

## IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4RCD-LS-9CS-WH-DIM-UNV-7W-3000K\_.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #15006535.02

[TESTLAB] UL Verification Services Inc.

[ISSUE DATE] 16-NOV-2023

[TEST DATE] 10/18/2023

[MANUFAC] H E Williams Inc

[LUMCAT] 4RCD-LS-9CS-WH-DIM-UNV-7W-3700k

[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	556
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	85
Total Luminaire Watts	6.57
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	23478	23478	23478
55	18691	18691	18691
65	13074	13074	13074
75	6991	6991	6991
85	4927	4927	4927

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CANDELA TABULATION

	<u>0</u>
0.0	263.313
0.5	263.313
1.0	263.211
1.5	263.059
2.0	262.907
2.5	262.754
3.0	262.501
3.5	262.247
4.0	261.891
4.5	261.536
5.0	261.130
5.5	260.723
6.0	260.266
6.5	259.759
7.0	259.251
7.5	258.743
8.0	258.185
8.5	257.677
9.0	257.169
9.5	256.662
10.0	256.103
10.5	255.494
11.0	254.834
11.5	254.123
12.0	253.361
12.5	252.600
13.0	251.787
13.5	250.924
14.0	250.010
14.5	249.045
15.0	248.030
15.5	247.015
16.0	245.948
16.5	244.831
17.0	243.613
17.5	242.343
18.0	241.023
18.5	239.602
19.0	238.180
19.5	236.707
20.0	235.184
20.5	233.712
21.0	232.290
21.5	230.919
22.0	229.548
22.5	228.228
23.0	226.908
23.5	225.588
24.0	224.217
24.5	222.846
25.0	221.425
25.5	219.901
26.0	218.327
26.5	216.601

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CANDELA TABULATION - (Cont.)

27.0	214.875
27.5	213.047
28.0	211.270
28.5	209.442
29.0	207.513
29.5	205.532
30.0	203.552
30.5	201.470
31.0	199.389
31.5	197.256
32.0	195.174
32.5	192.991
33.0	190.859
33.5	188.675
34.0	186.492
34.5	184.309
35.0	182.126
35.5	179.892
36.0	177.607
36.5	175.322
37.0	172.936
37.5	170.549
38.0	168.163
38.5	165.776
39.0	163.390
39.5	160.953
40.0	158.567
40.5	156.180
41.0	153.794
41.5	151.407
42.0	148.970
42.5	146.584
43.0	144.198
43.5	141.760
44.0	139.323
44.5	136.886
45.0	134.449
45.5	132.012
46.0	129.575
46.5	127.138
47.0	124.751
47.5	122.365
48.0	119.928
48.5	117.541
49.0	115.104
49.5	112.718
50.0	110.281
50.5	107.945
51.0	105.559
51.5	103.172
52.0	100.786
52.5	98.400
53.0	96.064
53.5	93.728
54.0	91.444
54.5	89.108

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CANDELA TABULATION - (Cont.)

55.0	86.823
55.5	84.488
56.0	82.254
56.5	80.070
57.0	77.836
57.5	75.653
58.0	73.470
58.5	71.286
59.0	69.103
59.5	66.971
60.0	64.838
60.5	62.756
61.0	60.675
61.5	58.593
62.0	56.511
62.5	54.531
63.0	52.500
63.5	50.550
64.0	48.575
64.5	46.656
65.0	44.747
65.5	42.889
66.0	41.056
66.5	39.258
67.0	37.502
67.5	35.796
68.0	34.120
68.5	32.470
69.0	30.840
69.5	29.230
70.0	27.646
70.5	26.083
71.0	24.590
71.5	23.158
72.0	21.787
72.5	20.447
73.0	19.157
73.5	17.913
74.0	16.760
74.5	15.669
75.0	14.653
75.5	13.724
76.0	12.871
76.5	12.094
77.0	11.404
77.5	10.795
78.0	10.236
78.5	9.718
79.0	9.210
79.5	8.692
80.0	8.175
80.5	7.657
81.0	7.154
81.5	6.662
82.0	6.179
82.5	5.702

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CANDELA TABULATION - (Cont.)

83.0	5.245
83.5	4.788
84.0	4.336
84.5	3.899
85.0	3.478
85.5	3.067
86.0	2.661
86.5	2.265
87.0	1.863
87.5	1.462
88.0	1.066
88.5	0.675
89.0	0.350
89.5	0.142
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  
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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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**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	94.53	N.A.	17.00
0-30	196.18	N.A.	35.30
0-40	309.75	N.A.	55.70
0-60	491.05	N.A.	88.30
0-80	552.42	N.A.	99.30
0-90	556.38	N.A.	100.00
10-90	531.62	N.A.	95.60
20-40	215.22	N.A.	38.70
20-50	318.81	N.A.	57.30
40-70	225.99	N.A.	40.60
60-80	61.37	N.A.	11.00
70-80	16.68	N.A.	3.00
80-90	3.96	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	556.38	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	24.76
10-20	69.77
20-30	101.65
30-40	113.57
40-50	103.58
50-60	77.71
60-70	44.69
70-80	16.68
80-90	3.96
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	122	122	122	122	119	119	119	119	114	114	114	109	109	109	105	105	105	102
1	113	109	105	102	111	107	103	100	103	100	97	99	96	94	95	93	92	89
2	104	97	91	86	102	95	90	85	92	87	83	88	84	81	85	82	79	77
3	96	87	79	73	94	85	78	73	82	76	71	79	74	70	77	73	69	67
4	89	78	70	63	86	76	69	63	74	67	62	72	66	61	69	65	60	58
5	82	70	62	55	80	69	61	55	67	60	55	65	59	54	63	58	54	51
6	76	64	55	49	74	63	55	49	61	54	48	59	53	48	58	52	48	46
7	71	58	50	44	69	57	49	44	56	49	43	54	48	43	53	47	43	41
8	66	53	45	40	65	53	45	39	51	44	39	50	44	39	49	43	39	37
9	62	49	41	36	61	49	41	36	47	40	36	46	40	35	45	40	35	33
10	58	46	38	33	57	45	38	33	44	37	33	43	37	32	42	36	32	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

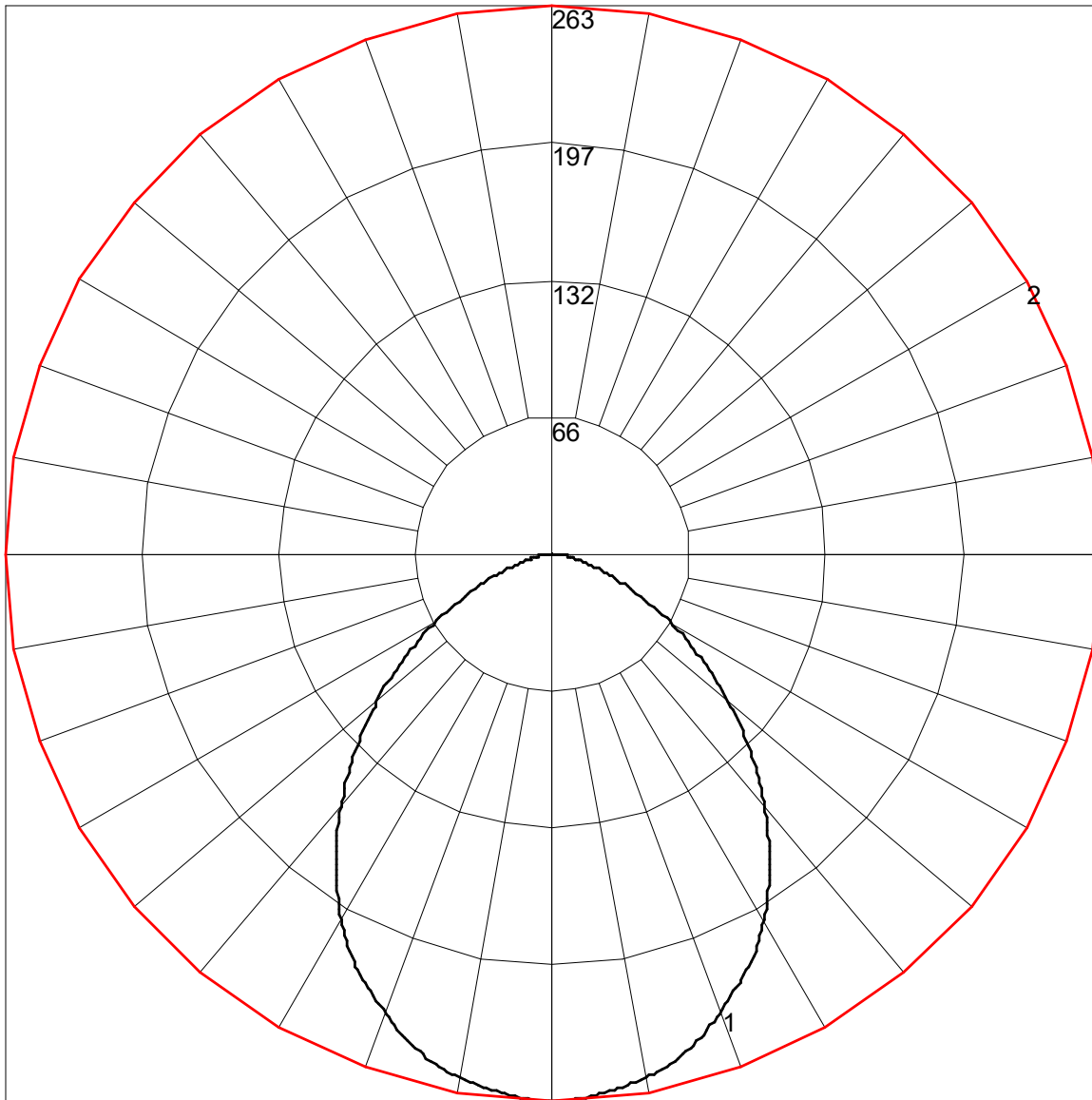
X=2H	Y=2H	20.7	22.1	21.0	22.5	22.8	20.7	22.1	21.0	22.5	22.8
	3H	21.6	22.9	22.0	23.3	23.6	21.6	22.9	22.0	23.3	23.6
	4H	21.8	23.0	22.2	23.4	23.8	21.8	23.0	22.2	23.4	23.8
	6H	21.9	23.1	22.3	23.4	23.8	21.9	23.1	22.3	23.4	23.8
	8H	21.9	23.0	22.4	23.4	23.8	21.9	23.0	22.4	23.4	23.8
	12H	22.0	23.0	22.4	23.4	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 = 263.313 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.)