

## IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4RCD-LS-9CS-WH-DIM-UNV-12W-2700K\_.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #15006535.02

[TESTLAB] UL Verification Services Inc.

[ISSUE DATE] 21-NOV-2023

[TEST DATE] 10/18/2023

[MANUFAC] H E Williams Inc

[LUMCAT] 4RCD-LS-9CS-WH-DIM-UNV-12W-2700k

[LUMINAIRE] Round plastic housing with white trim and frosted lens

[LAMP] White LEDs

[BALLAST] LED Driver

[OTHER] 24.8 C, 120.036 V, 0.0936374 A, 11.1785 W, 0.994546 PF, 59.971

[MORE] 3 Hz

[OTHER] This test was performed using the calibrated photodetector met

[MORE] hod of absolute photometry.

[OTHER] The reported results were measured in a facility that meets th

[MORE] e requirements of ANSI/IES LM-75-19. The device under test emits no de

[MORE] tectable uplight as defined by ANSI/IES LM-75-19.

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	1025
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	84
Total Luminaire Watts	12.22
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.16
Spacing Criterion (90-270)	1.16
Spacing Criterion (Diagonal)	1.24
Basic Luminous Shape	Circular
Luminous Length (0-180)	0.33 ft (Diameter)
Luminous Width (90-270)	0.33 ft (Diameter)
Luminous Height	0.00 ft

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**LUMINANCE DATA (cd/sq.m)**

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	43250	43250	43250
55	34432	34432	34432
65	24084	24084	24084
75	12878	12878	12878
85	9077	9077	9077

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CANDELA TABULATION

	<u>0</u>
0.0	485.067
0.5	485.067
1.0	484.880
1.5	484.600
2.0	484.319
2.5	484.039
3.0	483.571
3.5	483.103
4.0	482.448
4.5	481.794
5.0	481.045
5.5	480.297
6.0	479.455
6.5	478.520
7.0	477.585
7.5	476.649
8.0	475.621
8.5	474.685
9.0	473.750
9.5	472.814
10.0	471.786
10.5	470.663
11.0	469.447
11.5	468.138
12.0	466.735
12.5	465.332
13.0	463.835
13.5	462.245
14.0	460.562
14.5	458.784
15.0	456.914
15.5	455.043
16.0	453.079
16.5	451.021
17.0	448.776
17.5	446.438
18.0	444.006
18.5	441.387
19.0	438.768
19.5	436.056
20.0	433.250
20.5	430.537
21.0	427.918
21.5	425.393
22.0	422.867
22.5	420.435
23.0	418.004
23.5	415.572
24.0	413.046
24.5	410.521
25.0	407.902
25.5	405.096
26.0	402.196
26.5	399.016

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27.0	395.836
27.5	392.469
28.0	389.195
28.5	385.828
29.0	382.274
29.5	378.626
30.0	374.978
30.5	371.143
31.0	367.308
31.5	363.380
32.0	359.545
32.5	355.523
33.0	351.594
33.5	347.572
34.0	343.550
34.5	339.529
35.0	335.507
35.5	331.391
36.0	327.182
36.5	322.973
37.0	318.577
37.5	314.181
38.0	309.785
38.5	305.389
39.0	300.992
39.5	296.503
40.0	292.107
40.5	287.711
41.0	283.315
41.5	278.918
42.0	274.429
42.5	270.033
43.0	265.637
43.5	261.147
44.0	256.657
44.5	252.168
45.0	247.678
45.5	243.188
46.0	238.699
46.5	234.209
47.0	229.813
47.5	225.417
48.0	220.927
48.5	216.531
49.0	212.042
49.5	207.646
50.0	203.156
50.5	198.853
51.0	194.457
51.5	190.061
52.0	185.665
52.5	181.269
53.0	176.966
53.5	172.664
54.0	168.455
54.5	164.152

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55.0	159.943
55.5	155.641
56.0	151.525
56.5	147.503
57.0	143.388
57.5	139.366
58.0	135.344
58.5	131.322
59.0	127.300
59.5	123.371
60.0	119.443
60.5	115.608
61.0	111.773
61.5	107.938
62.0	104.103
62.5	100.456
63.0	96.714
63.5	93.122
64.0	89.484
64.5	85.948
65.0	82.432
65.5	79.008
66.0	75.632
66.5	72.321
67.0	69.084
67.5	65.941
68.0	62.855
68.5	59.815
69.0	56.813
69.5	53.848
70.0	50.929
70.5	48.048
71.0	45.299
71.5	42.661
72.0	40.135
72.5	37.666
73.0	35.290
73.5	32.999
74.0	30.876
74.5	28.865
75.0	26.994
75.5	25.282
76.0	23.711
76.5	22.280
77.0	21.008
77.5	19.885
78.0	18.856
78.5	17.902
79.0	16.967
79.5	16.013
80.0	15.059
80.5	14.105
81.0	13.179
81.5	12.272
82.0	11.383
82.5	10.504

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CANDELA TABULATION - (Cont.)

83.0	9.662
83.5	8.820
84.0	7.988
84.5	7.183
85.0	6.407
85.5	5.649
86.0	4.901
86.5	4.172
87.0	3.433
87.5	2.694
88.0	1.964
88.5	1.244
89.0	0.645
89.5	0.262
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

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : 4RCD-LS-9CS-WH-DIM-UNV-12W-2700K\_.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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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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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	174.14	N.A.	17.00
0-30	361.40	N.A.	35.30
0-40	570.62	N.A.	55.70
0-60	904.60	N.A.	88.30
0-80	1017.65	N.A.	99.30
0-90	1024.94	N.A.	100.00
10-90	979.33	N.A.	95.50
20-40	396.48	N.A.	38.70
20-50	587.30	N.A.	57.30
40-70	416.31	N.A.	40.60
60-80	113.05	N.A.	11.00
70-80	30.73	N.A.	3.00
80-90	7.29	N.A.	0.70
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	1024.94	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	45.61
10-20	128.53
20-30	187.26
30-40	209.22
40-50	190.82
50-60	143.16
60-70	82.33
70-80	30.73
80-90	7.29
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	225	225	225	225	219	219	219	219	210	210	210	201	201	201	193	193	193	189
1	209	201	194	188	204	197	191	185	189	184	179	182	177	174	175	172	169	165
2	192	179	167	158	187	175	165	156	169	160	153	163	156	149	157	151	146	142
3	177	159	146	135	173	157	144	134	151	140	131	146	137	129	141	134	127	123
4	163	143	128	117	159	141	127	116	136	124	114	132	121	113	128	119	111	108
5	151	129	114	102	147	127	113	102	123	110	101	120	108	100	116	106	99	95
6	140	117	102	90	137	115	101	90	112	99	89	109	97	89	106	96	88	84
7	131	107	92	81	128	105	91	81	103	90	80	100	88	79	98	87	79	75
8	122	98	83	73	119	97	83	73	94	81	72	92	80	72	90	79	71	68
9	114	90	76	66	112	89	75	66	87	75	66	85	74	65	83	73	65	62
10	107	84	70	60	105	83	69	60	81	69	60	79	68	60	78	67	59	56

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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

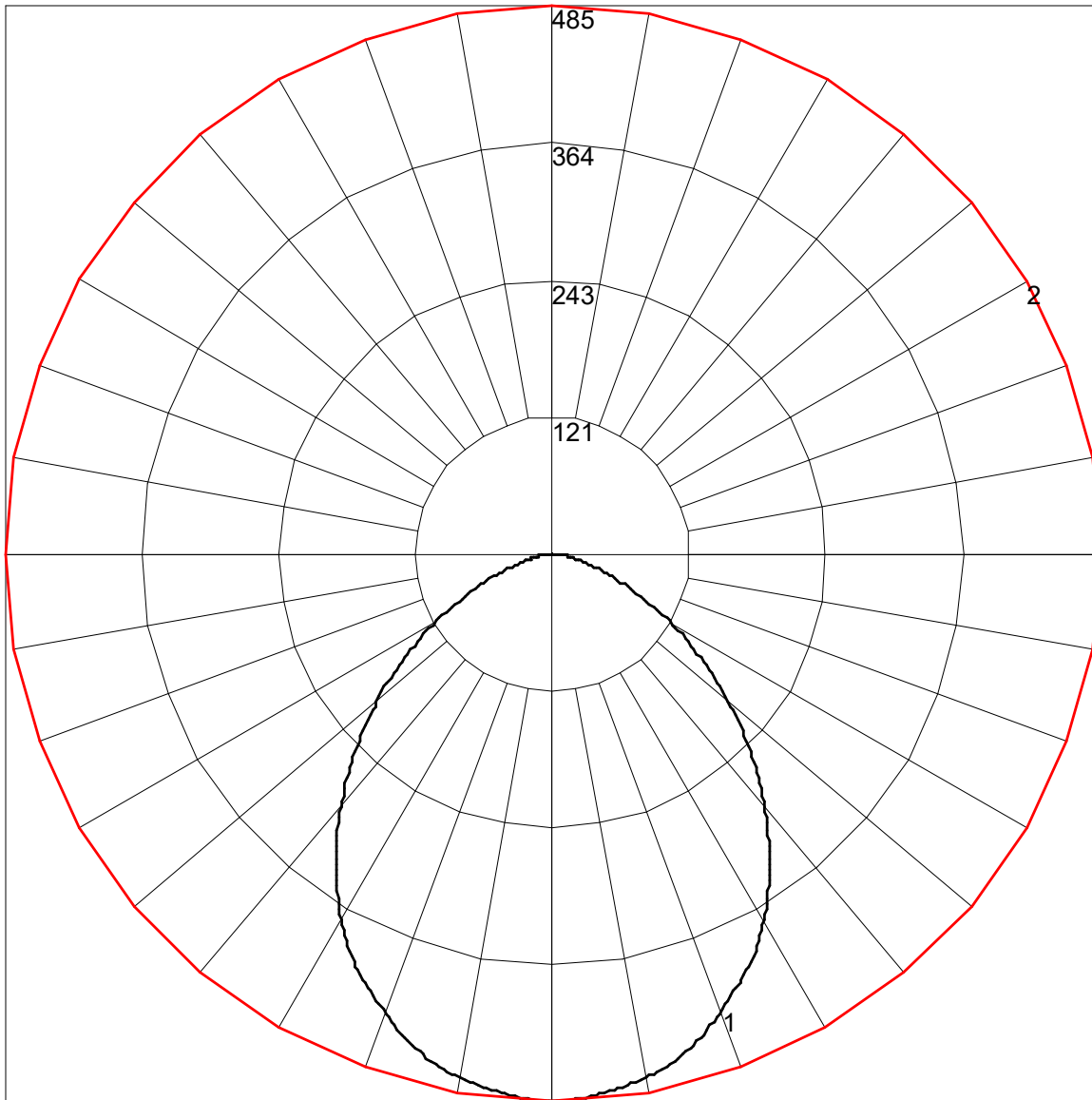
X=2H	Y=2H	20.7	22.1	21.0	22.5	22.8	20.7	22.1	21.0	22.5	22.8
	3H	21.6	22.9	22.0	23.3	23.6	21.6	22.9	22.0	23.3	23.6
	4H	21.8	23.0	22.2	23.4	23.8	21.8	23.0	22.2	23.4	23.8
	6H	21.9	23.1	22.3	23.4	23.8	21.9	23.1	22.3	23.4	23.8
	8H	21.9	23.0	22.4	23.4	23.8	21.9	23.0	22.4	23.4	23.8
	12H	22.0	23.0	22.4	23.4	23.8	22.0	23.0	22.4	23.4	23.8

### UGR Viewed Endwise

4H	2H	21.0	22.3	21.4	22.6	23.0	21.0	22.3	21.4	22.6	23.0
	3H	22.1	23.1	22.5	23.5	23.9	22.1	23.1	22.5	23.5	23.9
	4H	22.4	23.3	22.8	23.7	24.1	22.4	23.3	22.8	23.7	24.1
	6H	22.5	23.3	23.0	23.8	24.2	22.5	23.3	23.0	23.8	24.2
	8H	22.6	23.3	23.0	23.8	24.2	22.6	23.3	23.0	23.8	24.2
	12H	22.6	23.3	23.1	23.8	24.2	22.6	23.3	23.1	23.8	24.2
8H	4H	22.4	23.2	22.9	23.6	24.1	22.4	23.2	22.9	23.6	24.1
	6H	22.6	23.3	23.1	23.8	24.2	22.6	23.3	23.1	23.8	24.2
	8H	22.7	23.3	23.2	23.8	24.3	22.7	23.3	23.2	23.8	24.3
	12H	22.8	23.3	23.3	23.8	24.4	22.8	23.3	23.3	23.8	24.4
12H	4H	22.4	23.1	22.9	23.5	24.0	22.4	23.1	22.9	23.5	24.0
	6H	22.6	23.2	23.2	23.7	24.2	22.6	23.2	23.2	23.7	24.2
	8H	22.8	23.2	23.3	23.7	24.3	22.8	23.2	23.3	23.7	24.3

Maximum UGR = 24.4

POLAR GRAPH



Maximum Candela = 485.067 Located At Horizontal Angle = 0, Vertical Angle = 0  
# 1 - Vertical Plane Through Horizontal Angles (90 - 270)  
# 2 - Horizontal Cone Through Vertical Angle (0) (Through Max. Cd.)