



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4DR-TL-P15-8TW-POE PR-SW-OF-WH_4000K.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST] GEN FROM 12316380.11
 [TESTLAB] UL Verification Services Inc.
 [ISSUEDATE] 11-11-2021
 [MANUFAC] WILLIAMS INDOOR
 [OTHER] H.E. WILLIAMS, INC. - CARTHAGE, MO.
 [LUMCAT] 4DR-TL-P15-8TW-POE PR-SW-OF-WH 4000K
 [LUMINAIRE] Black formed aluminum housing, white reflector, frosted pl
 [MORE] astic lens enclosure
 [LAMP] One white 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	867
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	70
Total Luminaire Watts	12.3
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.20
Spacing Criterion (90-270)	1.20
Spacing Criterion (Diagonal)	1.28
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	31296	31296	31296
55	26712	26712	26712
65	22785	22785	22785
75	18841	18841	18841
85	11660	11660	11660

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CANDELA TABULATION

	<u>0</u>
0.0	364.881
0.5	364.816
1.0	364.621
1.5	364.426
2.0	364.036
2.5	363.646
3.0	363.125
3.5	362.605
4.0	362.085
4.5	361.564
5.0	361.109
5.5	360.589
6.0	360.068
6.5	359.548
7.0	358.963
7.5	358.312
8.0	357.662
8.5	357.011
9.0	356.296
9.5	355.581
10.0	354.800
10.5	354.020
11.0	353.174
11.5	352.263
12.0	351.353
12.5	350.377
13.0	349.337
13.5	348.231
14.0	347.060
14.5	345.824
15.0	344.524
15.5	343.223
16.0	341.857
16.5	340.556
17.0	339.125
17.5	337.694
18.0	336.263
18.5	334.832
19.0	333.402
19.5	331.971
20.0	330.540
20.5	329.109
21.0	327.613
21.5	326.052
22.0	324.426
22.5	322.605
23.0	320.784
23.5	318.767
24.0	316.751
24.5	314.605
25.0	312.393
25.5	310.182
26.0	307.840
26.5	305.499

IES INDOOR REPORT**PHOTOMETRIC FILENAME : 4DR-TL-P15-8TW-POE PR-SW-OF-WH_4000K.IES****CANDELA TABULATION - (Cont.)**

27.0	303.092
27.5	300.621
28.0	298.149
28.5	295.743
29.0	293.336
29.5	290.865
30.0	288.458
30.5	285.921
31.0	283.320
31.5	280.783
32.0	278.181
32.5	275.580
33.0	272.913
33.5	270.181
34.0	267.515
34.5	264.783
35.0	262.051
35.5	259.254
36.0	256.458
36.5	253.596
37.0	250.734
37.5	247.872
38.0	244.945
38.5	241.953
39.0	239.092
39.5	236.100
40.0	233.108
40.5	230.181
41.0	227.124
41.5	224.197
42.0	221.140
42.5	218.148
43.0	215.091
43.5	211.969
44.0	208.847
44.5	205.726
45.0	202.538
45.5	199.417
46.0	196.229
46.5	193.042
47.0	189.855
47.5	186.603
48.0	183.416
48.5	180.164
49.0	176.977
49.5	173.790
50.0	170.603
50.5	167.481
51.0	164.359
51.5	161.237
52.0	158.180
52.5	155.123
53.0	152.132
53.5	149.140
54.0	146.148
54.5	143.221

IES INDOOR REPORT**PHOTOMETRIC FILENAME : 4DR-TL-P15-8TW-POE PR-SW-OFF-WH_4000K.IES****CANDELA TABULATION - (Cont.)**

55.0	140.229
55.5	137.302
56.0	134.635
56.5	131.774
57.0	129.042
57.5	126.310
58.0	123.578
58.5	120.847
59.0	118.245
59.5	115.643
60.0	113.042
60.5	110.570
61.0	108.034
61.5	105.432
62.0	102.895
62.5	100.359
63.0	97.887
63.5	95.416
64.0	92.944
64.5	90.537
65.0	88.131
65.5	85.724
66.0	83.318
66.5	80.976
67.0	78.700
67.5	76.423
68.0	74.147
68.5	71.936
69.0	69.724
69.5	67.513
70.0	65.301
70.5	63.155
71.0	61.022
71.5	58.901
72.0	56.807
72.5	54.745
73.0	52.690
73.5	50.654
74.0	48.638
74.5	46.622
75.0	44.631
75.5	42.667
76.0	40.703
76.5	38.758
77.0	36.839
77.5	34.927
78.0	33.041
78.5	31.187
79.0	29.347
79.5	27.525
80.0	25.750
80.5	24.000
81.0	22.270
81.5	20.553
82.0	18.868
82.5	17.210

IES INDOOR REPORT**PHOTOMETRIC FILENAME : 4DR-TL-P15-8TW-POE PR-SW-OF-WH_4000K.IES****CANDELA TABULATION - (Cont.)**

83.0	15.571
83.5	13.951
84.0	12.371
84.5	10.816
85.0	9.301
85.5	7.850
86.0	6.498
86.5	5.314
87.0	4.234
87.5	3.265
88.0	2.433
88.5	1.776
89.0	1.236
89.5	0.800
90.0	0.494
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-P15-8TW-POE PR-SW-OF-WH_4000K.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-P15-8TW-POE PR-SW-OF-WH_4000K.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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PHOTOMETRIC FILENAME : 4DR-TL-P15-8TW-POE PR-SW-OF-WH_4000K.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	131.38	N.A.	15.20
0-30	274.89	N.A.	31.70
0-40	438.51	N.A.	50.60
0-60	720.30	N.A.	83.10
0-80	855.17	N.A.	98.70
0-90	866.67	N.A.	100.00
10-90	832.39	N.A.	96.00
20-40	307.13	N.A.	35.40
20-50	463.11	N.A.	53.40
40-70	369.31	N.A.	42.60
60-80	134.87	N.A.	15.60
70-80	47.36	N.A.	5.50
80-90	11.50	N.A.	1.30
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	866.68	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	34.28
10-20	97.10
20-30	143.51
30-40	163.62
40-50	155.98
50-60	125.81
60-70	87.52
70-80	47.36
80-90	11.50
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

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	109	105	101	97	107	103	99	96	99	96	93	95	92	90	91	89	87	85
2	100	92	86	81	98	91	85	80	87	82	78	84	80	76	81	77	74	72
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62
4	84	73	65	58	82	72	64	58	69	62	57	67	61	56	65	60	56	53
5	78	66	57	51	76	65	56	50	62	55	50	60	54	49	59	53	49	47
6	72	59	51	45	70	58	50	44	57	49	44	55	49	44	53	48	43	41
7	67	54	46	40	65	53	45	40	52	44	39	50	44	39	49	43	39	37
8	63	49	41	36	61	49	41	35	47	40	35	46	40	35	45	39	35	33
9	59	46	38	32	57	45	37	32	44	37	32	43	36	32	42	36	32	30
10	55	42	34	29	54	42	34	29	41	34	29	40	33	29	39	33	29	27

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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

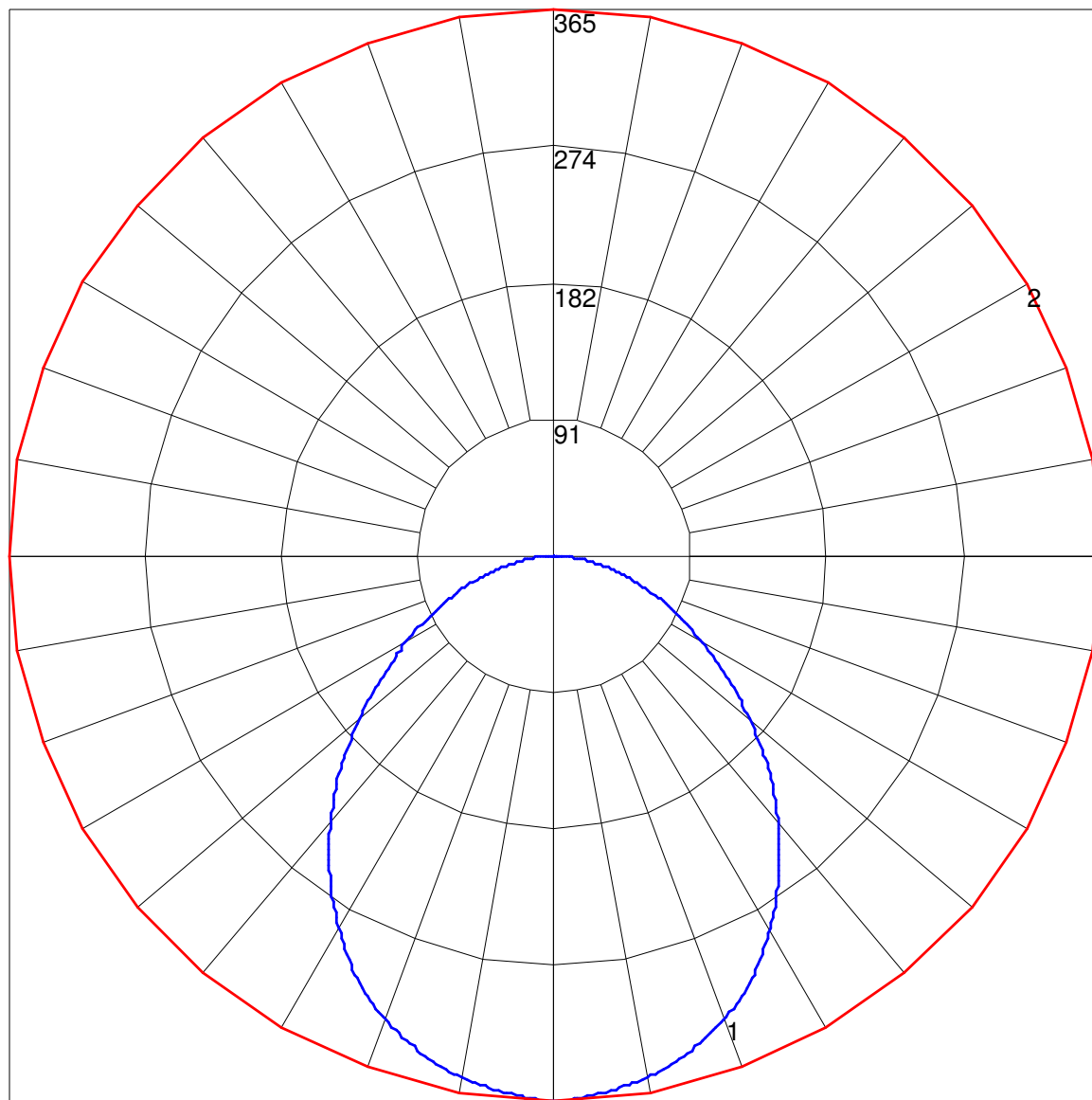
X=2H	Y=2H	22.2	23.8	22.6	24.1	24.4	22.2	23.8	22.6	24.1	24.4
	3H	23.8	25.2	24.2	25.6	25.9	23.8	25.2	24.2	25.6	25.9
	4H	24.4	25.7	24.8	26.1	26.4	24.4	25.7	24.8	26.1	26.4
	6H	24.8	26.0	25.2	26.4	26.8	24.8	26.0	25.2	26.4	26.8
	8H	24.9	26.1	25.3	26.5	26.9	24.9	26.1	25.3	26.5	26.9
	12H	25.0	26.1	25.4	26.5	26.9	25.0	26.1	25.4	26.5	26.9

UGR Viewed Endwise

4H	2H	22.8	24.1	23.2	24.5	24.8	22.8	24.1	23.2	24.5	24.8
	3H	24.6	25.7	25.0	26.1	26.5	24.6	25.7	25.0	26.1	26.5
	4H	25.3	26.3	25.7	26.7	27.1	25.3	26.3	25.7	26.7	27.1
	6H	25.8	26.7	26.3	27.1	27.6	25.8	26.7	26.3	27.1	27.6
	8H	25.9	26.8	26.4	27.2	27.7	25.9	26.8	26.4	27.2	27.7
	12H	26.0	26.8	26.5	27.2	27.7	26.0	26.8	26.5	27.2	27.7
8H	4H	25.5	26.3	26.0	26.8	27.3	25.5	26.3	26.0	26.8	27.3
	6H	26.2	26.8	26.6	27.3	27.8	26.2	26.8	26.6	27.3	27.8
	8H	26.4	27.0	26.9	27.5	28.0	26.4	27.0	26.9	27.5	28.0
	12H	26.5	27.0	27.0	27.5	28.1	26.5	27.0	27.0	27.5	28.1
12H	4H	25.6	26.3	26.0	26.8	27.2	25.6	26.3	26.0	26.8	27.2
	6H	26.2	26.8	26.7	27.3	27.8	26.2	26.8	26.7	27.3	27.8
	8H	26.5	27.0	27.0	27.5	28.0	26.5	27.0	27.0	27.5	28.0

Maximum UGR = 28.1

POLAR GRAPH



Maximum Candela = 364.881 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.)