



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

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] 15271106.11
[TESTLAB] UL Verification Services Inc.
[ISSUE DATE] 1 OCT, 2024
[TEST DATE] 5/13/2024
[MANUFAC] H E WILLIAMS INC
[LUMCAT] 4DR-TL-L31-RGB940-DMX-UNV-ON-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] 24.8 C, 119.971 V, 0.351784 A, 41.7755 W, 0.98985 PF, 60.0072 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	2907
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	52
Total Luminaire Watts	55.4
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	0.38
Spacing Criterion (90-270)	0.38
Spacing Criterion (Diagonal)	0.52
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-ON-OFF-CS-TD WHITE ONLY.IES****LUMINANCE DATA (cd/sq.m)**

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	8931	8931	8931
55	2676	2676	2676
65	2738	2738	2738
75	3013	3013	3013
85	5485	5485	5485

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CANDELA TABULATION

	<u>0</u>
0.0	9031.080
0.5	9015.576
1.0	8969.064
1.5	8894.128
2.0	8797.228
2.5	8677.072
3.0	8536.244
3.5	8377.328
4.0	8195.156
4.5	7992.312
5.0	7767.504
5.5	7522.024
6.0	7257.164
6.5	6980.676
7.0	6691.268
7.5	6400.568
8.0	6109.868
8.5	5826.920
9.0	5551.724
9.5	5293.324
10.0	5050.428
10.5	4819.160
11.0	4605.980
11.5	4404.428
12.0	4219.672
12.5	4047.836
13.0	3891.504
13.5	3748.092
14.0	3620.184
14.5	3503.904
15.0	3399.252
15.5	3303.644
16.0	3215.788
16.5	3134.392
17.0	3056.872
17.5	2983.228
18.0	2912.168
18.5	2843.692
19.0	2775.216
19.5	2706.740
20.0	2639.556
20.5	2571.080
21.0	2503.896
21.5	2434.128
22.0	2364.360
22.5	2293.300
23.0	2222.240
23.5	2148.596
24.0	2074.952
24.5	1997.432
25.0	1917.328
25.5	1833.348
26.0	1748.076
26.5	1661.512

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27.0	1574.948
27.5	1487.092
28.0	1400.528
28.5	1315.256
29.0	1229.855
29.5	1147.425
30.0	1069.518
30.5	995.486
31.0	923.522
31.5	854.270
32.0	787.474
32.5	724.424
33.0	665.768
33.5	611.504
34.0	561.762
34.5	516.800
35.0	476.102
35.5	439.668
36.0	407.368
36.5	378.168
37.0	351.812
37.5	327.910
38.0	306.333
38.5	286.307
39.0	267.573
39.5	250.002
40.0	232.948
40.5	216.668
41.0	200.131
41.5	183.076
42.0	164.859
42.5	145.996
43.0	127.779
43.5	110.078
44.0	93.412
44.5	78.037
45.0	64.858
45.5	54.264
46.0	45.866
46.5	39.535
47.0	34.755
47.5	31.266
48.0	28.812
48.5	27.261
49.0	25.840
49.5	24.548
50.0	23.385
50.5	22.352
51.0	21.318
51.5	20.414
52.0	19.638
52.5	18.863
53.0	18.088
53.5	17.442
54.0	16.796
54.5	16.279

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55.0	15.762
55.5	15.246
56.0	14.858
56.5	14.341
57.0	13.954
57.5	13.566
58.0	13.308
58.5	13.049
59.0	12.791
59.5	12.532
60.0	12.403
60.5	12.274
61.0	12.145
61.5	12.145
62.0	12.016
62.5	12.016
63.0	12.016
63.5	11.886
64.0	11.886
64.5	11.886
65.0	11.886
65.5	11.757
66.0	11.757
66.5	11.757
67.0	11.628
67.5	11.628
68.0	11.628
68.5	11.628
69.0	11.499
69.5	11.499
70.0	11.240
70.5	11.111
71.0	10.853
71.5	10.465
72.0	10.078
72.5	9.690
73.0	9.302
73.5	8.915
74.0	8.527
74.5	8.269
75.0	8.010
75.5	7.752
76.0	7.494
76.5	7.364
77.0	7.106
77.5	6.977
78.0	6.848
78.5	6.718
79.0	6.589
79.5	6.460
80.0	6.331
80.5	6.331
81.0	6.202
81.5	6.072
82.0	6.072
82.5	5.943

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

83.0	5.814
83.5	5.685
84.0	5.556
84.5	5.297
85.0	4.910
85.5	4.393
86.0	3.876
86.5	3.359
87.0	2.713
87.5	2.196
88.0	1.550
88.5	1.163
89.0	0.775
89.5	0.517
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-ON-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-ON-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

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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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Zone	Lumens	%Lamp	%Fixt
0-20	1619.47	N.A.	55.70
0-30	2470.87	N.A.	85.00
0-40	2798.92	N.A.	96.30
0-60	2881.75	N.A.	99.10
0-80	2902.32	N.A.	99.80
0-90	2906.77	N.A.	100.00
10-90	2259.26	N.A.	77.70
20-40	1179.45	N.A.	40.60
20-50	1247.64	N.A.	42.90
40-70	94.57	N.A.	3.30
60-80	20.57	N.A.	0.70
70-80	8.83	N.A.	0.30
80-90	4.44	N.A.	0.20
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	2906.77	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	647.50
10-20	971.97
20-30	851.40
30-40	328.05
40-50	68.19
50-60	14.64
60-70	11.74
70-80	8.83
80-90	4.44
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	112	109	107	112	110	108	106	105	104	102	102	101	99	98	97	97	95
2	109	105	102	99	107	103	100	97	100	98	95	97	95	93	95	93	91	90
3	105	99	95	92	103	98	94	91	95	92	89	93	90	88	91	89	87	85
4	101	94	89	86	99	93	89	85	91	87	84	89	86	83	87	85	82	81
5	97	89	84	81	95	89	84	80	87	83	80	85	82	79	84	81	78	77
6	93	85	80	76	91	84	80	76	83	79	76	82	78	75	80	77	75	73
7	89	81	76	73	88	81	76	72	79	75	72	78	75	72	77	74	71	70
8	86	78	73	69	85	77	72	69	76	72	69	75	71	68	74	71	68	67
9	83	74	69	66	82	74	69	66	73	69	66	72	68	66	72	68	65	64
10	80	71	67	63	79	71	66	63	70	66	63	70	66	63	69	65	63	62

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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	3.8	3.9	3.8	4.2	4.5	3.8	3.9	3.8	4.2	4.5
	3H	5.8	6.7	6.2	7.0	7.4	5.8	6.7	6.2	7.0	7.4
	4H	6.8	7.6	7.2	7.9	8.3	6.8	7.6	7.2	7.9	8.3
	6H	7.7	8.4	8.1	8.8	9.2	7.7	8.4	8.1	8.8	9.2
	8H	8.2	8.9	8.7	9.3	9.7	8.2	8.9	8.7	9.3	9.7
	12H	8.8	9.4	9.3	9.8	10.2	8.8	9.4	9.3	9.8	10.2

UGR Viewed Endwise

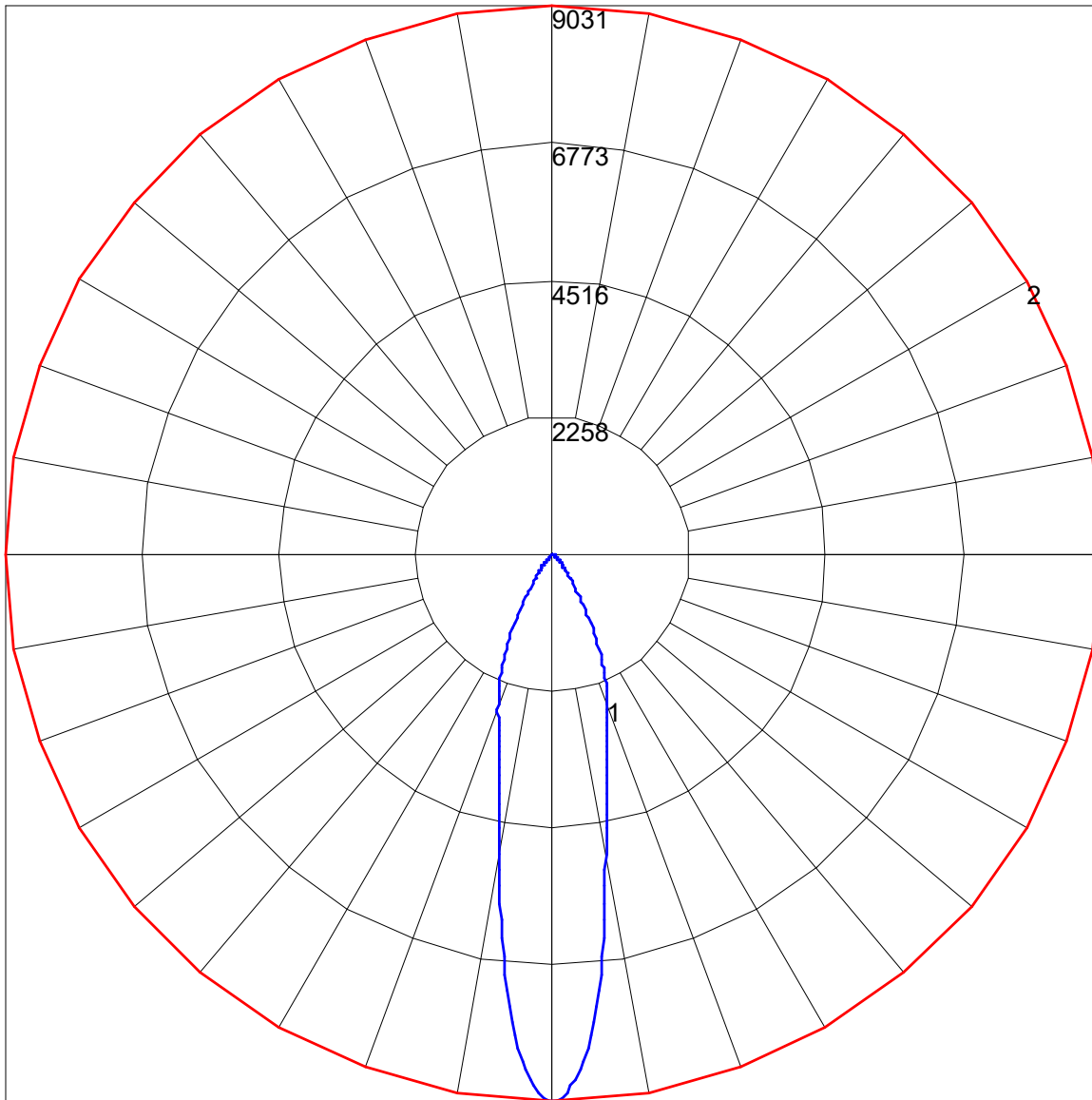
4H	2H	3.8	4.5	4.1	4.8	5.2	3.8	4.5	4.1	4.8	5.2
	3H	6.8	7.4	7.2	7.9	8.3	6.8	7.4	7.2	7.9	8.3
	4H	7.9	8.4	8.3	8.9	9.3	7.9	8.4	8.3	8.9	9.3
	6H	9.0	9.4	9.4	9.9	10.3	9.0	9.4	9.4	9.9	10.3
	8H	9.6	10.0	10.0	10.4	10.9	9.6	10.0	10.0	10.4	10.9
	12H	10.2	10.6	10.7	11.1	11.6	10.2	10.6	10.7	11.1	11.6
8H	4H	8.3	8.7	8.8	9.2	9.6	8.3	8.7	8.8	9.2	9.6
	6H	9.6	9.9	10.1	10.4	10.9	9.6	9.9	10.1	10.4	10.9
	8H	10.3	10.7	10.9	11.2	11.7	10.3	10.7	10.9	11.2	11.7
	12H	11.2	11.5	11.8	12.0	12.6	11.2	11.5	11.8	12.0	12.6
12H	4H	8.3	8.7	8.8	9.2	9.7	8.3	8.7	8.8	9.2	9.7
	6H	9.7	10.0	10.2	10.5	11.1	9.7	10.0	10.2	10.5	11.1
	8H	10.6	10.9	11.1	11.4	12.0	10.6	10.9	11.1	11.4	12.0

Maximum UGR = 12.6

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POLAR GRAPH



Maximum Candela = 9031.08 Located At Horizontal Angle = 0, Vertical Angle = 0

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

2 - Horizontal Cone Through Vertical Angle (0) (Through Max. Cd.)