



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4CR-P15-9TW-XXX-POE PR-ON-OF-CS-XX\_4000K.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002  
 [TEST] GEN FROM 13131414.09  
 [TESTLAB] UL Verification Services Inc.  
 [ISSUEDATE] 01/25/2021  
 [MANUFAC] WILLIAMS INDOOR  
 [OTHER] H.E. WILLIAMS, INC. - CARTHAGE, MO. 64836  
 [LUMCAT] 4CR-P15-9TW-xxx-POE PR-ON-OF-CS-xx  
 [LUMINAIRE] Aluminum housing and reflector, LED cylinder  
 [LAMP] One white LED  
 [\_SEARCH\_SOURCETYPE] LED  
 [\_SEARCH\_APPLICATION] Indoor, Downlight  
 [\_SEARCH\_MOUNTING] Pendant, Surface, Suspended, Wall

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	1130
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	48
Total Luminaire Watts	23.7
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	0.28
Spacing Criterion (90-270)	0.28
Spacing Criterion (Diagonal)	0.32
Basic Luminous Shape	Circular
Luminous Length (0-180)	0.21 ft (Diameter)
Luminous Width (90-270)	0.21 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	4910	4910	4910
55	2549	2549	2549
65	2162	2162	2162
75	2825	2825	2825
85	6289	6289	6289

# IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4CR-P15-9TW-XXX-POE PR-ON-OF-CS-XX\_4000K.IES

## CANDELA TABULATION

	<u>0</u>
0.0	7465.968
0.5	7448.646
1.0	7379.356
1.5	7281.196
2.0	7148.390
2.5	6975.166
3.0	6767.297
3.5	6524.783
4.0	6259.172
4.5	5982.013
5.0	5703.699
5.5	5402.866
6.0	5084.711
6.5	4761.359
7.0	4436.852
7.5	4112.923
8.0	3804.583
8.5	3515.299
9.0	3243.337
9.5	2988.697
10.0	2750.802
10.5	2531.962
11.0	2332.754
11.5	2155.488
12.0	2000.741
12.5	1863.316
13.0	1738.595
13.5	1625.999
14.0	1524.374
14.5	1432.565
15.0	1349.995
15.5	1275.508
16.0	1210.261
16.5	1150.787
17.0	1098.242
17.5	1050.317
18.0	1006.433
18.5	964.859
19.0	926.173
19.5	890.950
20.0	858.615
20.5	826.857
21.0	796.254
21.5	765.651
22.0	735.049
22.5	703.291
23.0	671.533
23.5	638.620
24.0	605.130
24.5	570.485
25.0	534.686
25.5	498.886
26.0	462.509
26.5	426.709

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : 4CR-P15-9TW-XXX-POE PR-ON-OF-CS-XX\_4000K.IES****CANDELA TABULATION - (Cont.)**

27.0	390.332
27.5	354.532
28.0	319.310
28.5	285.820
29.0	252.908
29.5	221.727
30.0	192.856
30.5	165.141
31.0	140.889
31.5	119.525
32.0	100.470
32.5	84.303
33.0	71.022
33.5	59.474
34.0	49.658
34.5	41.574
35.0	35.222
35.5	30.026
36.0	27.138
36.5	24.829
37.0	23.674
37.5	22.519
38.0	21.364
38.5	20.210
39.0	19.632
39.5	19.055
40.0	17.900
40.5	17.322
41.0	16.745
41.5	15.590
42.0	15.013
42.5	14.435
43.0	13.858
43.5	12.703
44.0	12.126
44.5	11.548
45.0	10.971
45.5	10.393
46.0	10.393
46.5	9.239
47.0	9.239
47.5	8.661
48.0	8.084
48.5	7.506
49.0	7.506
49.5	6.929
50.0	6.929
50.5	6.352
51.0	6.352
51.5	5.774
52.0	5.774
52.5	5.774
53.0	5.197
53.5	5.197
54.0	5.197
54.5	4.619

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : 4CR-P15-9TW-XXX-POE PR-ON-OF-CS-XX\_4000K.IES****CANDELA TABULATION - (Cont.)**

55.0	4.619
55.5	4.619
56.0	4.619
56.5	4.042
57.0	4.042
57.5	4.042
58.0	4.042
58.5	4.042
59.0	3.464
59.5	3.464
60.0	3.464
60.5	3.464
61.0	3.464
61.5	2.887
62.0	3.464
62.5	2.887
63.0	2.887
63.5	2.887
64.0	2.887
64.5	2.887
65.0	2.887
65.5	2.887
66.0	2.887
66.5	2.887
67.0	2.310
67.5	2.887
68.0	2.887
68.5	2.887
69.0	2.310
69.5	2.310
70.0	2.310
70.5	2.310
71.0	2.310
71.5	2.310
72.0	2.310
72.5	2.310
73.0	2.310
73.5	2.310
74.0	2.310
74.5	2.310
75.0	2.310
75.5	2.310
76.0	1.732
76.5	1.732
77.0	1.732
77.5	2.310
78.0	1.732
78.5	1.732
79.0	2.310
79.5	2.310
80.0	2.310
80.5	1.732
81.0	2.310
81.5	2.310
82.0	2.310
82.5	1.732

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : 4CR-P15-9TW-XXX-POE PR-ON-OFF-CS-XX\_4000K.IES****CANDELA TABULATION - (Cont.)**

83.0	1.732
83.5	2.310
84.0	1.732
84.5	2.310
85.0	1.732
85.5	1.732
86.0	1.732
86.5	1.732
87.0	1.732
87.5	2.310
88.0	2.310
88.5	1.732
89.0	2.310
89.5	1.732
90.0	1.732
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 : 4CR-P15-9TW-XXX-POE PR-ON-OFF-CS-XX\_4000K.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

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : 4CR-P15-9TW-XXX-POE PR-ON-OFF-CS-XX\_4000K.IES****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

**IES INDOOR REPORT**

**PHOTOMETRIC FILENAME : 4CR-P15-9TW-XXX-POE PR-ON-OF-CS-XX\_4000K.IES**

**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



**IES INDOOR REPORT****PHOTOMETRIC FILENAME : 4CR-P15-9TW-XXX-POE PR-ON-OF-CS-XX\_4000K.IES****ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	839.22	N.A.	74.30
0-30	1074.4	N.A.	95.10
0-40	1109.54	N.A.	98.20
0-60	1122.64	N.A.	99.30
0-80	1127.79	N.A.	99.80
0-90	1129.95	N.A.	100.00
10-90	688.09	N.A.	60.90
20-40	270.32	N.A.	23.90
20-50	279.12	N.A.	24.70
40-70	15.96	N.A.	1.40
60-80	5.15	N.A.	0.50
70-80	2.29	N.A.	0.20
80-90	2.16	N.A.	0.20
90-110	0.05	N.A.	0.00
90-120	0.05	N.A.	0.00
90-130	0.05	N.A.	0.00
90-150	0.05	N.A.	0.00
90-180	0.05	N.A.	0.00
110-180	0.00	N.A.	0.00
0-180	1130.00	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	441.85
10-20	397.37
20-30	235.17
30-40	35.15
40-50	8.80
50-60	4.30
60-70	2.86
70-80	2.29
80-90	2.16
90-100	0.05
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

# IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4CR-P15-9TW-XXX-POE PR-ON-OF-CS-XX\_4000K.IES

## 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	115	113	111	109	113	111	109	107	107	105	104	103	102	101	100	99	98	96
2	111	107	104	102	109	106	103	101	103	100	99	100	98	96	97	96	94	93
3	108	103	99	96	106	101	98	95	99	96	94	97	94	93	95	93	91	90
4	104	99	95	92	103	98	94	91	96	93	90	94	91	89	92	90	88	87
5	101	95	91	88	100	94	90	88	93	89	87	91	88	86	90	87	85	84
6	98	92	88	85	97	91	87	84	90	86	84	89	86	83	87	85	83	82
7	95	89	85	82	94	88	84	82	87	84	81	86	83	81	85	83	80	79
8	93	86	82	79	92	86	82	79	85	81	79	84	81	79	83	80	78	77
9	90	84	80	77	90	83	79	77	83	79	77	82	79	76	81	78	76	75
10	88	81	77	75	87	81	77	75	80	77	75	80	77	74	79	76	74	73

# IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4CR-P15-9TW-XXX-POE PR-ON-OF-CS-XX\_4000K.IES

## UGR TABLE - CORRECTED

### Reflectances

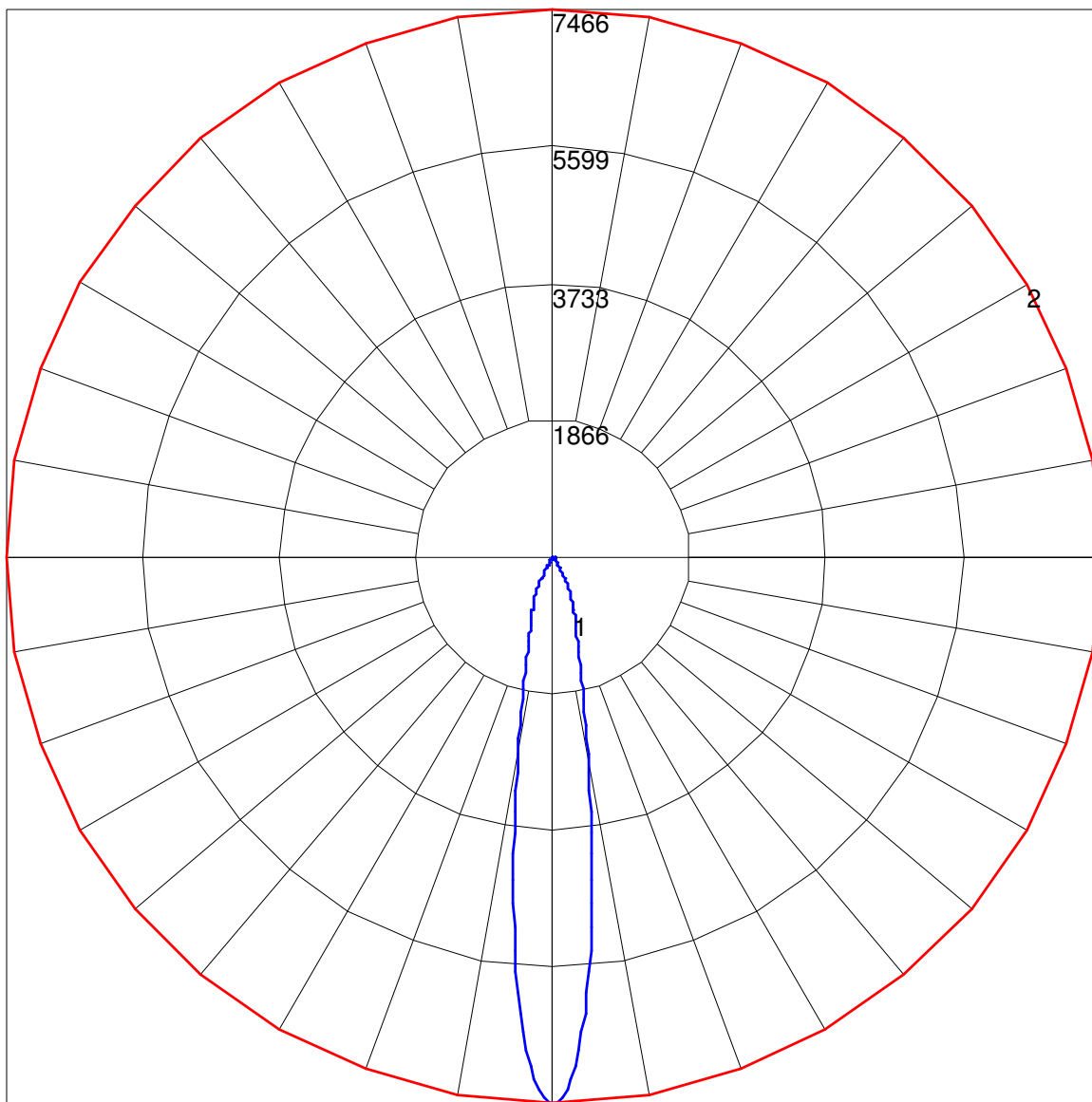
Ceiling Cavity	70	70	50	50	30	70	70	50	50	30
Walls	50	30	50	30	30	50	30	50	30	30
Floor Cavity	20	20	20	20	20	20	20	20	20	20

### Room Size UGR Viewed Crosswise

X=2H	Y=2H	2.0	2.9	2.4	3.2	3.5	2.0	2.9	2.4	3.2	3.5
	3H	4.2	5.0	4.6	5.3	5.7	4.2	5.0	4.6	5.3	5.7
	4H	5.2	5.9	5.6	6.3	6.6	5.2	5.9	5.6	6.3	6.6
	6H	6.6	7.2	7.0	7.6	8.0	6.6	7.2	7.0	7.6	8.0
	8H	7.3	7.9	7.7	8.3	8.7	7.3	7.9	7.7	8.3	8.7
	12H	8.1	8.7	8.6	9.1	9.6	8.1	8.7	8.6	9.1	9.6
4H	2H	2.5	3.2	2.9	3.5	3.9	2.5	3.2	2.9	3.5	3.9
	3H	4.8	5.4	5.2	5.8	6.2	4.8	5.4	5.2	5.8	6.2
	4H	6.1	6.6	6.5	7.0	7.5	6.1	6.6	6.5	7.0	7.5
	6H	7.6	8.1	8.1	8.5	9.0	7.6	8.1	8.1	8.5	9.0
	8H	8.5	8.9	9.0	9.4	9.9	8.5	8.9	9.0	9.4	9.9
	12H	9.5	9.9	10.0	10.4	10.9	9.5	9.9	10.0	10.4	10.9
8H	4H	6.4	6.8	6.9	7.2	7.7	6.4	6.8	6.9	7.2	7.7
	6H	8.3	8.6	8.8	9.1	9.6	8.3	8.6	8.8	9.1	9.6
	8H	9.4	9.7	9.9	10.2	10.7	9.4	9.7	9.9	10.2	10.7
	12H	10.7	11.0	11.2	11.5	12.0	10.7	11.0	11.2	11.5	12.0
12H	4H	6.5	6.9	7.0	7.4	7.8	6.5	6.9	7.0	7.4	7.8
	6H	8.6	8.9	9.1	9.4	9.9	8.6	8.9	9.1	9.4	9.9
	8H	9.8	10.0	10.3	10.5	11.1	9.8	10.0	10.3	10.5	11.1

Maximum UGR = 12.0

POLAR GRAPH



Maximum Candela = 7465.968 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.)