

IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4RCD-LS-9CS-SS-DIM-UNV-9W-3000K_.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-9W-3000k

[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	904
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	94
Total Luminaire Watts	9.66
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	39098	39098	39098
55	26294	26294	26294
65	14052	14052	14052
75	2093	2093	2093
85	409	409	409

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CANDELA TABULATION

	<u>0</u>
0.0	484.079
0.5	484.003
1.0	483.927
1.5	483.698
2.0	483.394
2.5	483.014
3.0	482.558
3.5	482.025
4.0	481.417
4.5	480.808
5.0	480.124
5.5	479.363
6.0	478.527
6.5	477.690
7.0	476.778
7.5	475.865
8.0	474.952
8.5	474.040
9.0	473.127
9.5	472.138
10.0	471.150
10.5	470.009
11.0	468.868
11.5	467.575
12.0	466.130
12.5	464.761
13.0	463.240
13.5	461.567
14.0	459.894
14.5	458.145
15.0	456.395
15.5	454.494
16.0	452.593
16.5	450.463
17.0	448.334
17.5	445.976
18.0	443.542
18.5	441.033
19.0	438.371
19.5	435.633
20.0	432.895
20.5	430.233
21.0	427.647
21.5	425.061
22.0	422.552
22.5	420.042
23.0	417.608
23.5	415.098
24.0	412.589
24.5	410.079
25.0	407.417
25.5	404.603
26.0	401.561
26.5	398.367

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CANDELA TABULATION - (Cont.)

27.0	395.020
27.5	391.598
28.0	388.023
28.5	384.449
29.0	380.722
29.5	376.920
30.0	372.965
30.5	368.934
31.0	364.827
31.5	360.568
32.0	356.309
32.5	352.050
33.0	347.715
33.5	343.228
34.0	338.741
34.5	334.178
35.0	329.539
35.5	324.899
36.0	320.184
36.5	315.241
37.0	310.145
37.5	304.897
38.0	299.726
38.5	294.554
39.0	289.306
39.5	284.059
40.0	278.735
40.5	273.335
41.0	268.012
41.5	262.612
42.0	257.136
42.5	251.736
43.0	246.184
43.5	240.632
44.0	235.080
44.5	229.453
45.0	223.901
45.5	218.425
46.0	212.873
46.5	207.397
47.0	201.997
47.5	196.598
48.0	191.198
48.5	185.874
49.0	180.550
49.5	175.303
50.0	170.131
50.5	165.035
51.0	160.016
51.5	155.072
52.0	150.129
52.5	145.262
53.0	140.470
53.5	135.755
54.0	131.192
54.5	126.629

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CANDELA TABULATION - (Cont.)

55.0	122.141
55.5	117.730
56.0	113.395
56.5	109.212
57.0	105.029
57.5	100.923
58.0	96.892
58.5	92.937
59.0	89.058
59.5	85.256
60.0	81.529
60.5	77.802
61.0	74.175
61.5	70.608
62.0	67.155
62.5	63.778
63.0	60.485
63.5	57.238
64.0	54.119
64.5	51.093
65.0	48.096
65.5	45.153
66.0	42.225
66.5	39.342
67.0	36.559
67.5	33.844
68.0	31.212
68.5	28.664
69.0	26.231
69.5	23.843
70.0	21.538
70.5	19.310
71.0	17.196
71.5	15.195
72.0	13.302
72.5	11.530
73.0	9.849
73.5	8.290
74.0	6.837
74.5	5.544
75.0	4.388
75.5	3.354
76.0	2.418
76.5	1.704
77.0	1.255
77.5	1.050
78.0	0.973
78.5	0.905
79.0	0.844
79.5	0.783
80.0	0.723
80.5	0.669
81.0	0.616
81.5	0.563
82.0	0.517
82.5	0.472

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CANDELA TABULATION - (Cont.)

83.0	0.434
83.5	0.395
84.0	0.357
84.5	0.319
85.0	0.289
85.5	0.259
86.0	0.228
86.5	0.198
87.0	0.175
87.5	0.152
88.0	0.129
88.5	0.099
89.0	0.068
89.5	0.046
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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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	173.91	N.A.	19.20
0-30	360.82	N.A.	39.90
0-40	565.80	N.A.	62.60
0-60	848.05	N.A.	93.80
0-80	903.54	N.A.	100.00
0-90	903.89	N.A.	100.00
10-90	858.35	N.A.	95.00
20-40	391.89	N.A.	43.40
20-50	564.24	N.A.	62.40
40-70	330.64	N.A.	36.60
60-80	55.49	N.A.	6.10
70-80	7.10	N.A.	0.80
80-90	0.35	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	903.89	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	45.53
10-20	128.38
20-30	186.91
30-40	204.98
40-50	172.35
50-60	109.90
60-70	48.39
70-80	7.10
80-90	0.35
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	123	123	123	123	120	120	120	120	115	115	115	110	110	110	106	106	106	103
1	115	112	108	105	113	109	106	104	105	103	100	101	99	97	98	96	95	93
2	107	100	95	90	105	99	94	89	95	91	87	92	88	85	89	86	83	81
3	99	90	84	78	97	89	83	77	86	81	76	83	79	75	81	77	74	72
4	92	82	74	68	90	80	73	68	78	72	67	76	70	66	74	69	65	63
5	86	74	66	60	84	73	66	60	71	65	60	69	63	59	67	62	58	56
6	80	68	60	54	78	67	59	54	65	58	53	63	57	53	62	57	52	51
7	74	62	54	48	73	61	54	48	60	53	48	58	52	48	57	52	47	45
8	70	57	49	44	68	56	49	44	55	48	43	54	48	43	53	47	43	41
9	65	53	45	40	64	52	45	40	51	44	40	50	44	39	49	43	39	38
10	61	49	41	37	60	48	41	36	47	41	36	47	40	36	46	40	36	34

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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	21.0	22.4	21.4	22.7	23.0	UGR Viewed Endwise	21.0	22.4	21.4	22.7	23.0
	3H	21.4	22.6	21.7	22.9	23.3		21.4	22.6	21.7	22.9	23.3
	4H	21.3	22.5	21.7	22.8	23.2		21.3	22.5	21.7	22.8	23.2
	6H	21.2	22.3	21.6	22.7	23.1		21.2	22.3	21.6	22.7	23.1
	8H	21.2	22.2	21.6	22.6	23.0		21.2	22.2	21.6	22.6	23.0
	12H	21.2	22.1	21.6	22.5	22.9		21.2	22.1	21.6	22.5	22.9

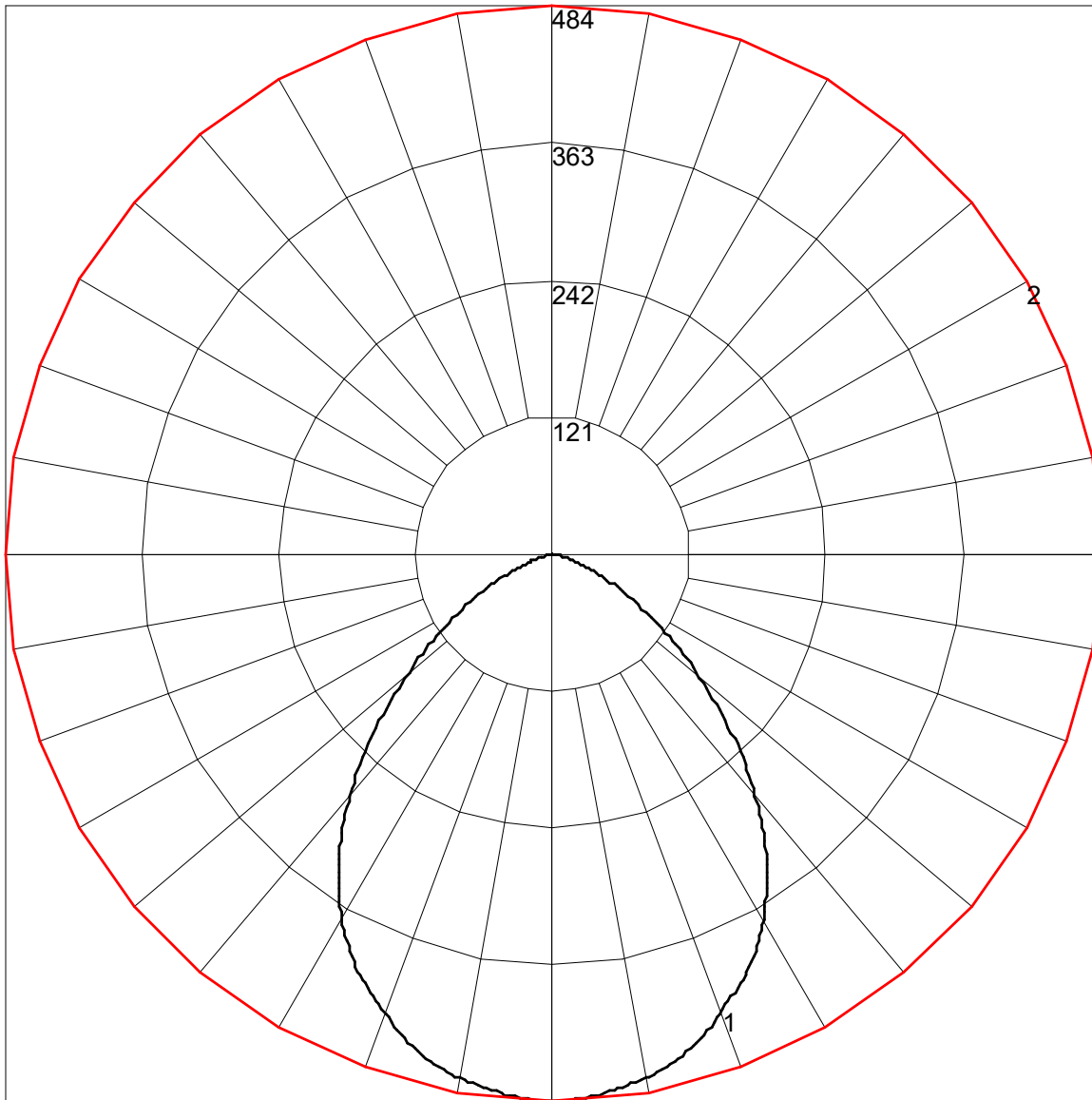
4H	2H	21.2	22.3	21.6	22.7	23.0	21.2	22.3	21.6	22.7	23.0
	3H	21.6	22.5	22.0	22.9	23.3	21.6	22.5	22.0	22.9	23.3
	4H	21.5	22.4	22.0	22.8	23.2	21.5	22.4	22.0	22.8	23.2
	6H	21.5	22.2	21.9	22.6	23.1	21.5	22.2	21.9	22.6	23.1
	8H	21.4	22.1	21.9	22.5	23.0	21.4	22.1	21.9	22.5	23.0
	12H	21.4	22.0	21.8	22.4	22.9	21.4	22.0	21.8	22.4	22.9

8H	4H	21.4	22.1	21.9	22.5	23.0	21.4	22.1	21.9	22.5	23.0
	6H	21.3	21.9	21.8	22.4	22.9	21.3	21.9	21.8	22.4	22.9
	8H	21.3	21.8	21.8	22.3	22.8	21.3	21.8	21.8	22.3	22.8
	12H	21.2	21.7	21.7	22.2	22.7	21.2	21.7	21.7	22.2	22.7

12H	4H	21.4	22.0	21.9	22.5	22.9	21.4	22.0	21.9	22.5	22.9
	6H	21.3	21.8	21.8	22.2	22.8	21.3	21.8	21.8	22.2	22.8
	8H	21.2	21.7	21.7	22.2	22.7	21.2	21.7	21.7	22.2	22.7

Maximum UGR = 23.3

POLAR GRAPH



Maximum Candela = 484.079 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.)