

IES INDOOR REPORT

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

[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	806
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	87
Total Luminaire Watts	9.23
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	34023	34023	34023
55	27085	27085	27085
65	18946	18946	18946
75	10131	10131	10131
85	7140	7140	7140

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CANDELA TABULATION

	<u>0</u>
0.0	381.575
0.5	381.575
1.0	381.428
1.5	381.208
2.0	380.987
2.5	380.766
3.0	380.398
3.5	380.030
4.0	379.515
4.5	379.000
5.0	378.412
5.5	377.823
6.0	377.161
6.5	376.425
7.0	375.689
7.5	374.953
8.0	374.144
8.5	373.408
9.0	372.673
9.5	371.937
10.0	371.127
10.5	370.244
11.0	369.288
11.5	368.258
12.0	367.154
12.5	366.050
13.0	364.873
13.5	363.622
14.0	362.298
14.5	360.900
15.0	359.428
15.5	357.957
16.0	356.412
16.5	354.793
17.0	353.027
17.5	351.188
18.0	349.275
18.5	347.215
19.0	345.154
19.5	343.021
20.0	340.813
20.5	338.679
21.0	336.619
21.5	334.633
22.0	332.646
22.5	330.733
23.0	328.820
23.5	326.907
24.0	324.920
24.5	322.934
25.0	320.874
25.5	318.666
26.0	316.385
26.5	313.884

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CANDELA TABULATION - (Cont.)

27.0	311.382
27.5	308.733
28.0	306.158
28.5	303.509
29.0	300.713
29.5	297.844
30.0	294.974
30.5	291.957
31.0	288.941
31.5	285.850
32.0	282.834
32.5	279.670
33.0	276.580
33.5	273.416
34.0	270.252
34.5	267.088
35.0	263.924
35.5	260.687
36.0	257.376
36.5	254.065
37.0	250.607
37.5	247.148
38.0	243.690
38.5	240.232
39.0	236.774
39.5	233.242
40.0	229.784
40.5	226.326
41.0	222.868
41.5	219.410
42.0	215.878
42.5	212.420
43.0	208.961
43.5	205.430
44.0	201.898
44.5	198.366
45.0	194.835
45.5	191.303
46.0	187.771
46.5	184.239
47.0	180.781
47.5	177.323
48.0	173.791
48.5	170.333
49.0	166.801
49.5	163.343
50.0	159.811
50.5	156.427
51.0	152.969
51.5	149.510
52.0	146.052
52.5	142.594
53.0	139.210
53.5	135.825
54.0	132.514
54.5	129.129

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CANDELA TABULATION - (Cont.)

55.0	125.818
55.5	122.434
56.0	119.196
56.5	116.032
57.0	112.795
57.5	109.631
58.0	106.467
58.5	103.303
59.0	100.140
59.5	97.049
60.0	93.959
60.5	90.942
61.0	87.926
61.5	84.909
62.0	81.892
62.5	79.023
63.0	76.080
63.5	73.254
64.0	70.392
64.5	67.611
65.0	64.844
65.5	62.151
66.0	59.495
66.5	56.891
67.0	54.345
67.5	51.872
68.0	49.444
68.5	47.053
69.0	44.691
69.5	42.359
70.0	40.063
70.5	37.797
71.0	35.634
71.5	33.559
72.0	31.572
72.5	29.630
73.0	27.761
73.5	25.958
74.0	24.288
74.5	22.706
75.0	21.235
75.5	19.888
76.0	18.652
76.5	17.526
77.0	16.526
77.5	15.643
78.0	14.833
78.5	14.083
79.0	13.347
79.5	12.597
80.0	11.846
80.5	11.096
81.0	10.367
81.5	9.653
82.0	8.954
82.5	8.263

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CANDELA TABULATION - (Cont.)

83.0	7.601
83.5	6.938
84.0	6.284
84.5	5.651
85.0	5.040
85.5	4.444
86.0	3.855
86.5	3.282
87.0	2.700
87.5	2.119
88.0	1.545
88.5	0.979
89.0	0.508
89.5	0.206
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
126.5	0.000
127.0	0.000
127.5	0.000
128.0	0.000
128.5	0.000
129.0	0.000
129.5	0.000
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	136.99	N.A.	17.00
0-30	284.29	N.A.	35.30
0-40	448.87	N.A.	55.70
0-60	711.60	N.A.	88.30
0-80	800.53	N.A.	99.30
0-90	806.27	N.A.	100.00
10-90	770.39	N.A.	95.60
20-40	311.89	N.A.	38.70
20-50	462.00	N.A.	57.30
40-70	327.49	N.A.	40.60
60-80	88.93	N.A.	11.00
70-80	24.17	N.A.	3.00
80-90	5.73	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	806.27	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	35.88
10-20	101.11
20-30	147.31
30-40	164.58
40-50	150.11
50-60	112.62
60-70	64.76
70-80	24.17
80-90	5.73
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	177	177	177	177	173	173	173	173	165	165	165	158	158	158	152	152	152	148
1	164	158	153	148	160	155	150	145	149	145	141	143	140	137	138	135	133	130
2	151	141	132	124	147	138	130	123	133	126	120	128	122	117	124	119	115	112
3	139	125	115	106	136	123	113	105	119	110	103	115	108	102	111	105	100	97
4	129	113	101	92	125	111	100	91	107	98	90	104	95	89	101	94	88	85
5	119	102	89	80	116	100	89	80	97	87	79	94	85	78	91	84	78	75
6	110	92	80	71	108	91	79	71	88	78	70	86	77	70	84	75	69	66
7	103	84	72	64	100	83	71	63	81	70	63	79	69	62	77	68	62	59
8	96	77	65	57	94	76	65	57	74	64	57	73	63	56	71	62	56	53
9	90	71	60	52	88	70	59	52	69	59	52	67	58	51	66	57	51	49
10	85	66	55	47	83	65	55	47	64	54	47	62	53	47	61	53	47	44

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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

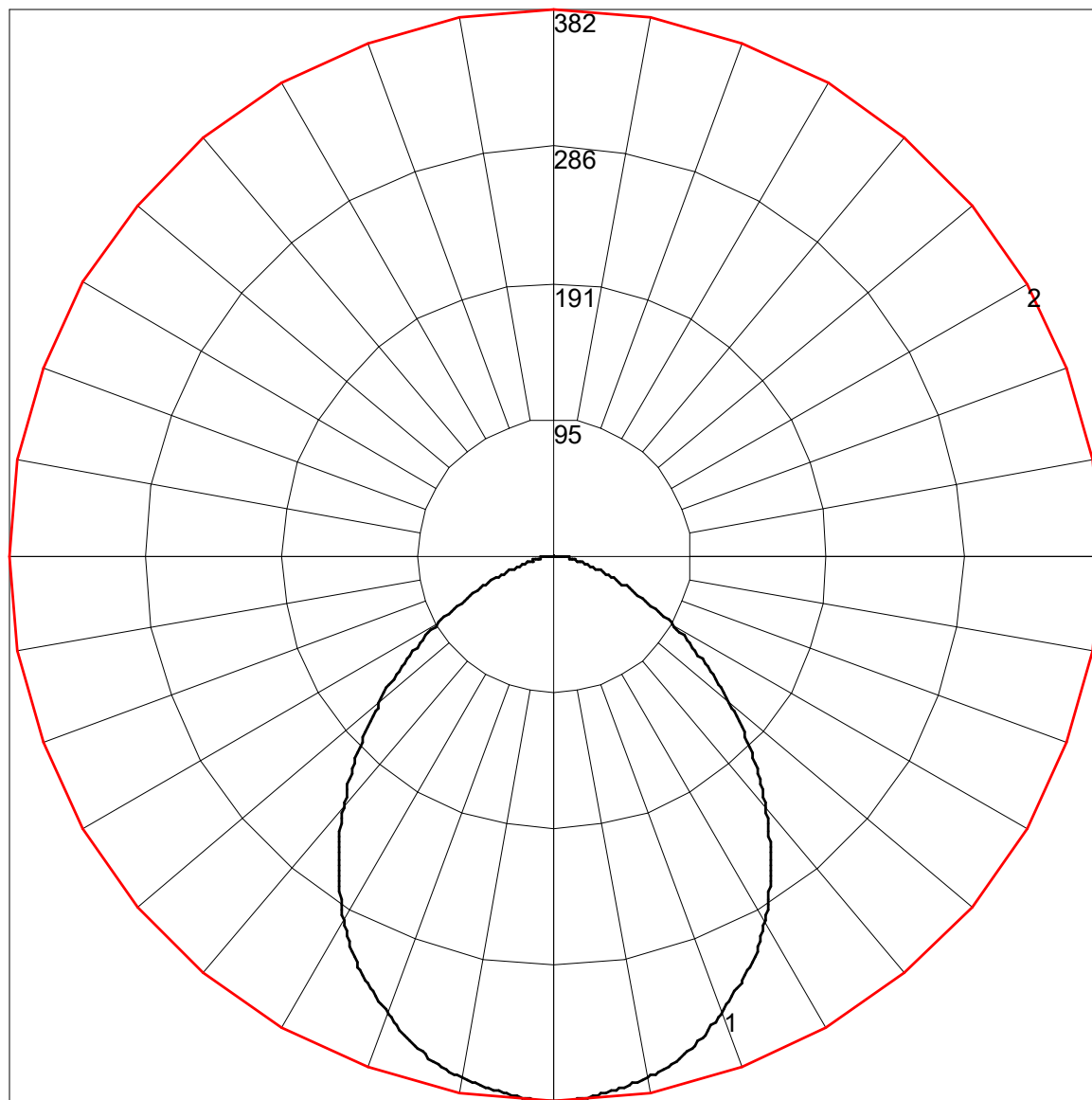
X=2H	Y=2H	20.7	22.1	21.0	22.5	22.8	20.7	22.1	21.0	22.5	22.8
	3H	21.6	22.9	22.0	23.3	23.6	21.6	22.9	22.0	23.3	23.6
	4H	21.8	23.0	22.2	23.4	23.8	21.8	23.0	22.2	23.4	23.8
	6H	21.9	23.1	22.3	23.4	23.8	21.9	23.1	22.3	23.4	23.8
	8H	21.9	23.0	22.4	23.4	23.8	21.9	23.0	22.4	23.4	23.8
	12H	22.0	23.0	22.4	23.4	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 = 381.575 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.)