

## IES INDOOR REPORT

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

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #15006535.03

[TESTLAB] UL Verification Services Inc.

[ISSUE DATE] 21 NOV, 2023

[TEST DATE] 10/18/2023

[MANUFAC] H E Williams Inc

[LUMCAT] 4RCD-LS-9CS-SS-DIM-UNV-7W-4000k

[LUMINAIRE] Round plastic housing with semi-specular reflector and frosted lens

[LAMP] White LEDs

[BALLAST] LED Driver

[OTHER] 24.9 C, 120.034 V, 0.096676 A, 11.5454 W, 0.994911 PF, 59.9707

[MORE] 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	692
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	99
Total Luminaire Watts	6.99
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.16
Spacing Criterion (90-270)	1.16
Spacing Criterion (Diagonal)	1.22
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	29942	29942	29942
55	20136	20136	20136
65	10762	10762	10762
75	1603	1603	1603
85	313	313	313

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CANDELA TABULATION

	<u>0</u>
0.0	370.715
0.5	370.657
1.0	370.598
1.5	370.424
2.0	370.191
2.5	369.899
3.0	369.550
3.5	369.142
4.0	368.676
4.5	368.210
5.0	367.686
5.5	367.104
6.0	366.463
6.5	365.822
7.0	365.124
7.5	364.425
8.0	363.726
8.5	363.027
9.0	362.328
9.5	361.571
10.0	360.814
10.5	359.940
11.0	359.066
11.5	358.076
12.0	356.970
12.5	355.921
13.0	354.756
13.5	353.475
14.0	352.194
14.5	350.854
15.0	349.514
15.5	348.058
16.0	346.602
16.5	344.972
17.0	343.341
17.5	341.535
18.0	339.671
18.5	337.749
19.0	335.711
19.5	333.614
20.0	331.517
20.5	329.479
21.0	327.499
21.5	325.518
22.0	323.596
22.5	321.674
23.0	319.811
23.5	317.889
24.0	315.967
24.5	314.045
25.0	312.006
25.5	309.851
26.0	307.522
26.5	305.075

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**CANDELA TABULATION - (Cont.)**

<b>27.0</b>	302.513
<b>27.5</b>	299.892
<b>28.0</b>	297.154
<b>28.5</b>	294.417
<b>29.0</b>	291.563
<b>29.5</b>	288.651
<b>30.0</b>	285.622
<b>30.5</b>	282.535
<b>31.0</b>	279.390
<b>31.5</b>	276.129
<b>32.0</b>	272.867
<b>32.5</b>	269.605
<b>33.0</b>	266.286
<b>33.5</b>	262.849
<b>34.0</b>	259.413
<b>34.5</b>	255.918
<b>35.0</b>	252.366
<b>35.5</b>	248.813
<b>36.0</b>	245.202
<b>36.5</b>	241.416
<b>37.0</b>	237.514
<b>37.5</b>	233.495
<b>38.0</b>	229.535
<b>38.5</b>	225.574
<b>39.0</b>	221.555
<b>39.5</b>	217.537
<b>40.0</b>	213.460
<b>40.5</b>	209.324
<b>41.0</b>	205.247
<b>41.5</b>	201.112
<b>42.0</b>	196.919
<b>42.5</b>	192.783
<b>43.0</b>	188.532
<b>43.5</b>	184.280
<b>44.0</b>	180.028
<b>44.5</b>	175.718
<b>45.0</b>	171.467
<b>45.5</b>	167.273
<b>46.0</b>	163.021
<b>46.5</b>	158.828
<b>47.0</b>	154.693
<b>47.5</b>	150.557
<b>48.0</b>	146.422
<b>48.5</b>	142.345
<b>49.0</b>	138.268
<b>49.5</b>	134.249
<b>50.0</b>	130.289
<b>50.5</b>	126.387
<b>51.0</b>	122.543
<b>51.5</b>	118.757
<b>52.0</b>	114.971
<b>52.5</b>	111.244
<b>53.0</b>	107.574
<b>53.5</b>	103.963
<b>54.0</b>	100.469
<b>54.5</b>	96.974

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CANDELA TABULATION - (Cont.)

55.0	93.538
55.5	90.160
56.0	86.840
56.5	83.637
57.0	80.433
57.5	77.288
58.0	74.201
58.5	71.173
59.0	68.202
59.5	65.290
60.0	62.436
60.5	59.582
61.0	56.804
61.5	54.073
62.0	51.428
62.5	48.842
63.0	46.320
63.5	43.833
64.0	41.446
64.5	39.127
65.0	36.833
65.5	34.579
66.0	32.336
66.5	30.129
67.0	27.997
67.5	25.918
68.0	23.903
68.5	21.952
69.0	20.088
69.5	18.259
70.0	16.494
70.5	14.788
71.0	13.169
71.5	11.637
72.0	10.187
72.5	8.830
73.0	7.542
73.5	6.348
74.0	5.236
74.5	4.246
75.0	3.361
75.5	2.569
76.0	1.852
76.5	1.305
77.0	0.961
77.5	0.804
78.0	0.746
78.5	0.693
79.0	0.646
79.5	0.600
80.0	0.553
80.5	0.513
81.0	0.472
81.5	0.431
82.0	0.396
82.5	0.361

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CANDELA TABULATION - (Cont.)

83.0	0.332
83.5	0.303
84.0	0.274
84.5	0.245
85.0	0.221
85.5	0.198
86.0	0.175
86.5	0.151
87.0	0.134
87.5	0.116
88.0	0.099
88.5	0.076
89.0	0.052
89.5	0.035
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
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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
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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
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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	133.19	N.A.	19.20
0-30	276.32	N.A.	39.90
0-40	433.30	N.A.	62.60
0-60	649.45	N.A.	93.80
0-80	691.95	N.A.	100.00
0-90	692.21	N.A.	100.00
10-90	657.34	N.A.	95.00
20-40	300.11	N.A.	43.40
20-50	432.10	N.A.	62.40
40-70	253.21	N.A.	36.60
60-80	42.49	N.A.	6.10
70-80	5.44	N.A.	0.80
80-90	0.26	N.A.	0.00
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	692.21	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	34.87
10-20	98.32
20-30	143.14
30-40	156.98
40-50	131.99
50-60	84.16
60-70	37.06
70-80	5.44
80-90	0.26
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	129	129	129	129	126	126	126	126	120	120	120	115	115	115	111	111	111	108
1	121	117	113	110	118	115	111	109	110	108	105	106	104	102	102	101	99	97
2	112	105	99	95	110	103	98	93	100	95	91	96	93	89	93	90	87	85
3	104	95	88	82	102	93	87	81	90	84	80	87	83	78	85	81	77	75
4	97	86	78	72	94	84	77	71	82	75	70	79	74	69	77	72	68	66
5	90	78	69	63	88	77	69	63	74	68	62	72	66	62	71	65	61	59
6	83	71	62	56	82	70	62	56	68	61	56	66	60	55	65	59	55	53
7	78	65	57	51	76	64	56	51	63	55	50	61	55	50	60	54	50	48
8	73	60	52	46	71	59	51	46	58	51	45	56	50	45	55	49	45	43
9	68	55	47	42	67	55	47	42	53	46	41	52	46	41	51	45	41	39
10	64	51	43	38	63	51	43	38	50	43	38	49	42	38	48	42	38	36

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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	20.0	21.4	20.3	21.7	22.0	20.0	21.4	20.3	21.7	22.0
	3H	20.4	21.6	20.7	21.9	22.3	20.4	21.6	20.7	21.9	22.3
	4H	20.3	21.5	20.7	21.8	22.2	20.3	21.5	20.7	21.8	22.2
	6H	20.2	21.3	20.6	21.7	22.1	20.2	21.3	20.6	21.7	22.1
	8H	20.2	21.2	20.6	21.6	22.0	20.2	21.2	20.6	21.6	22.0
	12H	20.2	21.1	20.6	21.5	21.9	20.2	21.1	20.6	21.5	21.9

UGR Viewed Endwise

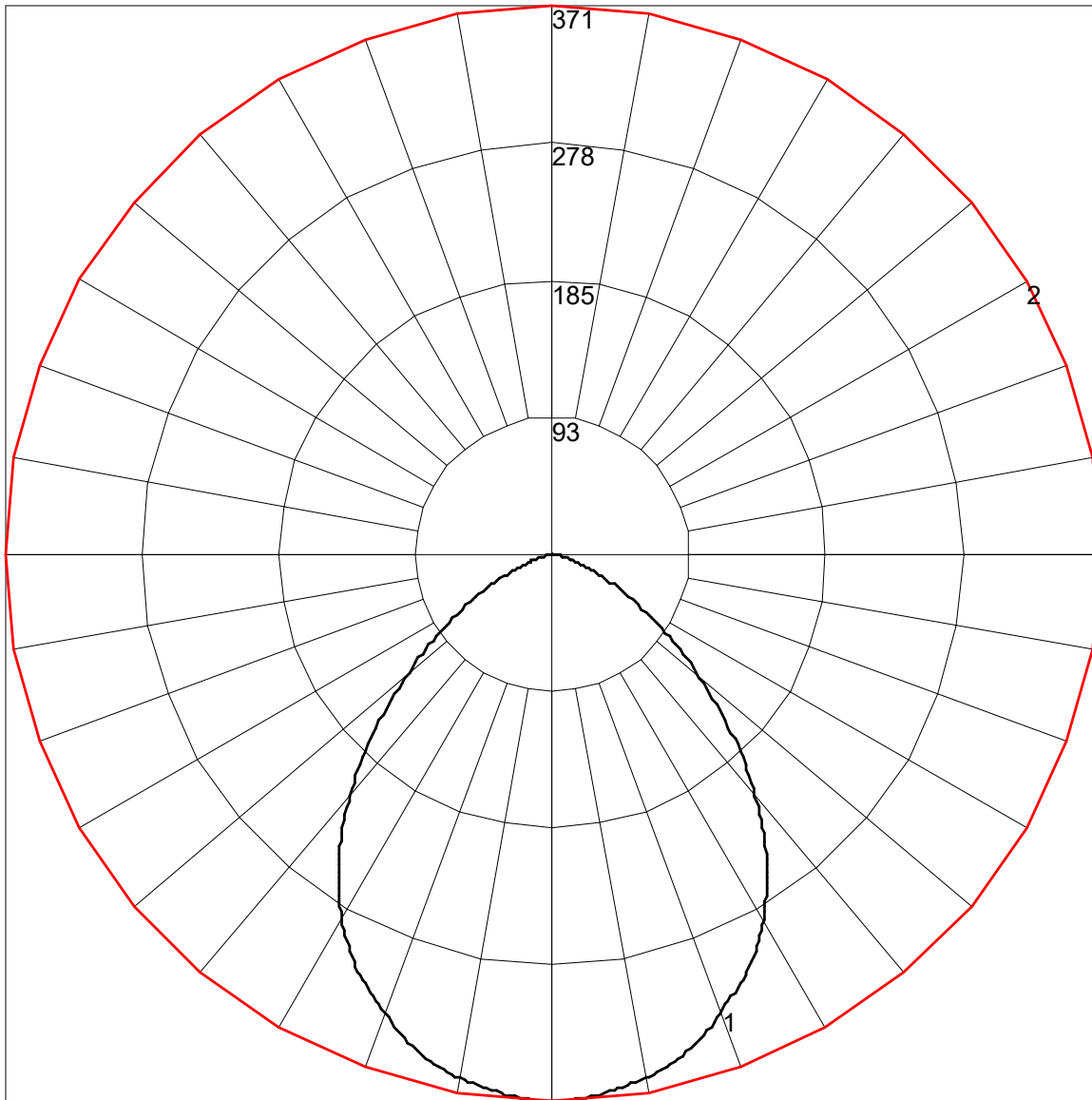
4H	2H	20.2	21.3	20.6	21.7	22.0	20.2	21.3	20.6	21.7	22.0
	3H	20.6	21.5	21.0	21.9	22.3	20.6	21.5	21.0	21.9	22.3
	4H	20.5	21.4	21.0	21.8	22.2	20.5	21.4	21.0	21.8	22.2
	6H	20.5	21.2	20.9	21.6	22.1	20.5	21.2	20.9	21.6	22.1
	8H	20.4	21.1	20.9	21.5	22.0	20.4	21.1	20.9	21.5	22.0
	12H	20.4	21.0	20.8	21.4	21.9	20.4	21.0	20.8	21.4	21.9

8H	4H	20.4	21.1	20.9	21.5	22.0	20.4	21.1	20.9	21.5	22.0
	6H	20.3	20.9	20.8	21.4	21.9	20.3	20.9	20.8	21.4	21.9
	8H	20.3	20.8	20.8	21.3	21.8	20.3	20.8	20.8	21.3	21.8
	12H	20.2	20.7	20.7	21.2	21.7	20.2	20.7	20.7	21.2	21.7

12H	4H	20.4	21.0	20.9	21.5	21.9	20.4	21.0	20.9	21.5	21.9
	6H	20.3	20.8	20.8	21.2	21.8	20.3	20.8	20.8	21.2	21.8
	8H	20.2	20.7	20.7	21.2	21.7	20.2	20.7	20.7	21.2	21.7

Maximum UGR = 22.3

POLAR GRAPH



Maximum Candela = 370.715 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.)