

## IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4RCD-LS-9CS-SS-DIM-UNV-12W-3500K\_.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #15006535.03

[TESTLAB] UL Verification Services Inc.

[ISSUE DATE] 17 NOV, 2023

[TEST DATE] 10/18/2023

[MANUFAC] H E Williams Inc

[LUMCAT] 4RCD-LS-9CS-SS-DIM-UNV-12W-3500k

[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	1194
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	98
Total Luminaire Watts	12.23
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	51666	51666	51666
55	34746	34746	34746
65	18569	18569	18569
75	2767	2767	2767
85	541	541	541

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CANDELA TABULATION

	<u>0</u>
0.0	639.682
0.5	639.582
1.0	639.481
1.5	639.180
2.0	638.778
2.5	638.275
3.0	637.672
3.5	636.969
4.0	636.165
4.5	635.361
5.0	634.456
5.5	633.451
6.0	632.346
6.5	631.240
7.0	630.034
7.5	628.828
8.0	627.622
8.5	626.416
9.0	625.210
9.5	623.904
10.0	622.597
10.5	621.090
11.0	619.582
11.5	617.874
12.0	615.964
12.5	614.155
13.0	612.145
13.5	609.934
14.0	607.723
14.5	605.412
15.0	603.100
15.5	600.588
16.0	598.075
16.5	595.261
17.0	592.447
17.5	589.332
18.0	586.116
18.5	582.799
19.0	579.282
19.5	575.664
20.0	572.046
20.5	568.528
21.0	565.111
21.5	561.694
22.0	558.378
22.5	555.061
23.0	551.845
23.5	548.529
24.0	545.212
24.5	541.896
25.0	538.378
25.5	534.660
26.0	530.640
26.5	526.419

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CANDELA TABULATION - (Cont.)

27.0	521.997
27.5	517.474
28.0	512.751
28.5	508.027
29.0	503.103
29.5	498.078
30.0	492.852
30.5	487.525
31.0	482.098
31.5	476.470
32.0	470.842
32.5	465.214
33.0	459.486
33.5	453.556
34.0	447.627
34.5	441.597
35.0	435.466
35.5	429.336
36.0	423.105
36.5	416.572
37.0	409.839
37.5	402.904
38.0	396.070
38.5	389.236
39.0	382.302
39.5	375.367
40.0	368.332
40.5	361.197
41.0	354.162
41.5	347.026
42.0	339.790
42.5	332.655
43.0	325.318
43.5	317.982
44.0	310.645
44.5	303.208
45.0	295.872
45.5	288.636
46.0	281.299
46.5	274.063
47.0	266.928
47.5	259.792
48.0	252.657
48.5	245.622
49.0	238.587
49.5	231.652
50.0	224.818
50.5	218.085
51.0	211.452
51.5	204.919
52.0	198.387
52.5	191.955
53.0	185.623
53.5	179.392
54.0	173.362
54.5	167.332

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CANDELA TABULATION - (Cont.)

55.0	161.403
55.5	155.574
56.0	149.845
56.5	144.318
57.0	138.790
57.5	133.363
58.0	128.037
58.5	122.811
59.0	117.685
59.5	112.660
60.0	107.736
60.5	102.811
61.0	98.018
61.5	93.304
62.0	88.741
62.5	84.279
63.0	79.928
63.5	75.636
64.0	71.516
64.5	67.516
65.0	63.556
65.5	59.667
66.0	55.798
66.5	51.989
67.0	48.310
67.5	44.722
68.0	41.245
68.5	37.878
69.0	34.662
69.5	31.507
70.0	28.462
70.5	25.517
71.0	22.723
71.5	20.080
72.0	17.577
72.5	15.236
73.0	13.015
73.5	10.954
74.0	9.035
74.5	7.326
75.0	5.799
75.5	4.432
76.0	3.196
76.5	2.251
77.0	1.658
77.5	1.387
78.0	1.286
78.5	1.196
79.0	1.116
79.5	1.035
80.0	0.955
80.5	0.884
81.0	0.814
81.5	0.744
82.0	0.683
82.5	0.623

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CANDELA TABULATION - (Cont.)

83.0	0.573
83.5	0.523
84.0	0.472
84.5	0.422
85.0	0.382
85.5	0.342
86.0	0.301
86.5	0.261
87.0	0.231
87.5	0.201
88.0	0.171
88.5	0.131
89.0	0.090
89.5	0.060
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
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123.5	0.000
124.0	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
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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	229.82	N.A.	19.20
0-30	476.81	N.A.	39.90
0-40	747.67	N.A.	62.60
0-60	1120.65	N.A.	93.80
0-80	1193.98	N.A.	100.00
0-90	1194.43	N.A.	100.00
10-90	1134.26	N.A.	95.00
20-40	517.86	N.A.	43.40
20-50	745.61	N.A.	62.40
40-70	436.92	N.A.	36.60
60-80	73.33	N.A.	6.10
70-80	9.38	N.A.	0.80
80-90	0.46	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	1194.43	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	60.17
10-20	169.65
20-30	246.99
30-40	270.87
40-50	227.75
50-60	145.22
60-70	63.95
70-80	9.38
80-90	0.46
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	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	112	108	105	102	109	106	103	100	102	99	97	98	96	94	94	93	91	90
2	104	97	92	87	101	95	90	86	92	88	84	89	85	82	86	83	81	79
3	96	88	81	76	94	86	80	75	83	78	74	81	76	72	78	74	71	69
4	89	79	72	66	87	78	71	66	75	70	65	73	68	64	71	67	63	61
5	83	72	64	58	81	71	64	58	69	62	58	67	61	57	65	60	56	55
6	77	65	58	52	75	65	57	52	63	56	51	61	56	51	60	55	51	49
7	72	60	52	47	70	59	52	47	58	51	46	56	50	46	55	50	46	44
8	67	55	48	42	66	55	47	42	53	47	42	52	46	42	51	46	42	40
9	63	51	44	39	62	50	43	38	49	43	38	48	42	38	47	42	38	36
10	59	47	40	35	58	47	40	35	46	40	35	45	39	35	44	39	35	33

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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	22.1	23.5	22.5	23.8	24.1	22.1	23.5	22.5	23.8	24.1
	3H	22.5	23.7	22.8	24.0	24.4	22.5	23.7	22.8	24.0	24.4
	4H	22.4	23.6	22.8	23.9	24.3	22.4	23.6	22.8	23.9	24.3
	6H	22.3	23.4	22.7	23.8	24.2	22.3	23.4	22.7	23.8	24.2
	8H	22.3	23.3	22.7	23.7	24.1	22.3	23.3	22.7	23.7	24.1
	12H	22.3	23.2	22.7	23.6	24.0	22.3	23.2	22.7	23.6	24.0

### UGR Viewed Endwise

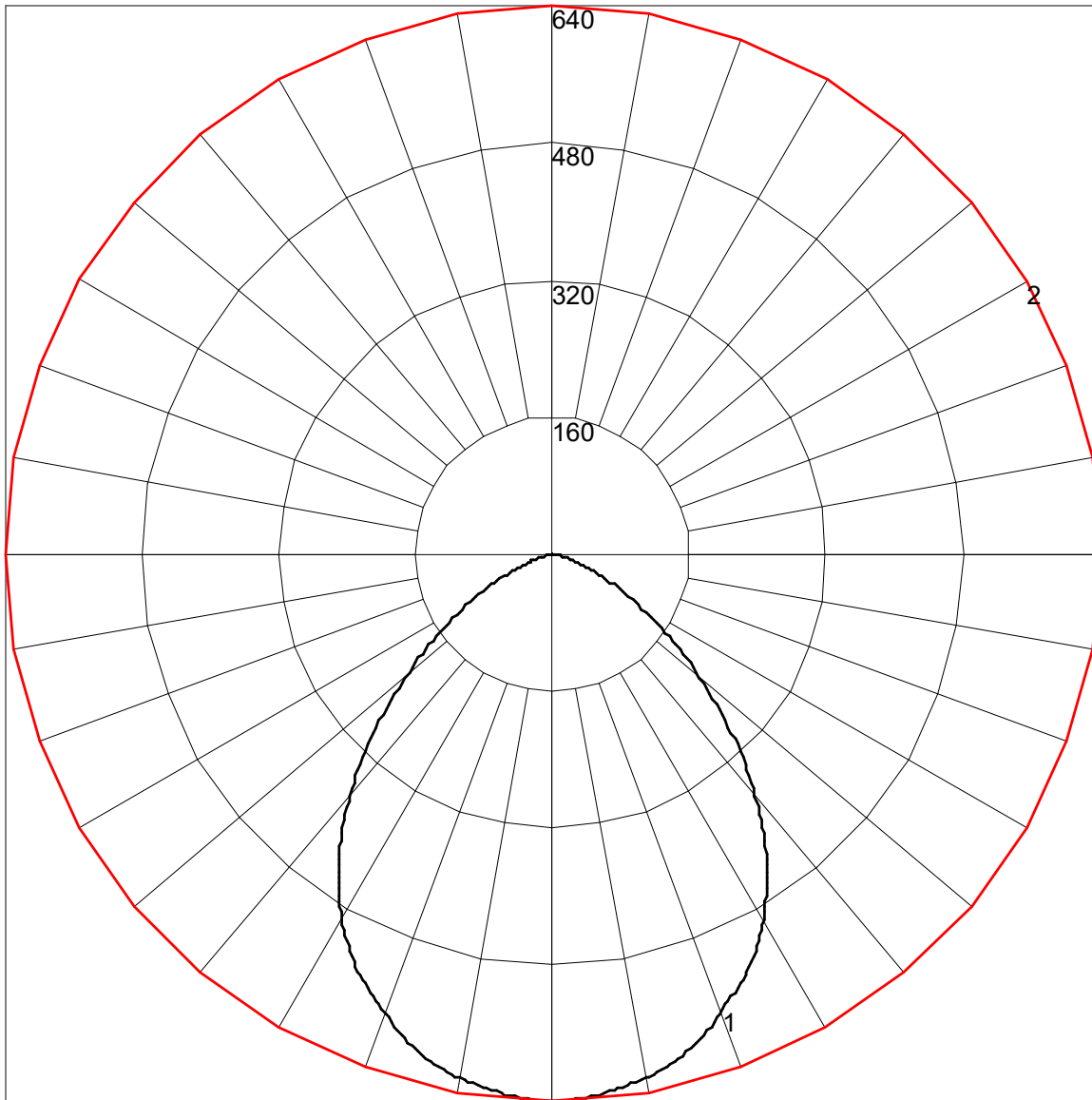
4H	2H	22.3	23.4	22.7	23.8	24.1	22.3	23.4	22.7	23.8	24.1
	3H	22.7	23.6	23.1	24.0	24.4	22.7	23.6	23.1	24.0	24.4
	4H	22.6	23.5	23.1	23.9	24.3	22.6	23.5	23.1	23.9	24.3
	6H	22.6	23.3	23.0	23.7	24.2	22.6	23.3	23.0	23.7	24.2
	8H	22.5	23.2	23.0	23.6	24.1	22.5	23.2	23.0	23.6	24.1
	12H	22.5	23.1	22.9	23.5	24.0	22.5	23.1	22.9	23.5	24.0

8H	4H	22.5	23.2	23.0	23.6	24.1	22.5	23.2	23.0	23.6	24.1
	6H	22.4	23.0	22.9	23.5	24.0	22.4	23.0	22.9	23.5	24.0
	8H	22.4	22.9	22.9	23.4	23.9	22.4	22.9	22.9	23.4	23.9
	12H	22.3	22.8	22.8	23.3	23.8	22.3	22.8	22.8	23.3	23.8

12H	4H	22.5	23.1	23.0	23.6	24.0	22.5	23.1	23.0	23.6	24.0
	6H	22.4	22.9	22.9	23.3	23.9	22.4	22.9	22.9	23.3	23.9
	8H	22.3	22.8	22.8	23.3	23.8	22.3	22.8	22.8	23.3	23.8

Maximum UGR = 24.4

POLAR GRAPH



Maximum Candela = 639.682 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.)