

# TOMAR Electronics, Inc.

## IES INDOOR REPORT

PHOTOMETRIC FILENAME : TLB96WHNPGR1 SERIES WIDE ANGLE HI EFFICACY 480VAC.IES

## DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002  
[TEST]17761-T  
[TESTLAB]Cree Inc. - Durham Technology Center  
[ISSUEDATE] 5/20/2015  
[MANUFAC]Tomar  
[LUMCAT]Highbay model TLB96WHNPGR1  
[LUMINAIRE]Circular 8 LED Arrays on Heatsink with reflector and glass protective cover  
[LAMP]Cree  
[LAMP]96 CREE XML2. LUMINAIRE OUTPUT = 34195 LM  
[OTHER]Tested at 480 VAC at 60 Hz and 317.5W.

## CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	34224
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	108
Total Luminaire Watts	317.5
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	2.32
Spacing Criterion (90-270)	2.44
Spacing Criterion (Diagonal)	2.56
Basic Luminous Shape	Circular
Luminous Length (0-180)	1.75 ft (Diameter)
Luminous Width (90-270)	1.75 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	44737	45892	46219
55	89106	86881	87249
65	99648	94480	92735
75	27382	22427	16437
85	2308	2390	1785

**IES INDOOR REPORT**

**PHOTOMETRIC FILENAME : TLB96WHNPGR1 SERIES WIDE ANGLE HI EFFICACY 480VAC.IES**

**CANDELA TABULATION**

	<u>0.0</u>	<u>22.5</u>	<u>45.0</u>	<u>67.5</u>	<u>90.0</u>	<u>112.5</u>	<u>135.0</u>	<u>157.5</u>	<u>180.0</u>	<u>202.5</u>
<b>0.0</b>	4867.0	4867.0	4867.0	4867.0	4867.0	4867.0	4867.0	4867.0	4867.0	4867.0
<b>2.5</b>	4881.2	4861.8	4890.2	4882.0	4918.4	4978.9	5004.3	5004.9	4992.9	5004.9
<b>5.0</b>	5032.9	5014.9	5057.9	5085.8	5207.8	5393.7	5460.7	5530.2	5537.9	5530.2
<b>7.5</b>	5585.4	5541.7	5598.1	5602.4	5743.1	5858.2	5964.2	6065.3	6088.6	6065.3
<b>10.0</b>	6075.7	6077.3	6130.6	6117.4	6088.6	6179.1	6165.1	6322.4	6328.6	6322.4
<b>12.5</b>	6232.4	6308.7	6275.1	6261.4	6193.0	6241.3	6183.6	6328.9	6351.0	6328.9
<b>15.0</b>	6245.2	6302.2	6302.6	6237.2	6211.2	6217.4	6214.4	6294.6	6344.8	6294.6
<b>17.5</b>	6204.3	6258.9	6250.4	6202.4	6145.8	6143.7	6158.6	6212.4	6285.5	6212.4
<b>20.0</b>	6125.4	6196.5	6181.7	6143.1	6091.6	6116.6	6138.4	6191.8	6269.8	6191.8
<b>22.5</b>	6140.3	6186.4	6210.0	6136.4	6165.0	6125.1	6206.7	6211.9	6343.4	6211.9
<b>25.0</b>	6254.9	6227.5	6301.3	6176.6	6278.4	6199.3	6310.9	6266.5	6472.2	6266.5
<b>27.5</b>	6350.4	6264.3	6372.9	6181.2	6380.5	6227.7	6420.6	6250.9	6561.9	6250.9
<b>30.0</b>	6405.4	6200.9	6414.1	6102.0	6401.9	6160.8	6434.9	6215.8	6501.9	6215.8
<b>32.5</b>	6330.2	6146.1	6379.1	6049.8	6346.2	6070.1	6388.0	6121.1	6450.1	6121.1
<b>35.0</b>	6268.9	6038.7	6309.9	5948.3	6278.7	5927.3	6325.5	5984.0	6399.7	5984.0
<b>37.5</b>	6203.0	5941.8	6255.2	5865.0	6243.5	5816.0	6303.5	5925.9	6352.0	5925.9
<b>40.0</b>	6224.3	5920.4	6332.2	5913.4	6355.5	5784.1	6433.4	6026.5	6460.1	6026.5
<b>42.5</b>	6497.4	6289.9	6654.2	6330.8	6697.0	6138.5	6774.4	6576.3	6846.7	6576.3
<b>45.0</b>	7075.4	7065.4	7258.1	7151.9	7309.8	6955.4	7406.6	7542.4	7543.7	7542.4
<b>47.5</b>	7953.9	8175.0	8129.3	8195.3	8237.8	8062.7	8354.1	8789.5	8536.7	8789.5
<b>50.0</b>	9071.9	9374.2	9180.2	9320.1	9243.9	9145.2	9332.9	9954.8	9589.9	9954.8
<b>52.5</b>	10292.8	10625.2	10280.8	10402.1	10323.6	10286.1	10405.6	11105.9	10750.2	11105.9
<b>55.0</b>	11431.4	11571.8	11146.0	11134.0	11193.2	11006.1	11044.5	11646.2	11435.8	11646.2
<b>57.5</b>	11782.8	11528.0	11321.2	10989.8	11393.2	10813.9	11144.5	11224.3	11508.6	11224.3
<b>60.0</b>	11449.7	10741.7	10911.1	10206.6	11101.9	10444.6	10955.8	10477.7	11068.5	10477.7
<b>62.5</b>	10678.0	9640.3	10098.3	9152.0	10122.8	9146.5	9850.2	8944.4	9848.5	8944.4
<b>65.0</b>	9419.3	8267.4	8930.8	7864.1	8765.9	7855.5	8394.1	7490.7	8311.5	7490.7
<b>67.5</b>	7532.2	6597.9	7146.4	6267.4	6829.2	6167.0	6451.0	5727.0	6356.4	5727.0
<b>70.0</b>	5564.8	4986.6	5265.1	4657.8	4825.2	4326.5	4371.8	3881.9	4307.6	3881.9
<b>72.5</b>	3457.2	3143.5	3164.6	2874.0	2754.9	2447.1	2361.2	2066.2	2323.7	2066.2
<b>75.0</b>	1585.1	1386.0	1298.3	1153.1	951.5	696.7	728.9	510.4	663.0	510.4
<b>77.5</b>	416.0	354.5	383.9	327.7	292.0	235.4	230.8	217.4	230.2	217.4
<b>80.0</b>	166.0	181.9	167.7	187.7	137.6	157.2	115.0	149.1	111.9	149.1
<b>82.5</b>	87.5	126.2	91.6	130.3	74.9	96.4	63.1	88.5	58.7	88.5
<b>85.0</b>	45.0	67.4	46.6	67.9	34.8	37.7	25.4	30.5	22.8	30.5
<b>87.5</b>	15.9	15.0	13.4	13.6	8.5	4.2	3.4	2.4	2.2	2.4
<b>90.0</b>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

**Vert. Angles Horizontal Angles**

	<u>225.0</u>	<u>247.5</u>	<u>270.0</u>	<u>292.5</u>	<u>315.0</u>	<u>337.5</u>	<u>360.0</u>
<b>0.0</b>	4867.0	4867.0	4867.0	4867.0	4867.0	4867.0	4867.0
<b>2.5</b>	5004.3	4978.9	4918.4	4882.0	4890.2	4861.8	4881.2
<b>5.0</b>	5460.7	5393.7	5207.8	5085.8	5057.9	5014.9	5032.9
<b>7.5</b>	5964.2	5858.2	5743.1	5602.4	5598.1	5541.7	5585.4
<b>10.0</b>	6165.1	6179.1	6088.6	6117.4	6130.6	6077.3	6075.7
<b>12.5</b>	6183.6	6241.3	6193.0	6261.4	6275.1	6308.7	6232.4
<b>15.0</b>	6214.4	6217.4	6211.2	6237.2	6302.6	6302.2	6245.2
<b>17.5</b>	6158.6	6143.7	6145.8	6202.4	6250.4	6258.9	6204.3
<b>20.0</b>	6138.4	6116.6	6091.6	6143.1	6181.7	6196.5	6125.4
<b>22.5</b>	6206.7	6125.1	6165.0	6136.4	6210.0	6186.4	6140.3
<b>25.0</b>	6310.9	6199.3	6278.4	6176.6	6301.3	6227.5	6254.9
<b>27.5</b>	6420.6	6227.7	6380.5	6181.2	6372.9	6264.3	6350.4
<b>30.0</b>	6434.9	6160.8	6401.9	6102.0	6414.1	6200.9	6405.4

**IES INDOOR REPORT**

**PHOTOMETRIC FILENAME : TLB96WHNPGR1 SERIES WIDE ANGLE HI EFFICACY 480VAC.IES**

**CANDELA TABULATION - (Cont.)**

<b>32.5</b>	6388.0	6070.1	6346.2	6049.8	6379.1	6146.1	6330.2
<b>35.0</b>	6325.5	5927.3	6278.7	5948.3	6309.9	6038.7	6268.9
<b>37.5</b>	6303.5	5816.0	6243.5	5865.0	6255.2	5941.8	6203.0
<b>40.0</b>	6433.4	5784.1	6355.5	5913.4	6332.2	5920.4	6224.3
<b>42.5</b>	6774.4	6138.5	6697.0	6330.8	6654.2	6289.9	6497.4
<b>45.0</b>	7406.6	6955.4	7309.8	7151.9	7258.1	7065.4	7075.4
<b>47.5</b>	8354.1	8062.7	8237.8	8195.3	8129.3	8175.0	7953.9
<b>50.0</b>	9332.9	9145.2	9243.9	9320.1	9180.2	9374.2	9071.9
<b>52.5</b>	10405.6	10286.1	10323.6	10402.1	10280.8	10625.2	10292.8
<b>55.0</b>	11044.5	11006.1	11193.2	11134.0	11146.0	11571.8	11431.4
<b>57.5</b>	11144.5	10813.9	11393.2	10989.8	11321.2	11528.0	11782.8
<b>60.0</b>	10955.8	10444.6	11101.9	10206.6	10911.1	10741.7	11449.7
<b>62.5</b>	9850.2	9146.5	10122.8	9152.0	10098.3	9640.3	10678.0
<b>65.0</b>	8394.1	7855.5	8765.9	7864.1	8930.8	8267.4	9419.3
<b>67.5</b>	6451.0	6167.0	6829.2	6267.4	7146.4	6597.9	7532.2
<b>70.0</b>	4371.8	4326.5	4825.2	4657.8	5265.1	4986.6	5564.8
<b>72.5</b>	2361.2	2447.1	2754.9	2874.0	3164.6	3143.5	3457.2
<b>75.0</b>	728.9	696.7	951.5	1153.1	1298.3	1386.0	1585.1
<b>77.5</b>	230.8	235.4	292.0	327.7	383.9	354.5	416.0
<b>80.0</b>	115.0	157.2	137.6	187.7	167.7	181.9	166.0
<b>82.5</b>	63.1	96.4	74.9	130.3	91.6	126.2	87.5
<b>85.0</b>	25.4	37.7	34.8	67.9	46.6	67.4	45.0
<b>87.5</b>	3.4	4.2	8.5	13.6	13.4	15.0	15.9
<b>90.0</b>	0.0	0.0	0.0	0.0	0.0	0.0	0.0

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : TLB96WHNPGR1 SERIES WIDE ANGLE HI EFFICACY 480VAC.IES****ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	2296.66	N.A.	6.70
0-30	5191.91	N.A.	15.20
0-40	9064.61	N.A.	26.50
0-60	24543.55	N.A.	71.70
0-80	34163.84	N.A.	99.80
0-90	34224.17	N.A.	100.00
10-90	33690.02	N.A.	98.40
20-40	6767.95	N.A.	19.80
20-50	12570.73	N.A.	36.70
40-70	23426.22	N.A.	68.40
60-80	9620.3	N.A.	28.10
70-80	1673.01	N.A.	4.90
80-90	60.32	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	34224.17	N.A.	100.00

Total Luminaire Efficiency = N.A.%

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	534.14
10-20	1762.52
20-30	2895.25
30-40	3872.7
40-50	5802.77
50-60	9676.17
60-70	7947.28
70-80	1673.01
80-90	60.32
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

**IES INDOOR REPORT**

**PHOTOMETRIC FILENAME : TLB96WHNPGR1 SERIES WIDE ANGLE HI EFFICACY 480VAC.IES**

**COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD**

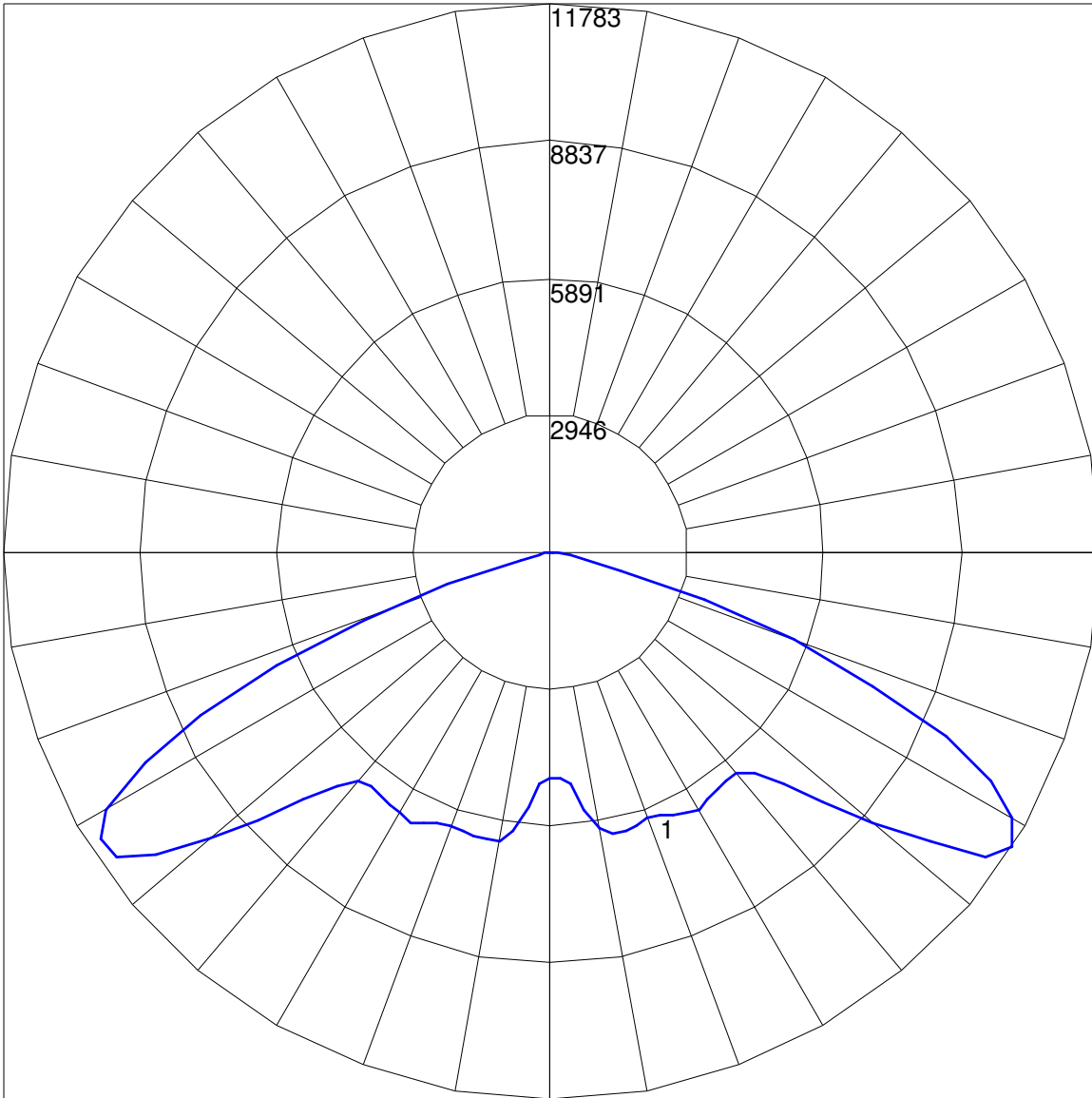
Effective Floor Cavity Reflectance 0.20

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	108	103	98	94	105	101	97	93	96	93	90	92	90	87	89	87	84	82
2	97	87	80	73	94	85	78	73	82	76	71	78	74	69	75	71	68	65
3	86	74	65	58	84	73	64	57	70	62	56	67	60	55	64	59	54	52
4	77	64	54	46	75	63	53	46	60	52	45	57	50	45	55	49	44	42
5	70	55	45	38	68	54	45	38	52	44	37	50	43	37	48	41	36	34
6	64	49	39	31	62	48	38	31	46	37	31	44	36	31	42	36	30	28
7	58	43	34	27	56	42	33	27	41	32	26	39	32	26	38	31	26	24
8	54	39	29	23	52	38	29	23	37	28	23	35	28	22	34	27	22	20
9	50	35	26	20	48	35	26	20	33	25	20	32	25	20	31	24	19	17
10	47	32	23	18	45	32	23	18	30	23	17	29	22	17	29	22	17	15

IES INDOOR REPORT

PHOTOMETRIC FILENAME : TLB96WHNPGR1 SERIES WIDE ANGLE HI EFFICACY 480VAC.IES

POLAR GRAPH



Maximum Candela = 11782.8 Located At Horizontal Angle = 0, Vertical Angle = 57.5  
# 1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)