

HDT Series Luminaires

Product Specifications

TCP's LED Direct Troffer Luminaires feature back-lit technology with a robust construction that still offers a slim, low profile with beautiful full-panel diffusion and superior uniformity.

These energy-efficient troffers use advanced LED technology to create a cost-effective solution to maximize energy savings and potentially qualify for utility rebates.

Applications: T-bar Grid Ceilings

Reasons to choose the LED Direct Troffer Luminaires from TCP

- Excellent color consistency and CRI enhance color of focal point while maintaining uniformity throughout lighting installation
- Mercury-free construction is great for all environments
- Long 50,000 hour rated life significantly reduces maintenance labor and material costs
- Slim, low-profile design and lightweight for easy handling
- Fits standard 1" and 9/16" T-bar grid ceilings
- Utilizes back-lit technology for full diffusion with excellent uniformity
- Superior energy efficiency compared to fluorescent alternatives, providing instant energy savings and potential rebate ability
- Battery backup is Title 20 Compliant

Ideal Applications

- Office
- Retail Stores
- Schools
- Hospitality
- Restaurants
- Healthcare

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DLC QPL LISTED PREMIUM

7 YEAR WARRANTY

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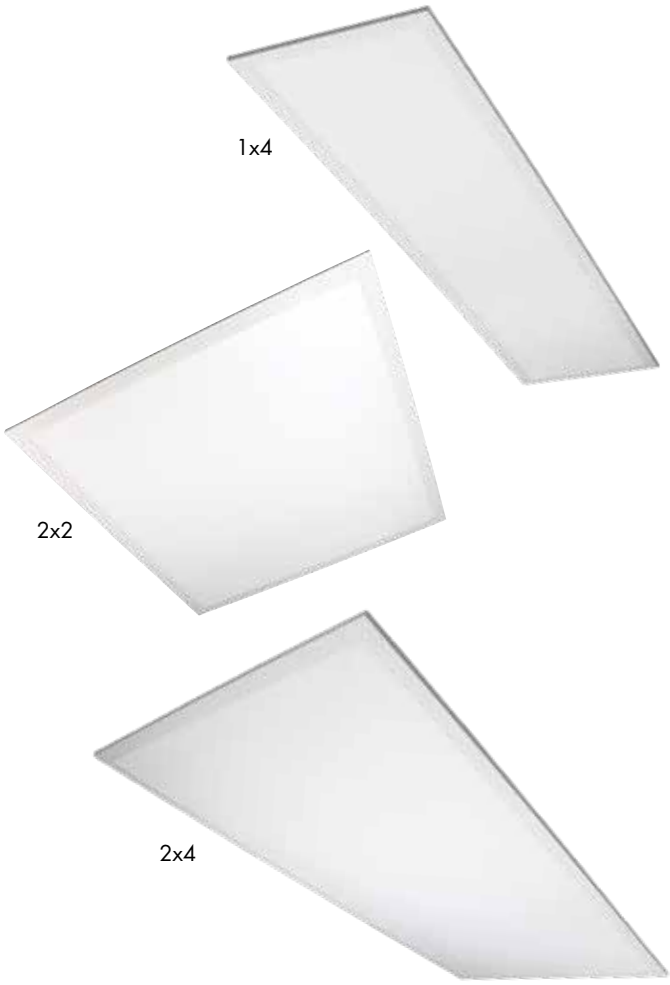
LED HDT Series Luminaires

Specifications

Input Line Voltage ..... 120-277 VAC
Input Line Frequency (Hz) 50/60Hz
Wattage (W)
- 1x4 ..... 23W/29W/38W
- 2x2 ..... 23W/29W/38W
- 2x4 ..... 23W/29W/38W

Lumens (L)
- 1x4 ..... 2900L/3650L/4800L
- 2x2 ..... 2900L/3650L/4800L
- 2x4 ..... 2900L/3650L/4800L

Lumens per Watt (LPW) ..... > 125LPW
Rated Life ..... 50,000 hours
Minimum Starting Temperature ..... -20°C
Maximum Operating Temperature ..... 40°C
CRI ..... >80
Power Factor ..... >90%
THD ..... <20%
Ratings ..... UL/cUL damp location rated, IC rated, IP20, DLC 5.1 Premium
Controls ..... 0-10V dimming (standard)



Replacement Strategy

SYSTEM	BALLAST FACTOR	LUMENS	INPUT WATTS*	LED ENERGY SAVINGS
TCP LED Direct Troffer	—	**3650**	**29**	—
2 Lamp 34W T12 U-Bend	0.88	4420	74	61%
2 Lamp 32W T8 U-Bend	0.88	4275	58	50%
2 Lamp 24W T5HO	1.0	3145	54	46%
TCP LED Direct Troffer	—	**4800**	**38**	—
2 Lamp 32W T8 HBF	1.18	4658	65	42%
2 Lamp 28W T5	1.0	4675	63	40%
2 Lamp 32W T8 NBF	0.88	4468	59	36%

*Actual wattage may differ by +/- 5%, when operating between 120-277V +/- 10%.

NOTE: Charts show system lumens (delivered lumens), NOT straight lamp lumen output. This is calculated as follows:
System lumens = mean lumens x # lamps x ballast factor x luminaire efficiency factor

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1x4 LED HDT Series Luminaires

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Construction

- Rectangular white frame
- Lens: frosted white diffuser
- IP20 rated
- IC rated for direct contact with insulation
- Designed for easy drop into T-bar grid ceilings

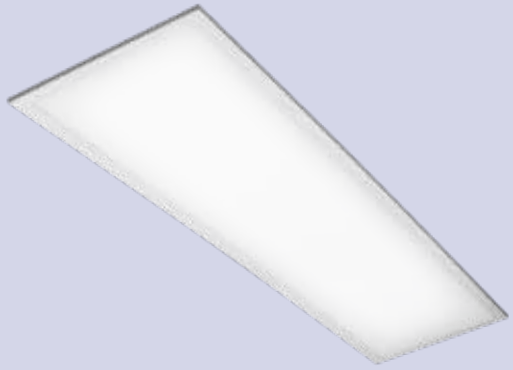
Electrical

- UL/cUL damp location rated
- 0-10V dimming driver (standard)
- LED driver with integrated junction box
- System rated for long 50,000 hour life

Optics

- Back-lit technology provides even, uniform lighting
- 120° beam angle
- Frosted diffuser for reduced glare and aesthetic appeal
- Meets or exceeds the look and performance of edge-lit panels

Item Number	
Notes	Type



Listings

UL/cUL Listed
IC Rated
RoHS Compliant
DLC 5.1 Premium

Lumen Maintenance

L90 > 46,000 hours

Warranty

Seven year limited warranty against defects in manufacturing.

Catalog Ordering Matrix

Example: HDTF1UZD2941K

FAMILY	LENS TYPE	SIZE	VOLTAGE	DIMMING	WATTAGE[1,2,3]	COLOR TEMPERATURE	OPTIONS
HDT = Direct Back-Lit Troffer	**F** = Frosted	**1** = 1' x 4'	**U** = 120V-277V **H** = 120V-347V	**ZD** = 0-10V Dimming **1D** = Triac Dimming	**23** = 2900 Lumens **29** = 3650 Lumens **38** = 4800 Lumens	**27K** = 2700K*** **30K** = 3000K **35K** = 3500K **41K** = 4100K **50K** = 5000K **65K** = 6500K***	**BLANK** = None **EB** = Battery Back-up[4] **CP** = Chicago Plenum

[1] Approximate lumen output. Actual performance may vary based on CCT, options selected and end user application.
[2] Actual wattage may differ by +/- 5%; when operating between 120-277V +/- 10%.
[3] 23W and 29W are permanently fixed; 38W is adjustable to 29W or 23W.
[4] ILBCP07ATBTS – 7W battery backup, Title 20 compliant.
2700K and 6500K are special order. Please contact your TCP representative for lead times.

Accessories:

Item Number	Description
YHANGER6PK	Y FIT CABLE HANGER 6 PACK (HANGS 3 UNITS)
DTSK1	SURFACE MOUNT KIT FOR 1X4 PANELS
DTFLK1	RECESS MOUNT FLANGE KIT FOR 1X4 PANELS
DRVEXTCABLE	3FT DRIVER EXTENSION CABLE

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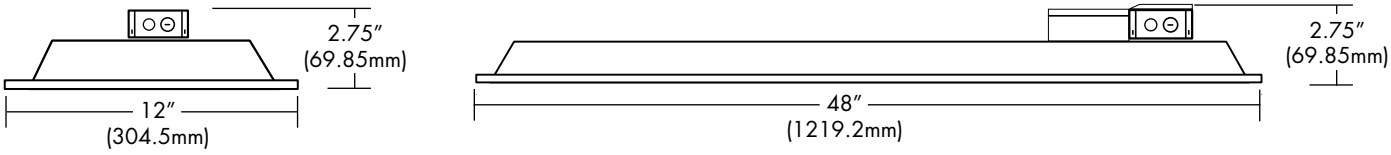
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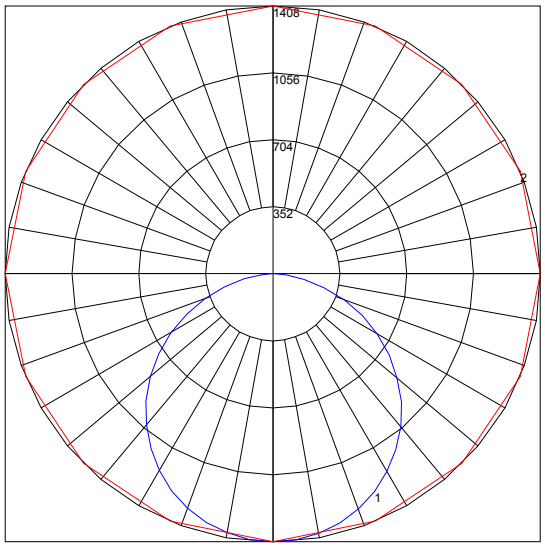
Dimensions and Mounting Data



Photometric Report

Based on photometric data for
TCP Item # HDTF1UZD3830K (38W)

Polar Graph



Maximum Candela = 1407.6 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.)

Average Luminance
candelas/square meter (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	3631	3602	3585
55	3506	3474	3437
65	3292	3239	3179
75	2892	2795	2680
85	2165	1983	1746

Spacing Criterion (0-180): 1.28
Spacing Criterion (90-270): 1.28

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	104	100	96	106	102	98	94	97	94	91	93	91	88	90	88	86	84
2	99	90	84	78	96	89	82	77	85	80	75	82	77	73	79	75	72	69
3	90	79	71	64	87	78	70	64	75	68	63	72	66	62	69	65	61	58
4	82	70	61	55	80	69	61	54	66	59	53	64	58	53	62	56	52	50
5	76	63	54	47	73	62	53	47	59	52	46	57	51	46	56	50	45	43
6	70	56	47	41	68	55	47	41	54	46	40	52	45	40	50	44	40	38
7	65	51	42	36	63	50	42	36	49	41	36	47	40	35	46	40	35	33
8	60	47	38	32	59	46	38	32	45	37	32	43	37	32	42	36	31	29
9	56	43	34	29	55	42	34	29	41	34	29	40	33	28	39	33	28	26
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	24

Zonal Lumen Summary

Zone	Lumens	%Lamp	%Fixt
0-20	515.20	N.A.	12.70
0-30	1095.31	N.A.	27.10
0-40	1796.69	N.A.	44.40
0-60	3184.62	N.A.	78.70
0-80	3967.55	N.A.	98.10
0-90	4044.17	N.A.	100.00
10-90	3910.96	N.A.	96.70
20-40	1281.49	N.A.	31.70
20-50	2010.58	N.A.	49.70
40-70	1887.56	N.A.	46.70
60-80	782.93	N.A.	19.40
70-80	283.30	N.A.	7.00
80-90	76.63	N.A.	1.90
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	0.01	N.A.	0.00
90-180	0.76	N.A.	0.00
110-180	0.76	N.A.	0.00
0-180	4044.93	N.A.	100.00

Total Luminaire Efficiency = N.A.%

Specifications and dimensions subject to change without notice.

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7 YEAR WARRANTY

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2x2 LED HDT Series Luminaires

Applications

TCP LED Direct Troffer Luminaires are cost-effective, high-efficiency alternatives to traditional T5, T8 and T12 linear fluorescent troffers. Featuring a slim, low-profile design, our LED Direct Troffers use back-lit technology to deliver full panel diffusion and superior uniformity that meets or exceeds the output from edge-lit panels. Applications include offices, schools, retail locations, healthcare, hospitality and other T-grid and commercial ceilings.

Construction

- Square white frame
- Lens: frosted white diffuser
- IP20 rated
- IC rated for direct contact with insulation
- Designed for easy drop into T-bar grid ceilings

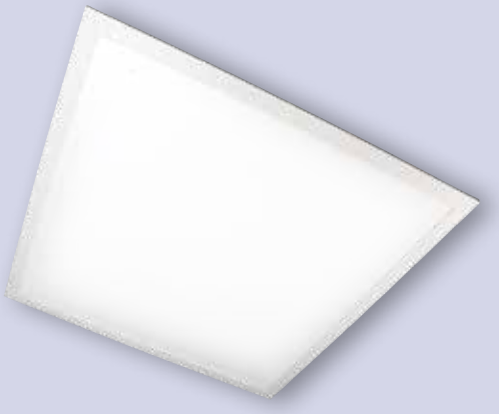
Electrical

- UL/cUL damp location rated
- 0-10V dimming driver (standard)
- LED driver with integrated junction box
- System rated for long 50,000 hour life

Optics

- Back-lit technology provides even, uniform lighting
- 120° beam angle
- Frosted diffuser for reduced glare and aesthetic appeal
- Meets or exceeds the look and performance of edge-lit panels

Item Number	
Notes	Type



Listings

UL/cUL Listed
IC Rated
RoHS Compliant
DLC 5.1 Premium

Lumen Maintenance

L90 > 46,000 hours

Warranty

Seven year limited warranty against defects in manufacturing.

Catalog Ordering Matrix

Example: HDTF2UZD2341K

FAMILY	LENS TYPE	SIZE	VOLTAGE	DIMMING	WATTAGE[1,2,3]	COLOR TEMPERATURE	OPTIONS	FRAME OPTIONS
HDT = Direct Back-Lit Troffer	**F** = Frosted **P** = Prismatic lens	**2** = 2' x 2'	**U** = 120V-277V **H** = 120V-347V	**ZD** = 0-10V Dimming **1D** = Triac Dimming	**23** = 2900 Lumens **29** = 3650 Lumens **38** = 4800 Lumens	**27K** = 2700K*** **30K** = 3000K **35K** = 3500K **41K** = 4100K **50K** = 5000K **65K** = 6500K***	**BLANK** = None **EB** = Battery Back-up[4] **CP** = Chicago Plenum	**BLANK** = White Frame **BLK** = Black Frame

[1] Approximate lumen output. Actual performance may vary based on CCT, options selected and end user application.
[2] Actual wattage may differ by +/- 5%; when operating between 120-277V +/- 10%.
[3] 23W and 29W are permanently fixed; 38W is adjustable to 29W or 23W.
[4] ILBCP07ATBTS – 7W battery backup, Title 20 compliant.
2700K and 6500K are special order. Please contact your TCP representative for lead times.

Accessories:

Item Number	Description
YHANGER6PK	Y FIT CABLE HANGER 6 PACK (HANGS 3 UNITS)
DTSK2	SURFACE MOUNT KIT FOR DIRECT 2X2 PANELS
DTFLK2	RECESS MOUNT FLANGE KIT FOR 2X2 PANELS
DRVEXTCABLE	3FT DRIVER EXTENSION CABLE

For the most up-to-date specs and warranty information, please visit www.tcpi.com

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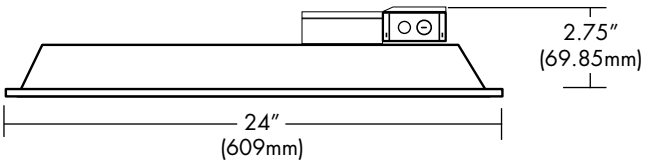
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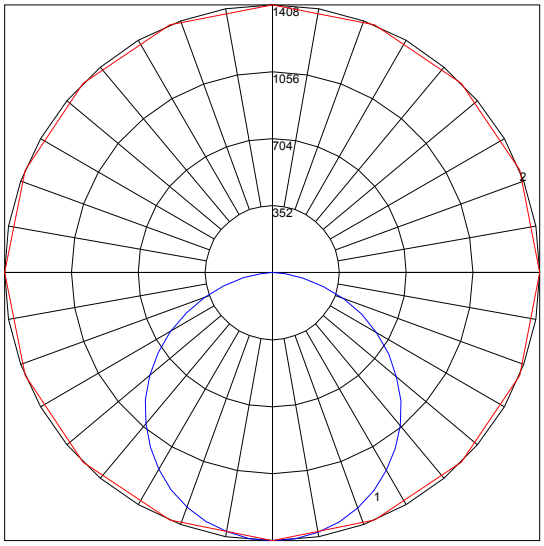
Dimensions and Mounting Data



Photometric Report

Based on photometric data for
TCP Item # HDTF2UZD3830K (38W)

Polar Graph



Maximum Candela = 1407.6 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.)

Average Luminance
candelas/square meter (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
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55	3506	3474	3437
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Spacing Criterion (0-180): 1.28
Spacing Criterion (90-270): 1.28

Coefficients of Utilization – Zonal Cavity Method

Effective Floor Cavity Reflectance 0.20

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0-60	3184.62	N.A.	78.70
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0-90	4044.17	N.A.	100.00
10-90	3910.96	N.A.	96.70
20-40	1281.49	N.A.	31.70
20-50	2010.58	N.A.	49.70
40-70	1887.56	N.A.	46.70
60-80	782.93	N.A.	19.40
70-80	283.30	N.A.	7.00
80-90	76.63	N.A.	1.90
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	0.01	N.A.	0.00
90-180	0.76	N.A.	0.00
110-180	0.76	N.A.	0.00
0-180	4044.93	N.A.	100.00

Total Luminaire Efficiency = N.A.%

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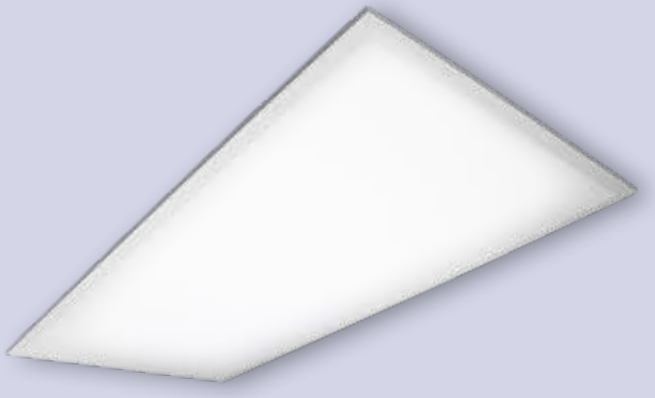
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Accessories:

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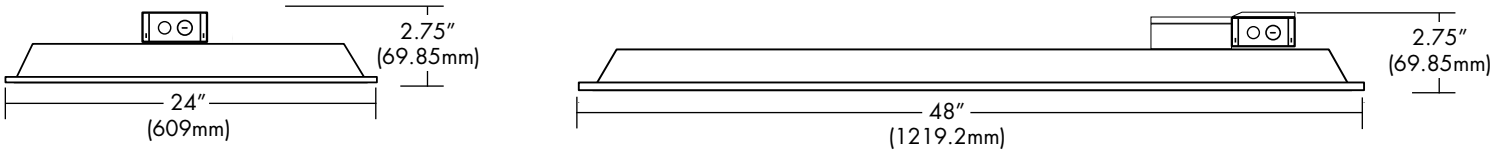
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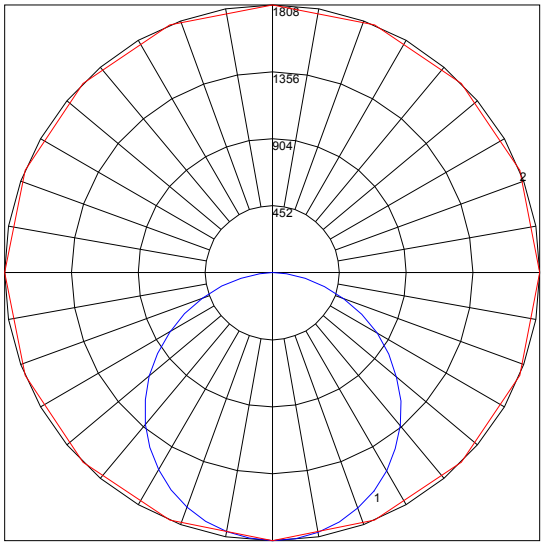
Dimensions and Mounting Data



Photometric Report

Based on photometric data for
TCP Item # HDTF4UZD3830K (38W)

Polar Graph



Maximum Candela = 1808.2 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.)

Average Luminance
candelas/square meter (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	2333	2317	2318
55	2254	2237	2229
65	2125	2092	2083
75	1904	1866	1822
85	1499	1470	1394

Specifications and dimensions subject to change without notice.

Spacing Criterion (0-180): 1.28
Spacing Criterion (90-270): 1.28

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	104	99	95	106	101	97	94	97	94	91	93	91	88	90	87	85	83
2	99	90	83	78	96	88	82	77	85	79	75	81	77	73	78	75	71	69
3	90	79	71	64	87	78	70	64	75	68	63	72	66	61	69	64	60	58
4	82	70	61	54	80	69	60	54	66	59	53	64	58	52	62	56	52	50
5	76	63	53	47	73	61	53	46	59	52	46	57	51	45	55	50	45	43
6	70	56	47	41	68	55	47	41	53	46	40	52	45	40	50	44	39	37
7	65	51	42	36	63	50	42	36	49	41	36	47	40	35	46	40	35	33
8	60	46	38	32	59	46	38	32	44	37	32	43	36	31	42	36	31	29
9	56	43	34	29	55	42	34	29	41	34	29	40	33	28	39	33	28	26
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	24

Zonal Lumen Summary

Zone	Lumens	%Lamp	%Fixt
0-20	661.93	N.A.	12.70
0-30	1407.56	N.A.	26.90
0-40	2309.2	N.A.	44.20
0-60	4094.49	N.A.	78.40
0-80	5115.44	N.A.	97.90
0-90	5222.48	N.A.	100.00
10-90	5051.35	N.A.	96.70
20-40	1647.27	N.A.	31.50
20-50	2584.72	N.A.	49.50
40-70	2431.84	N.A.	46.60
60-80	1020.95	N.A.	19.50
70-80	374.40	N.A.	7.20
80-90	107.04	N.A.	2.00
90-110	0.62	N.A.	0.00
90-120	0.62	N.A.	0.00
90-130	0.62	N.A.	0.00
90-150	0.67	N.A.	0.00
90-180	1.55	N.A.	0.00
110-180	0.94	N.A.	0.00
0-180	5224.04	N.A.	100.00

Total Luminaire Efficiency = N.A.%

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DLC QPL LISTED PREMIUM

7 YEAR WARRANTY

Not all versions of this product are qualified on the DLC QPL. To view our DLC qualified products, please consult the DLC Qualified Products List at www.designlights.org/qpl.

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Model:	Notes:
Project:	
Rep:	

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