

## IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4RCD-LS-9CS-WH-DIM-UNV-7W-4000K\_.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-4000k

[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	582
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	89
Total Luminaire Watts	6.52
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	24579	24579	24579
55	19567	19567	19567
65	13687	13687	13687
75	7318	7318	7318
85	5158	5158	5158

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CANDELA TABULATION

	<u>0</u>
0.0	275.658
0.5	275.658
1.0	275.552
1.5	275.392
2.0	275.233
2.5	275.073
3.0	274.808
3.5	274.542
4.0	274.170
4.5	273.798
5.0	273.372
5.5	272.947
6.0	272.469
6.5	271.937
7.0	271.406
7.5	270.874
8.0	270.290
8.5	269.758
9.0	269.226
9.5	268.695
10.0	268.110
10.5	267.472
11.0	266.781
11.5	266.037
12.0	265.240
12.5	264.443
13.0	263.592
13.5	262.688
14.0	261.732
14.5	260.722
15.0	259.659
15.5	258.596
16.0	257.479
16.5	256.310
17.0	255.034
17.5	253.705
18.0	252.323
18.5	250.835
19.0	249.347
19.5	247.805
20.0	246.211
20.5	244.669
21.0	243.181
21.5	241.746
22.0	240.310
22.5	238.928
23.0	237.546
23.5	236.164
24.0	234.729
24.5	233.294
25.0	231.806
25.5	230.211
26.0	228.563
26.5	226.756

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CANDELA TABULATION - (Cont.)

27.0	224.949
27.5	223.035
28.0	221.175
28.5	219.261
29.0	217.242
29.5	215.169
30.0	213.095
30.5	210.916
31.0	208.737
31.5	206.504
32.0	204.325
32.5	202.039
33.0	199.807
33.5	197.521
34.0	195.236
34.5	192.950
35.0	190.664
35.5	188.326
36.0	185.934
36.5	183.542
37.0	181.043
37.5	178.545
38.0	176.047
38.5	173.549
39.0	171.050
39.5	168.499
40.0	166.001
40.5	163.503
41.0	161.004
41.5	158.506
42.0	155.955
42.5	153.456
43.0	150.958
43.5	148.407
44.0	145.855
44.5	143.304
45.0	140.753
45.5	138.201
46.0	135.650
46.5	133.098
47.0	130.600
47.5	128.102
48.0	125.550
48.5	123.052
49.0	120.501
49.5	118.002
50.0	115.451
50.5	113.006
51.0	110.508
51.5	108.009
52.0	105.511
52.5	103.013
53.0	100.568
53.5	98.123
54.0	95.731
54.5	93.286

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CANDELA TABULATION - (Cont.)

55.0	90.894
55.5	88.449
56.0	86.110
56.5	83.824
57.0	81.486
57.5	79.200
58.0	76.914
58.5	74.629
59.0	72.343
59.5	70.110
60.0	67.878
60.5	65.699
61.0	63.519
61.5	61.340
62.0	59.161
62.5	57.088
63.0	54.962
63.5	52.920
64.0	50.853
64.5	48.843
65.0	46.845
65.5	44.899
66.0	42.981
66.5	41.099
67.0	39.260
67.5	37.474
68.0	35.720
68.5	33.992
69.0	32.286
69.5	30.601
70.0	28.943
70.5	27.305
71.0	25.743
71.5	24.244
72.0	22.809
72.5	21.405
73.0	20.055
73.5	18.753
74.0	17.546
74.5	16.403
75.0	15.340
75.5	14.368
76.0	13.475
76.5	12.661
77.0	11.938
77.5	11.301
78.0	10.716
78.5	10.174
79.0	9.642
79.5	9.100
80.0	8.558
80.5	8.016
81.0	7.489
81.5	6.974
82.0	6.469
82.5	5.969

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CANDELA TABULATION - (Cont.)

83.0	5.491
83.5	5.012
84.0	4.539
84.5	4.082
85.0	3.641
85.5	3.211
86.0	2.785
86.5	2.371
87.0	1.951
87.5	1.531
88.0	1.116
88.5	0.707
89.0	0.367
89.5	0.149
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

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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
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127.0	0.000
127.5	0.000
128.0	0.000
128.5	0.000
129.0	0.000
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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	98.96	N.A.	17.00
0-30	205.38	N.A.	35.30
0-40	324.27	N.A.	55.70
0-60	514.07	N.A.	88.30
0-80	578.32	N.A.	99.30
0-90	582.46	N.A.	100.00
10-90	556.54	N.A.	95.50
20-40	225.31	N.A.	38.70
20-50	333.75	N.A.	57.30
40-70	236.58	N.A.	40.60
60-80	64.25	N.A.	11.00
70-80	17.46	N.A.	3.00
80-90	4.14	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	582.46	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	25.92
10-20	73.04
20-30	106.42
30-40	118.90
40-50	108.44
50-60	81.36
60-70	46.78
70-80	17.46
80-90	4.14
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	128	128	128	128	125	125	125	125	119	119	119	114	114	114	109	109	109	107
1	119	114	110	107	116	112	108	105	107	104	102	103	101	99	99	98	96	94
2	109	102	95	90	107	100	94	89	96	91	87	92	88	85	89	86	83	81
3	101	91	83	77	98	89	82	76	86	80	75	83	78	73	80	76	72	70
4	93	81	73	66	91	80	72	66	77	70	65	75	69	64	73	68	63	61
5	86	73	65	58	84	72	64	58	70	63	57	68	62	57	66	60	56	54
6	80	67	58	51	78	66	57	51	64	56	51	62	55	50	60	55	50	48
7	74	61	52	46	72	60	52	46	58	51	45	57	50	45	55	49	45	43
8	69	56	47	41	68	55	47	41	54	46	41	52	46	41	51	45	41	39
9	65	51	43	38	64	51	43	37	50	42	37	48	42	37	47	41	37	35
10	61	48	40	34	60	47	39	34	46	39	34	45	39	34	44	38	34	32

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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

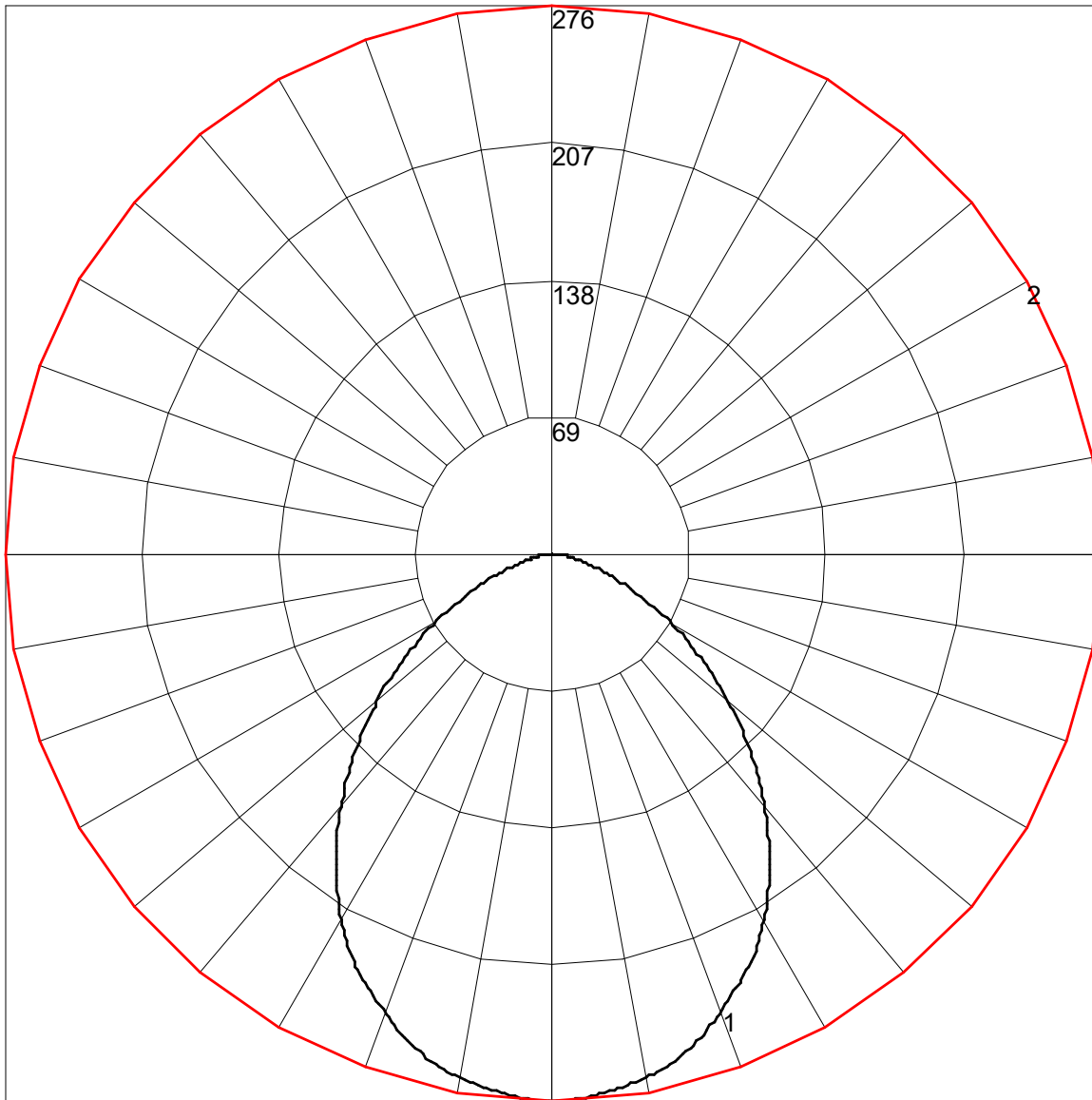
X=2H	Y=2H	20.7	22.1	21.0	22.5	22.8	20.7	22.1	21.0	22.5	22.8
	3H	21.6	22.9	22.0	23.3	23.6	21.6	22.9	22.0	23.3	23.6
	4H	21.8	23.0	22.2	23.4	23.8	21.8	23.0	22.2	23.4	23.8
	6H	21.9	23.1	22.3	23.4	23.8	21.9	23.1	22.3	23.4	23.8
	8H	21.9	23.0	22.4	23.4	23.8	21.9	23.0	22.4	23.4	23.8
	12H	22.0	23.0	22.4	23.4	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 = 275.658 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.)