



IES INDOOR REPORT
PHOTOMETRIC FILENAME : 4DR-TL-L31-RGB940-DMX-UNV-OW-OF-CS-TD WHITE ONLY.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] 15271106.07
[TESTLAB] UL Verification Services Inc.
[ISSUE DATE] 15 OCT, 2024
[TEST DATE] 5/10/2024
[MANUFAC] H E WILLIAMS INC
[LUMCAT] 4DR-TL-L31-RGB940-DMX-UNV-OW-OF-CS-TD WHITE ONLY
[LUMINAIRE] 4" Black aluminum cylindrical housing with external driver
[MORE] and DMX controller.
[LAMP] 28 white LEDs
[BALLAST] ERP VLM60W-24-S
[OTHER] 24.6 C, 119.968 V, 0.351475 A, 41.742 W, 0.989947 PF, 60.0072
[MORE] Hz
[OTHER] This test was performed using the calibrated photodetector method
[MORE] of absolute photometry.
[OTHER] The reported results were measured in a facility that meets the
[MORE] requirements of ANSI/IES LM-75-19. The device under test emits no
[MORE] detectable uplight as defined by ANSI/IES LM-75-19.

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	3098
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	56
Total Luminaire Watts	55.4
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.04
Spacing Criterion (90-270)	1.04
Spacing Criterion (Diagonal)	0.90
Basic Luminous Shape	Circular
Luminous Length (0-180)	0.38 ft (Diameter)
Luminous Width (90-270)	0.38 ft (Diameter)
Luminous Height	0.00 ft

IES INDOOR REPORT**PHOTOMETRIC FILENAME : 4DR-TL-L31-RGB940-DMX-UNV-OW-OF-CS-TD WHITE ONLY.IES****LUMINANCE DATA (cd/sq.m)**

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	34429	34429	34429
55	3847	3847	3847
65	1297	1297	1297
75	489	489	489
85	161	161	161

IES INDOOR REPORT**PHOTOMETRIC FILENAME : 4DR-TL-L31-RGB940-DMX-UNV-OW-OF-CS-TD WHITE ONLY.IES****CANDELA TABULATION**

	<u>0</u>
0.0	2942.057
0.5	2942.057
1.0	2943.501
1.5	2946.388
2.0	2952.162
2.5	2956.493
3.0	2962.267
3.5	2968.042
4.0	2975.260
4.5	2983.921
5.0	2992.583
5.5	3002.688
6.0	3014.237
6.5	3025.786
7.0	3040.222
7.5	3056.101
8.0	3073.425
8.5	3092.191
9.0	3110.958
9.5	3129.725
10.0	3147.048
10.5	3165.815
11.0	3181.695
11.5	3196.131
12.0	3209.123
12.5	3220.672
13.0	3230.777
13.5	3237.995
14.0	3243.769
14.5	3246.657
15.0	3248.100
15.5	3245.213
16.0	3239.439
16.5	3230.777
17.0	3217.785
17.5	3201.905
18.0	3183.138
18.5	3158.597
19.0	3132.612
19.5	3100.853
20.0	3066.207
20.5	3028.673
21.0	2985.365
21.5	2940.613
22.0	2891.531
22.5	2838.118
23.0	2780.374
23.5	2716.855
24.0	2649.006
24.5	2575.383
25.0	2498.872
25.5	2416.586
26.0	2331.414
26.5	2241.911

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27.0	2150.964
27.5	2060.017
28.0	1967.627
28.5	1873.793
29.0	1781.402
29.5	1690.456
30.0	1600.952
30.5	1512.893
31.0	1427.143
31.5	1343.559
32.0	1263.583
32.5	1187.217
33.0	1115.181
33.5	1048.631
34.0	985.690
34.5	922.749
35.0	863.706
35.5	808.272
36.0	756.591
36.5	708.808
37.0	664.489
37.5	623.347
38.0	584.802
38.5	548.857
39.0	515.221
39.5	483.462
40.0	454.012
40.5	426.728
41.0	401.610
41.5	378.079
42.0	356.280
42.5	335.781
43.0	316.870
43.5	299.114
44.0	282.224
44.5	265.911
45.0	250.032
45.5	234.874
46.0	220.005
46.5	205.280
47.0	190.555
47.5	175.253
48.0	159.518
48.5	143.205
49.0	126.748
49.5	110.724
50.0	95.711
50.5	82.141
51.0	70.015
51.5	59.332
52.0	50.093
52.5	42.153
53.0	35.801
53.5	30.749
54.0	27.140
54.5	24.541

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55.0	22.665
55.5	21.077
56.0	19.489
56.5	18.189
57.0	16.890
57.5	15.735
58.0	14.725
58.5	13.714
59.0	12.848
59.5	11.982
60.0	11.116
60.5	10.394
61.0	9.672
61.5	9.095
62.0	8.517
62.5	7.940
63.0	7.362
63.5	6.929
64.0	6.496
64.5	6.063
65.0	5.630
65.5	5.197
66.0	4.908
66.5	4.620
67.0	4.186
67.5	3.898
68.0	3.753
68.5	3.465
69.0	3.176
69.5	2.887
70.0	2.743
70.5	2.598
71.0	2.310
71.5	2.165
72.0	2.021
72.5	1.877
73.0	1.732
73.5	1.588
74.0	1.444
74.5	1.444
75.0	1.299
75.5	1.155
76.0	1.011
76.5	1.011
77.0	0.866
77.5	0.866
78.0	0.722
78.5	0.722
79.0	0.577
79.5	0.577
80.0	0.577
80.5	0.433
81.0	0.433
81.5	0.433
82.0	0.289
82.5	0.289

IES INDOOR REPORT**PHOTOMETRIC FILENAME : 4DR-TL-L31-RGB940-DMX-UNV-OW-OF-CS-TD WHITE ONLY.IES****CANDELA TABULATION - (Cont.)**

83.0	0.289
83.5	0.289
84.0	0.289
84.5	0.144
85.0	0.144
85.5	0.144
86.0	0.144
86.5	0.144
87.0	0.144
87.5	0.144
88.0	0.000
88.5	0.000
89.0	0.000
89.5	0.000
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

IES INDOOR REPORT**PHOTOMETRIC FILENAME : 4DR-TL-L31-RGB940-DMX-UNV-OW-OF-CS-TD WHITE ONLY.IES****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

IES INDOOR REPORT**PHOTOMETRIC FILENAME : 4DR-TL-L31-RGB940-DMX-UNV-OW-OF-CS-TD WHITE ONLY.IES****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

IES INDOOR REPORT**PHOTOMETRIC FILENAME : 4DR-TL-L31-RGB940-DMX-UNV-OW-OF-CS-TD WHITE ONLY.IES****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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Zone	Lumens	%Lamp	%Fixt
0-20	1196.8	N.A.	38.60
0-30	2303.34	N.A.	74.40
0-40	2866.16	N.A.	92.50
0-60	3090.08	N.A.	99.80
0-80	3097.49	N.A.	100.00
0-90	3097.71	N.A.	100.00
10-90	2807.07	N.A.	90.60
20-40	1669.35	N.A.	53.90
20-50	1865.08	N.A.	60.20
40-70	229.88	N.A.	7.40
60-80	7.41	N.A.	0.20
70-80	1.45	N.A.	0.00
80-90	0.22	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	3097.71	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	290.63
10-20	906.17
20-30	1106.53
30-40	562.82
40-50	195.73
50-60	28.19
60-70	5.96
70-80	1.45
80-90	0.22
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	114	111	108	106	111	109	106	104	105	103	101	101	100	98	97	96	95	94
2	108	103	99	96	106	101	98	95	98	95	93	95	93	91	93	91	89	87
3	103	96	91	87	101	95	90	87	92	89	85	90	87	84	88	85	83	81
4	98	90	85	80	96	89	84	80	87	82	79	85	81	78	83	80	77	76
5	93	84	79	74	91	83	78	74	82	77	73	80	76	73	78	75	72	71
6	88	79	73	69	87	78	73	69	77	72	68	75	71	68	74	70	67	66
7	84	74	68	64	82	74	68	64	73	67	64	71	67	63	70	66	63	62
8	80	70	64	60	78	70	64	60	68	63	60	67	63	59	67	62	59	58
9	76	66	60	56	75	66	60	56	65	60	56	64	59	56	63	59	56	54
10	72	63	57	53	71	62	57	53	61	56	53	61	56	53	60	56	53	51

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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	3.9	4.5	3.9	4.8	5.2	3.9	4.5	3.9	4.8	5.2
	3H	3.9	4.5	4.1	4.9	5.2	3.9	4.5	4.1	4.9	5.2
	4H	3.9	4.4	4.1	4.8	5.2	3.9	4.4	4.1	4.8	5.2
	6H	3.9	4.3	4.0	4.7	5.1	3.9	4.3	4.0	4.7	5.1
	8H	3.9	4.2	4.0	4.6	5.0	3.9	4.2	4.0	4.6	5.0
	12H	3.9	4.1	3.9	4.5	4.9	3.9	4.1	3.9	4.5	4.9

UGR Viewed Endwise

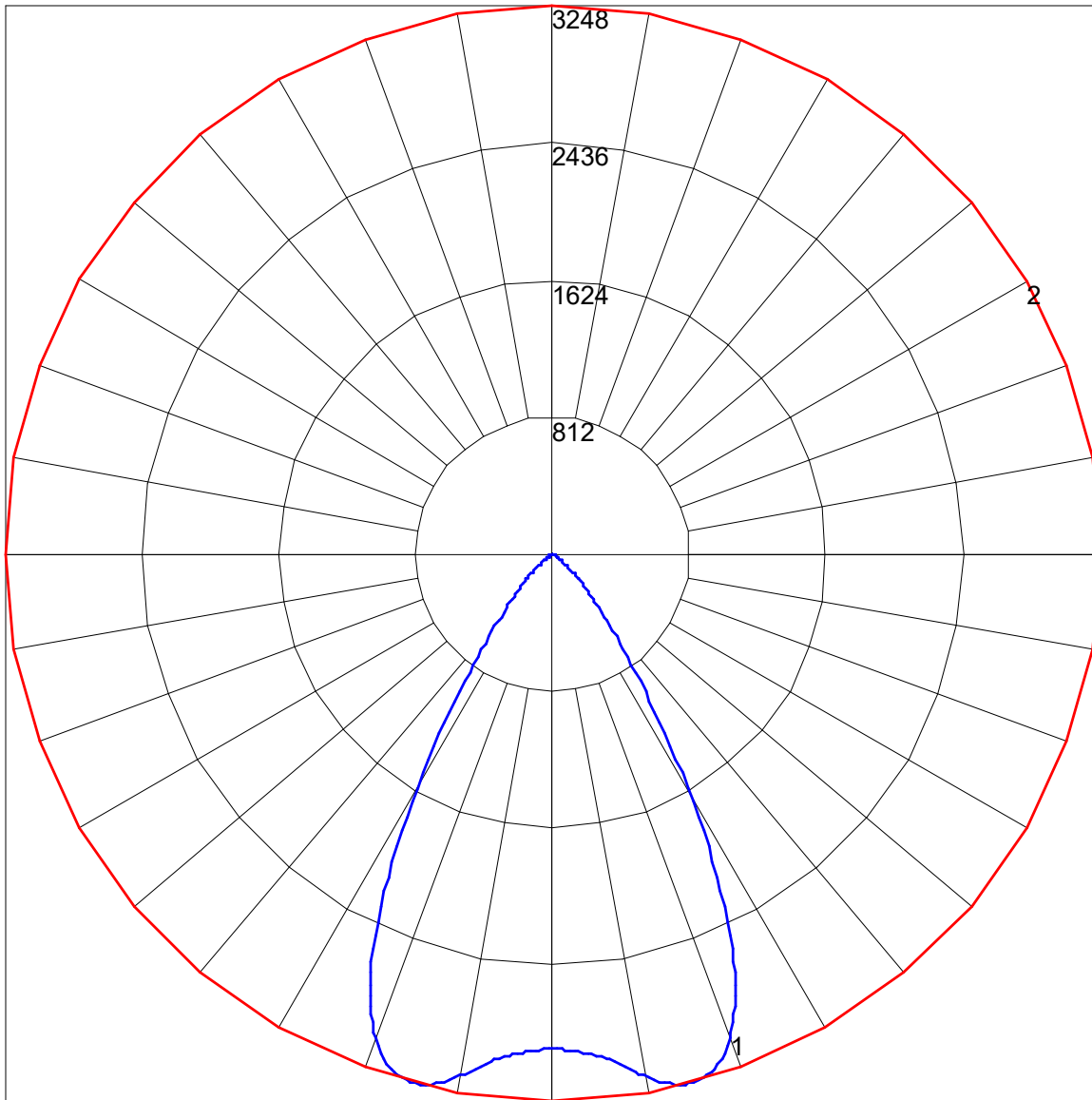
4H	2H	3.9	4.3	3.9	4.6	5.0	3.9	4.3	3.9	4.6	5.0
	3H	3.9	4.3	4.1	4.7	5.1	3.9	4.3	4.1	4.7	5.1
	4H	3.9	4.2	4.1	4.6	5.1	3.9	4.2	4.1	4.6	5.1
	6H	3.9	4.0	4.0	4.5	5.0	3.9	4.0	4.0	4.5	5.0
	8H	3.9	3.9	4.0	4.4	4.9	3.9	3.9	4.0	4.4	4.9
	12H	3.9	3.9	3.9	4.3	4.8	3.9	3.9	3.9	4.3	4.8
8H	4H	3.9	3.9	4.0	4.4	4.9	3.9	3.9	4.0	4.4	4.9
	6H	3.9	3.9	3.9	4.3	4.8	3.9	3.9	3.9	4.3	4.8
	8H	3.9	3.9	3.9	4.2	4.7	3.9	3.9	3.9	4.2	4.7
	12H	3.9	3.9	3.9	4.1	4.7	3.9	3.9	3.9	4.1	4.7
12H	4H	3.9	3.9	3.9	4.3	4.8	3.9	3.9	3.9	4.3	4.8
	6H	3.9	3.9	3.9	4.1	4.7	3.9	3.9	3.9	4.1	4.7
	8H	3.9	3.9	3.9	4.1	4.7	3.9	3.9	3.9	4.1	4.7

Maximum UGR = 5.2

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POLAR GRAPH



Maximum Candela = 3248.1 Located At Horizontal Angle = 0, Vertical Angle = 15

1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)

2 - Horizontal Cone Through Vertical Angle (15) (Through Max. Cd.)