



IES INDOOR REPORT

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

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST] GEN FROM 12316380.12
 [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-RW-OF-WH 4000k
 [LUMINAIRE] Black formed aluminum housing, white reflector, clear glas
 [MORE] s patterned 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	1031
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	84
Total Luminaire Watts	12.3
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	0.98
Spacing Criterion (90-270)	0.98
Spacing Criterion (Diagonal)	0.88
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

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	23854	23854	23854
55	19261	19261	19261
65	12460	12460	12460
75	6948	6948	6948
85	3569	3569	3569

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CANDELA TABULATION

	<u>0</u>
0.0	828.385
0.5	828.385
1.0	827.605
1.5	826.047
2.0	824.488
2.5	822.930
3.0	820.592
3.5	818.254
4.0	815.916
4.5	812.799
5.0	810.461
5.5	807.344
6.0	804.227
6.5	801.110
7.0	797.992
7.5	794.875
8.0	791.758
8.5	787.862
9.0	784.745
9.5	781.627
10.0	778.666
10.5	775.471
11.0	772.198
11.5	769.003
12.0	765.964
12.5	762.924
13.0	759.885
13.5	756.768
14.0	753.651
14.5	750.534
15.0	747.339
15.5	744.066
16.0	740.637
16.5	737.208
17.0	733.701
17.5	729.960
18.0	725.986
18.5	721.700
19.0	717.570
19.5	713.128
20.0	708.296
20.5	702.763
21.0	696.373
21.5	689.437
22.0	681.489
22.5	672.683
23.0	662.708
23.5	651.486
24.0	639.173
24.5	625.224
25.0	609.638
25.5	592.416
26.0	573.791
26.5	553.997

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

27.0	533.190
27.5	512.071
28.0	489.939
28.5	468.041
29.0	446.221
29.5	424.401
30.0	402.971
30.5	381.930
31.0	362.058
31.5	342.809
32.0	324.652
32.5	307.741
33.0	292.078
33.5	277.973
34.0	265.270
34.5	254.204
35.0	244.463
35.5	236.203
36.0	228.955
36.5	222.877
37.0	217.500
37.5	212.902
38.0	208.694
38.5	204.953
39.0	201.602
39.5	198.563
40.0	195.835
40.5	193.264
41.0	190.770
41.5	188.510
42.0	186.250
42.5	184.146
43.0	182.042
43.5	179.860
44.0	177.678
44.5	175.496
45.0	173.236
45.5	170.898
46.0	168.482
46.5	165.989
47.0	163.417
47.5	160.767
48.0	158.118
48.5	155.312
49.0	152.429
49.5	149.390
50.0	146.351
50.5	143.233
51.0	139.960
51.5	136.765
52.0	133.492
52.5	130.219
53.0	127.102
53.5	123.673
54.0	120.244
54.5	116.815

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55.0	113.465
55.5	110.036
56.0	106.685
56.5	103.412
57.0	100.139
57.5	96.866
58.0	93.671
58.5	90.553
59.0	87.436
59.5	84.397
60.0	81.358
60.5	78.397
61.0	75.513
61.5	72.630
62.0	69.902
62.5	67.097
63.0	64.447
63.5	61.720
64.0	59.148
64.5	56.576
65.0	54.083
65.5	51.589
66.0	49.173
66.5	46.835
67.0	44.575
67.5	42.315
68.0	40.133
68.5	37.951
69.0	35.847
69.5	33.821
70.0	31.951
70.5	30.159
71.0	28.522
71.5	26.963
72.0	25.483
72.5	24.080
73.0	22.755
73.5	21.586
74.0	20.417
74.5	19.404
75.0	18.469
75.5	17.612
76.0	16.677
76.5	15.820
77.0	14.962
77.5	14.105
78.0	13.326
78.5	12.469
79.0	11.689
79.5	10.910
80.0	10.131
80.5	9.351
81.0	8.650
81.5	7.949
82.0	7.169
82.5	6.546

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CANDELA TABULATION - (Cont.)

83.0	5.845
83.5	5.143
84.0	4.520
84.5	3.819
85.0	3.195
85.5	2.650
86.0	2.104
86.5	1.714
87.0	1.325
87.5	1.013
88.0	0.701
88.5	0.468
89.0	0.234
89.5	0.078
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-P15-8TW-POE PR-RW-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
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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-RW-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
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152.0	0.000
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153.0	0.000
153.5	0.000
154.0	0.000
154.5	0.000
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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-P15-8TW-POE PR-RW-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	286.73	N.A.	27.80
0-30	554.86	N.A.	53.80
0-40	718.26	N.A.	69.60
0-60	952.52	N.A.	92.40
0-80	1027.06	N.A.	99.60
0-90	1031.27	N.A.	100.00
10-90	954.98	N.A.	92.60
20-40	431.53	N.A.	41.80
20-50	564.47	N.A.	54.70
40-70	288.44	N.A.	28.00
60-80	74.54	N.A.	7.20
70-80	20.35	N.A.	2.00
80-90	4.21	N.A.	0.40
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	1031.27	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	76.30
10-20	210.44
20-30	268.13
30-40	163.40
40-50	132.94
50-60	101.32
60-70	54.18
70-80	20.35
80-90	4.21
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	112	108	105	102	109	106	103	101	102	100	97	98	96	95	95	93	92	90
2	104	98	93	89	102	96	92	88	93	89	86	90	87	84	87	84	82	80
3	97	89	83	78	95	88	82	77	85	80	76	83	78	75	80	77	74	72
4	91	82	75	70	89	80	74	69	78	73	68	76	71	67	74	70	67	65
5	85	75	68	63	84	74	67	62	72	66	62	70	65	61	69	64	61	59
6	80	69	62	57	79	69	62	57	67	61	56	65	60	56	64	59	55	54
7	75	64	57	52	74	64	57	52	62	56	52	61	55	51	60	55	51	49
8	71	60	53	48	70	59	53	48	58	52	48	57	51	47	56	51	47	46
9	67	56	49	45	66	56	49	44	55	48	44	54	48	44	53	48	44	42
10	64	53	46	41	63	52	46	41	51	45	41	50	45	41	50	45	41	39

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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	19.7	21.0	20.1	21.3	21.6	19.7	21.0	20.1	21.3	21.6
	3H	20.5	21.6	20.8	22.0	22.3	20.5	21.6	20.8	22.0	22.3
	4H	20.6	21.7	21.0	22.1	22.4	20.6	21.7	21.0	22.1	22.4
	6H	20.7	21.7	21.2	22.1	22.5	20.7	21.7	21.2	22.1	22.5
	8H	20.8	21.7	21.2	22.1	22.5	20.8	21.7	21.2	22.1	22.5
	12H	20.7	21.6	21.2	22.0	22.5	20.7	21.6	21.2	22.0	22.5

UGR Viewed Endwise

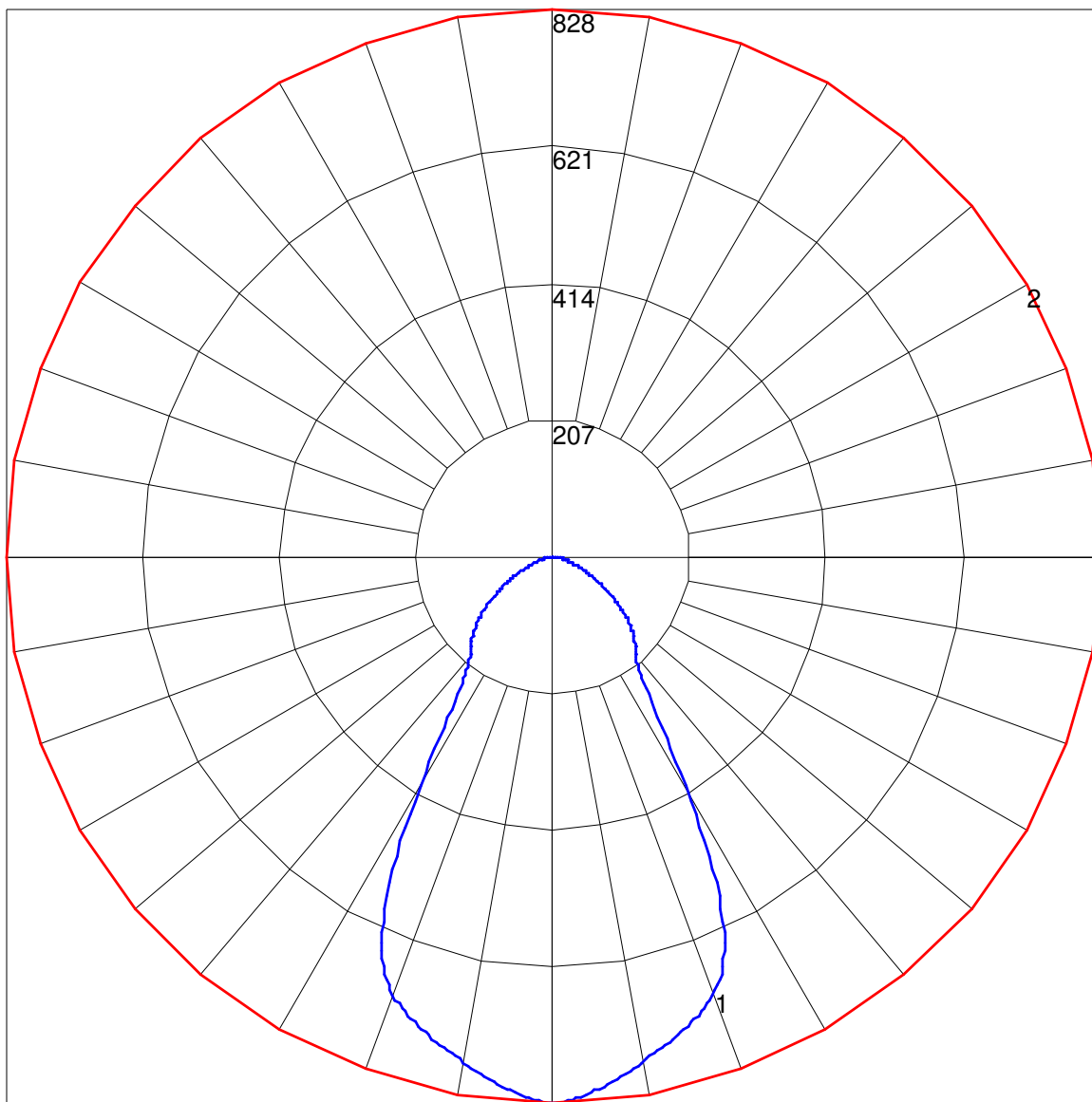
4H	2H	20.0	21.0	20.4	21.4	21.8	20.0	21.0	20.4	21.4	21.8
	3H	20.9	21.8	21.3	22.2	22.6	20.9	21.8	21.3	22.2	22.6
	4H	21.1	21.9	21.5	22.3	22.8	21.1	21.9	21.5	22.3	22.8
	6H	21.3	22.0	21.7	22.4	22.9	21.3	22.0	21.7	22.4	22.9
	8H	21.3	21.9	21.8	22.4	22.9	21.3	21.9	21.8	22.4	22.9
	12H	21.3	21.9	21.8	22.4	22.8	21.3	21.9	21.8	22.4	22.8

8H	4H	21.2	21.8	21.6	22.2	22.7	21.2	21.8	21.6	22.2	22.7
	6H	21.4	21.9	21.9	22.4	22.9	21.4	21.9	21.9	22.4	22.9
	8H	21.4	21.9	22.0	22.4	22.9	21.4	21.9	22.0	22.4	22.9
	12H	21.5	21.9	22.0	22.4	22.9	21.5	21.9	22.0	22.4	22.9

12H	4H	21.1	21.7	21.6	22.2	22.6	21.1	21.7	21.6	22.2	22.6
	6H	21.4	21.8	21.9	22.3	22.8	21.4	21.8	21.9	22.3	22.8
	8H	21.4	21.8	22.0	22.3	22.9	21.4	21.8	22.0	22.3	22.9

Maximum UGR = 22.9

POLAR GRAPH



Maximum Candela = 828.385 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.)