



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4DR-TL-L15-850-DIM1-UNV-LW-OF-CS-N-F1_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST] GEN FROM 12316380.07
 [TESTLAB] UL Verification Services Inc.
 [ISSUEDATE] 08-JAN-2024
 [MANUFAC] WILLIAMS INDOOR
 [OTHER] H.E. WILLIAMS, INC. - CARTHAGE, MO.
 [LUMCAT] 4DR-TL-L15-850-DIM1-UNV-LW-OF-CS-N-F1
 [LUMINAIRE] 4.5 INCH ROUND RECESSED LED DOWNLIGHT
 [MORE] WITH FLUSH LENS TRIM
 [LAMP] COB LED
 [_SEARCH_SOURCETYPE] LED
 [_SEARCH_APPLICATION] Indoor, Classroom, Commercial, Corridor, Hotel, Industrial, Office, Downlight
 [_SEARCH_MOUNTING] Recessed

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	1013
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	73
Total Luminaire Watts	13.9
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.00
Spacing Criterion (90-270)	1.00
Spacing Criterion (Diagonal)	0.90
Basic Luminous Shape	Circular
Luminous Length (0-180)	0.35 ft (Diameter)
Luminous Width (90-270)	0.35 ft (Diameter)
Luminous Height	0.00 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	27948	27948	27948
55	22965	22965	22965
65	16800	16800	16800
75	11630	11630	11630
85	6341	6341	6341

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CANDELA TABULATION

	<u>0</u>
0.0	711.423
0.5	711.198
1.0	710.748
1.5	710.149
2.0	709.550
2.5	708.875
3.0	707.976
3.5	707.452
4.0	707.077
4.5	706.852
5.0	706.553
5.5	706.253
6.0	706.028
6.5	705.728
7.0	705.504
7.5	705.354
8.0	705.279
8.5	705.054
9.0	704.829
9.5	704.380
10.0	704.080
10.5	703.556
11.0	703.031
11.5	702.357
12.0	701.607
12.5	700.708
13.0	699.659
13.5	698.461
14.0	696.962
14.5	695.164
15.0	692.991
15.5	690.369
16.0	687.446
16.5	684.000
17.0	680.254
17.5	676.058
18.0	671.113
18.5	666.018
19.0	660.473
19.5	654.254
20.0	647.436
20.5	640.018
21.0	632.001
21.5	623.385
22.0	613.869
22.5	603.754
23.0	592.890
23.5	581.201
24.0	568.614
24.5	555.202
25.0	540.666
25.5	525.456
26.0	509.197
26.5	491.964

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CANDELA TABULATION - (Cont.)

27.0	474.132
27.5	455.550
28.0	436.669
28.5	417.713
29.0	399.131
29.5	380.924
30.0	363.391
30.5	346.908
31.0	331.473
31.5	317.387
32.0	304.574
32.5	293.036
33.0	282.771
33.5	273.630
34.0	265.463
34.5	258.270
35.0	251.752
35.5	245.832
36.0	240.588
36.5	235.642
37.0	231.147
37.5	226.951
38.0	223.055
38.5	219.309
39.0	215.862
39.5	212.490
40.0	209.343
40.5	206.196
41.0	203.199
41.5	200.277
42.0	197.505
42.5	194.733
43.0	191.961
43.5	189.188
44.0	186.416
44.5	183.644
45.0	180.871
45.5	178.099
46.0	175.327
46.5	172.555
47.0	169.633
47.5	166.710
48.0	163.788
48.5	160.791
49.0	157.719
49.5	154.647
50.0	151.650
50.5	148.578
51.0	145.506
51.5	142.434
52.0	139.437
52.5	136.440
53.0	133.368
53.5	130.221
54.0	127.000
54.5	123.778

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CANDELA TABULATION - (Cont.)

55.0	120.556
55.5	117.334
56.0	114.187
56.5	111.115
57.0	108.043
57.5	104.971
58.0	101.974
58.5	99.052
59.0	96.130
59.5	93.283
60.0	90.511
60.5	87.738
61.0	85.041
61.5	82.419
62.0	79.796
62.5	77.174
63.0	74.671
63.5	72.184
64.0	69.741
64.5	67.336
65.0	64.983
65.5	62.691
66.0	60.428
66.5	58.225
67.0	56.075
67.5	53.962
68.0	51.916
68.5	49.916
69.0	47.915
69.5	45.982
70.0	44.101
70.5	42.251
71.0	40.445
71.5	38.684
72.0	36.983
72.5	35.305
73.0	33.672
73.5	32.083
74.0	30.525
74.5	29.019
75.0	27.550
75.5	26.127
76.0	24.733
76.5	23.377
77.0	22.081
77.5	20.792
78.0	19.548
78.5	18.342
79.0	17.158
79.5	16.019
80.0	14.903
80.5	13.816
81.0	12.745
81.5	11.703
82.0	10.684
82.5	9.695

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CANDELA TABULATION - (Cont.)

83.0	8.714
83.5	7.762
84.0	6.833
84.5	5.927
85.0	5.058
85.5	4.218
86.0	3.417
86.5	2.660
87.0	1.993
87.5	1.439
88.0	1.004
88.5	0.637
89.0	0.397
89.5	0.270
90.0	0.187
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

IES INDOOR REPORT**PHOTOMETRIC FILENAME : 4DR-TL-L15-850-DIM1-UNV-LW-OF-CS-N-F1_.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
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157.0	0.000
157.5	0.000
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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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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	261.32	N.A.	25.80
0-30	501.24	N.A.	49.50
0-40	664.67	N.A.	65.60
0-60	911.70	N.A.	90.00
0-80	1006.4	N.A.	99.40
0-90	1012.74	N.A.	100.00
10-90	945.35	N.A.	93.30
20-40	403.35	N.A.	39.80
20-50	542.64	N.A.	53.60
40-70	312.02	N.A.	30.80
60-80	94.70	N.A.	9.40
70-80	29.72	N.A.	2.90
80-90	6.33	N.A.	0.60
90-110	0.01	N.A.	0.00
90-120	0.01	N.A.	0.00
90-130	0.01	N.A.	0.00
90-150	0.01	N.A.	0.00
90-180	0.01	N.A.	0.00
110-180	0.00	N.A.	0.00
0-180	1012.74	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	67.39
10-20	193.93
20-30	239.92
30-40	163.43
40-50	139.29
50-60	107.74
60-70	64.98
70-80	29.72
80-90	6.33
90-100	0.01
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	111	107	104	101	109	105	102	99	101	99	96	97	95	93	94	92	91	89
2	103	97	91	87	101	95	90	86	92	87	84	89	85	82	86	83	80	78
3	96	88	81	76	94	86	80	75	83	78	74	81	76	73	78	75	72	70
4	90	80	73	67	88	79	72	67	76	70	66	74	69	65	72	68	64	62
5	84	73	66	60	82	72	65	60	70	64	59	68	63	59	67	62	58	56
6	79	67	60	54	77	66	59	54	65	58	54	63	58	53	62	57	53	51
7	74	62	55	50	72	62	54	49	60	54	49	59	53	49	58	52	49	47
8	69	58	51	46	68	57	50	45	56	50	45	55	49	45	54	49	45	43
9	66	54	47	42	64	53	47	42	52	46	42	51	46	42	50	45	41	40
10	62	51	44	39	61	50	43	39	49	43	39	48	43	39	47	42	39	37

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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	21.1	22.4	22.7	20.7	22.1	21.1	22.4	22.7
	3H	21.8	23.0	22.2	23.4	23.7	21.8	23.0	22.2	23.4	23.7
	4H	22.2	23.3	22.6	23.7	24.0	22.2	23.3	22.6	23.7	24.0
	6H	22.4	23.4	22.8	23.8	24.2	22.4	23.4	22.8	23.8	24.2
	8H	22.4	23.4	22.9	23.8	24.2	22.4	23.4	22.9	23.8	24.2
	12H	22.4	23.4	22.9	23.8	24.2	22.4	23.4	22.9	23.8	24.2

UGR Viewed Endwise

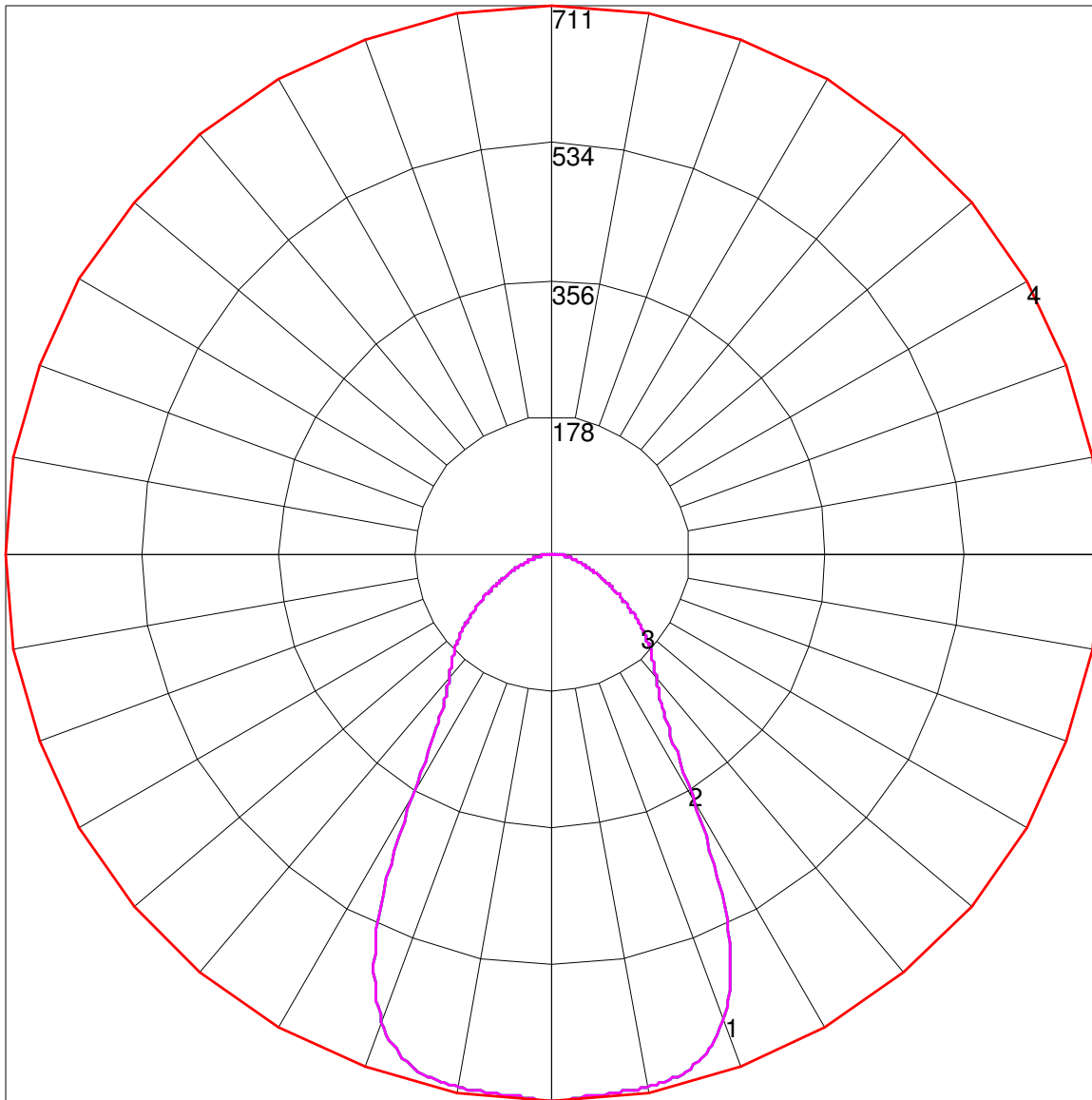
4H	2H	21.1	22.2	21.5	22.6	22.9	21.1	22.2	21.5	22.6	22.9
	3H	22.4	23.3	22.8	23.7	24.1	22.4	23.3	22.8	23.7	24.1
	4H	22.8	23.7	23.2	24.1	24.5	22.8	23.7	23.2	24.1	24.5
	6H	23.1	23.9	23.6	24.3	24.8	23.1	23.9	23.6	24.3	24.8
	8H	23.2	23.9	23.7	24.3	24.8	23.2	23.9	23.7	24.3	24.8
	12H	23.2	23.8	23.7	24.3	24.8	23.2	23.8	23.7	24.3	24.8

8H	4H	22.9	23.6	23.4	24.1	24.5	22.9	23.6	23.4	24.1	24.5
	6H	23.3	23.9	23.8	24.4	24.9	23.3	23.9	23.8	24.4	24.9
	8H	23.4	23.9	24.0	24.5	24.9	23.4	23.9	24.0	24.5	24.9
	12H	23.5	24.0	24.0	24.4	25.0	23.5	24.0	24.0	24.4	25.0

12H	4H	22.9	23.5	23.4	24.0	24.5	22.9	23.5	23.4	24.0	24.5
	6H	23.3	23.8	23.9	24.3	24.8	23.3	23.8	23.9	24.3	24.8
	8H	23.5	23.9	24.0	24.4	25.0	23.5	23.9	24.0	24.4	25.0

Maximum UGR = 25.0

POLAR GRAPH



Maximum Candela = 711.423 Located At Horizontal Angle = 0, Vertical Angle = 0
1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)
2 - Vertical Plane Through Horizontal Angles (5 - 185)
3 - Vertical Plane Through Horizontal Angles (10 - 190)
4 - Horizontal Cone Through Vertical Angle (0) (Through Max. Cd.)