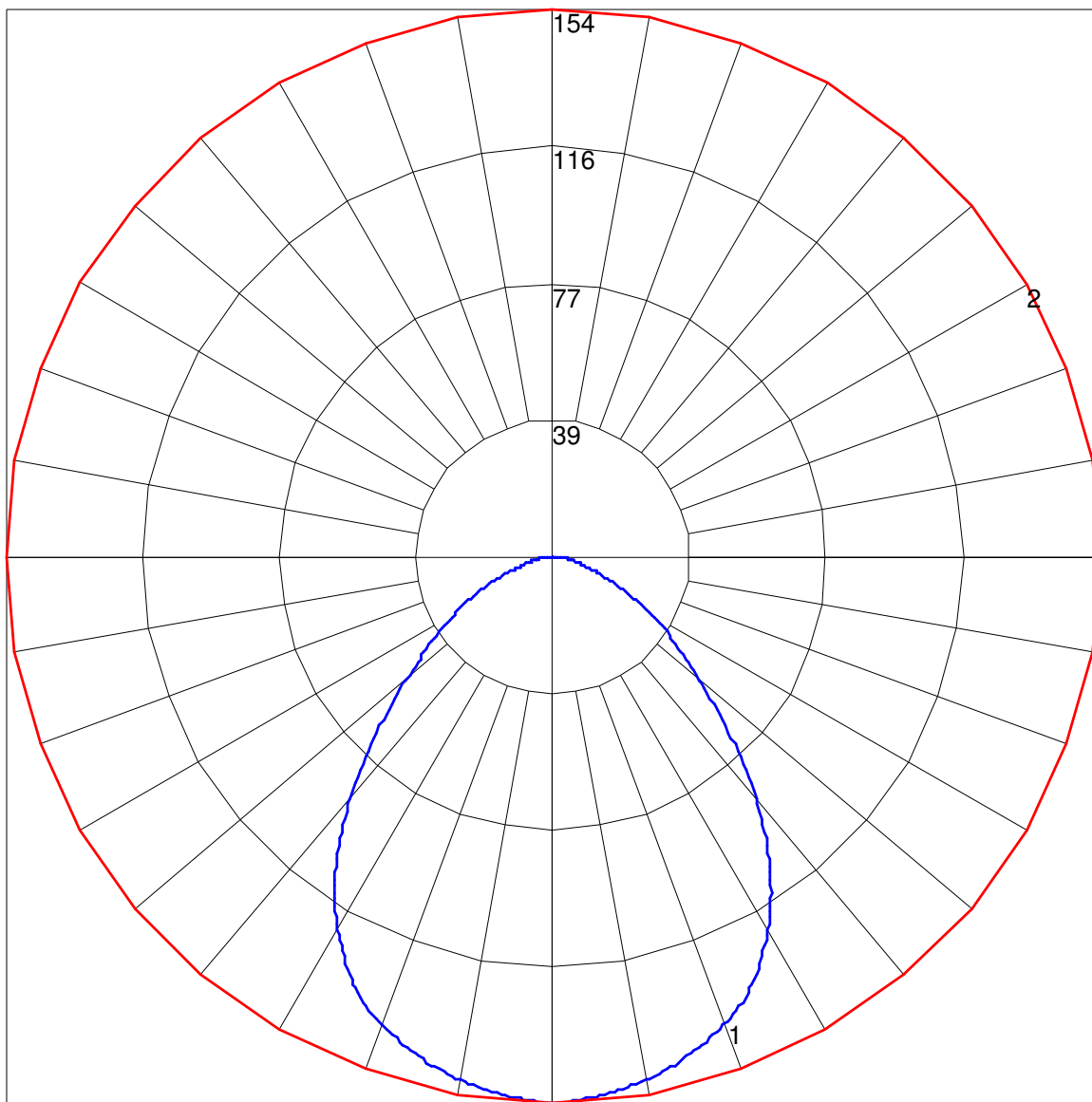
X=2H	Y=2H	16.9	18.4	17.3	18.7	19.0	16.9	18.4	17.3	18.7	19.0
	3H	17.9	19.2	18.3	19.5	19.9	17.9	19.2	18.3	19.5	19.9
	4H	18.1	19.3	18.5	19.7	20.1	18.1	19.3	18.5	19.7	20.1
	6H	18.3	19.4	18.7	19.8	20.2	18.3	19.4	18.7	19.8	20.2
	8H	18.4	19.4	18.8	19.8	20.2	18.4	19.4	18.8	19.8	20.2
	12H	18.4	19.4	18.8	19.8	20.2	18.4	19.4	18.8	19.8	20.2

### UGR Viewed Endwise

4H	2H	17.3	18.5	17.7	18.9	19.2	17.3	18.5	17.7	18.9	19.2
	3H	18.4	19.4	18.8	19.8	20.2	18.4	19.4	18.8	19.8	20.2
	4H	18.7	19.6	19.1	20.0	20.5	18.7	19.6	19.1	20.0	20.5
	6H	19.0	19.8	19.4	20.2	20.7	19.0	19.8	19.4	20.2	20.7
	8H	19.1	19.8	19.5	20.2	20.7	19.1	19.8	19.5	20.2	20.7
	12H	19.1	19.8	19.6	20.2	20.7	19.1	19.8	19.6	20.2	20.7
8H	4H	18.8	19.5	19.3	20.0	20.4	18.8	19.5	19.3	20.0	20.4
	6H	19.2	19.7	19.7	20.2	20.7	19.2	19.7	19.7	20.2	20.7
	8H	19.3	19.8	19.8	20.3	20.8	19.3	19.8	19.8	20.3	20.8
	12H	19.4	19.9	19.9	20.4	20.9	19.4	19.9	19.9	20.4	20.9
12H	4H	18.8	19.4	19.3	19.9	20.4	18.8	19.4	19.3	19.9	20.4
	6H	19.2	19.7	19.7	20.2	20.7	19.2	19.7	19.7	20.2	20.7
	8H	19.3	19.8	19.8	20.3	20.9	19.3	19.8	19.8	20.3	20.9

Maximum UGR = 20.9

POLAR GRAPH



Maximum Candela = 154.191 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.)