

IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4RCD-LS-9CS-WH-DIM-UNV-9W-4000K_.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-9W-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	851
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	93
Total Luminaire Watts	9.13
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	35921	35921	35921
55	28597	28597	28597
65	20003	20003	20003
75	10696	10696	10696
85	7538	7538	7538

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CANDELA TABULATION

	<u>0</u>
0.0	402.871
0.5	402.871
1.0	402.716
1.5	402.483
2.0	402.250
2.5	402.017
3.0	401.628
3.5	401.240
4.0	400.696
4.5	400.152
5.0	399.531
5.5	398.909
6.0	398.210
6.5	397.433
7.0	396.657
7.5	395.880
8.0	395.025
8.5	394.248
9.0	393.471
9.5	392.695
10.0	391.840
10.5	390.908
11.0	389.898
11.5	388.810
12.0	387.645
12.5	386.480
13.0	385.237
13.5	383.916
14.0	382.518
14.5	381.042
15.0	379.488
15.5	377.935
16.0	376.303
16.5	374.594
17.0	372.730
17.5	370.788
18.0	368.768
18.5	366.593
19.0	364.418
19.5	362.165
20.0	359.834
20.5	357.581
21.0	355.406
21.5	353.309
22.0	351.211
22.5	349.191
23.0	347.172
23.5	345.152
24.0	343.054
24.5	340.957
25.0	338.782
25.5	336.451
26.0	334.043
26.5	331.402

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CANDELA TABULATION - (Cont.)

27.0	328.760
27.5	325.964
28.0	323.245
28.5	320.448
29.0	317.496
29.5	314.466
30.0	311.437
30.5	308.252
31.0	305.067
31.5	301.804
32.0	298.619
32.5	295.278
33.0	292.016
33.5	288.675
34.0	285.335
34.5	281.994
35.0	278.654
35.5	275.236
36.0	271.740
36.5	268.244
37.0	264.593
37.5	260.942
38.0	257.291
38.5	253.640
39.0	249.988
39.5	246.260
40.0	242.608
40.5	238.957
41.0	235.306
41.5	231.655
42.0	227.926
42.5	224.275
43.0	220.624
43.5	216.895
44.0	213.166
44.5	209.437
45.0	205.708
45.5	201.979
46.0	198.251
46.5	194.522
47.0	190.871
47.5	187.219
48.0	183.491
48.5	179.839
49.0	176.111
49.5	172.459
50.0	168.731
50.5	165.157
51.0	161.506
51.5	157.855
52.0	154.204
52.5	150.552
53.0	146.979
53.5	143.405
54.0	139.910
54.5	136.336

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CANDELA TABULATION - (Cont.)

55.0	132.840
55.5	129.267
56.0	125.849
56.5	122.508
57.0	119.090
57.5	115.750
58.0	112.409
58.5	109.069
59.0	105.728
59.5	102.466
60.0	99.203
60.5	96.018
61.0	92.833
61.5	89.648
62.0	86.463
62.5	83.433
63.0	80.326
63.5	77.343
64.0	74.321
64.5	71.384
65.0	68.463
65.5	65.620
66.0	62.816
66.5	60.066
67.0	57.378
67.5	54.768
68.0	52.204
68.5	49.679
69.0	47.186
69.5	44.723
70.0	42.299
70.5	39.906
71.0	37.623
71.5	35.432
72.0	33.334
72.5	31.284
73.0	29.310
73.5	27.407
74.0	25.644
74.5	23.973
75.0	22.420
75.5	20.998
76.0	19.693
76.5	18.504
77.0	17.448
77.5	16.516
78.0	15.661
78.5	14.869
79.0	14.092
79.5	13.300
80.0	12.507
80.5	11.715
81.0	10.946
81.5	10.192
82.0	9.454
82.5	8.724

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CANDELA TABULATION - (Cont.)

83.0	8.025
83.5	7.326
84.0	6.634
84.5	5.966
85.0	5.321
85.5	4.692
86.0	4.071
86.5	3.465
87.0	2.851
87.5	2.237
88.0	1.631
88.5	1.033
89.0	0.536
89.5	0.218
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
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130.0	0.000
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131.0	0.000
131.5	0.000
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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	144.63	N.A.	17.00
0-30	300.16	N.A.	35.30
0-40	473.92	N.A.	55.70
0-60	751.31	N.A.	88.30
0-80	845.21	N.A.	99.30
0-90	851.26	N.A.	100.00
10-90	813.38	N.A.	95.50
20-40	329.29	N.A.	38.70
20-50	487.78	N.A.	57.30
40-70	345.76	N.A.	40.60
60-80	93.90	N.A.	11.00
70-80	25.52	N.A.	3.00
80-90	6.05	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	851.26	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	37.88
10-20	106.75
20-30	155.53
30-40	173.76
40-50	158.49
50-60	118.90
60-70	68.38
70-80	25.52
80-90	6.05
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	187	187	187	187	182	182	182	182	174	174	174	167	167	167	160	160	160	157
1	173	167	161	156	169	163	158	154	157	153	149	151	147	144	145	143	140	137
2	160	148	139	131	156	146	137	130	140	133	127	135	129	124	130	126	121	118
3	147	132	121	112	143	130	120	111	125	117	109	121	114	107	117	111	106	102
4	136	119	106	97	132	117	105	96	113	103	95	109	101	94	106	99	93	89
5	126	107	94	85	122	106	93	84	102	92	84	99	90	83	97	88	82	79
6	117	97	84	75	114	96	84	75	93	82	74	91	81	74	88	80	73	70
7	109	89	76	67	106	88	75	67	85	74	66	83	73	66	81	72	66	63
8	101	82	69	60	99	80	69	60	78	68	60	77	67	60	75	66	59	56
9	95	75	63	55	93	74	63	55	73	62	54	71	61	54	69	60	54	51
10	89	70	58	50	87	69	58	50	67	57	50	66	56	50	65	56	49	47

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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

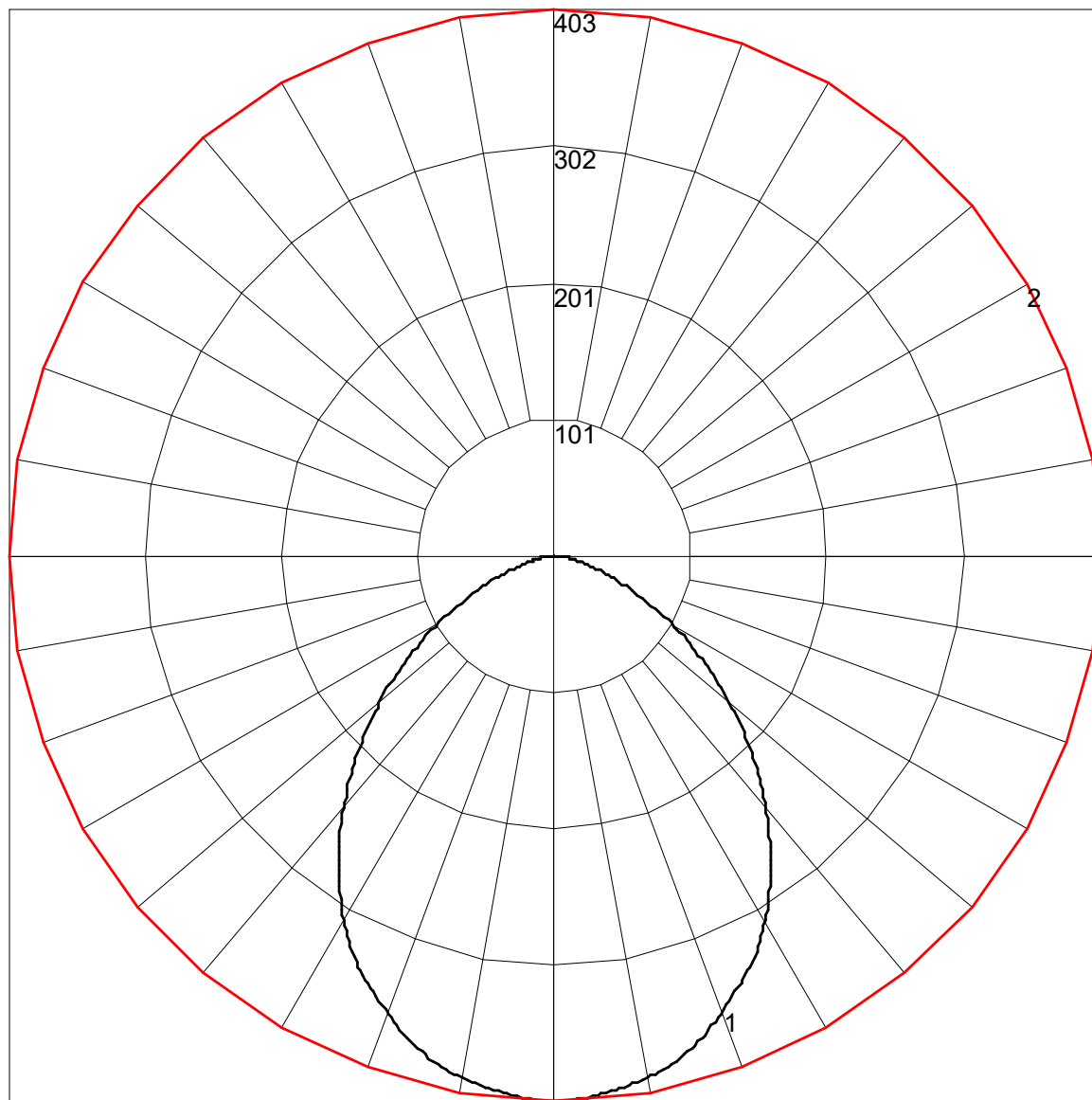
X=2H	Y=2H	20.7	22.1	21.0	22.5	22.8	20.7	22.1	21.0	22.5	22.8
	3H	21.6	22.9	22.0	23.3	23.6	21.6	22.9	22.0	23.3	23.6
	4H	21.8	23.0	22.2	23.4	23.8	21.8	23.0	22.2	23.4	23.8
	6H	21.9	23.1	22.3	23.4	23.8	21.9	23.1	22.3	23.4	23.8
	8H	21.9	23.0	22.4	23.4	23.8	21.9	23.0	22.4	23.4	23.8
	12H	22.0	23.0	22.4	23.4	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 = 402.871 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.)