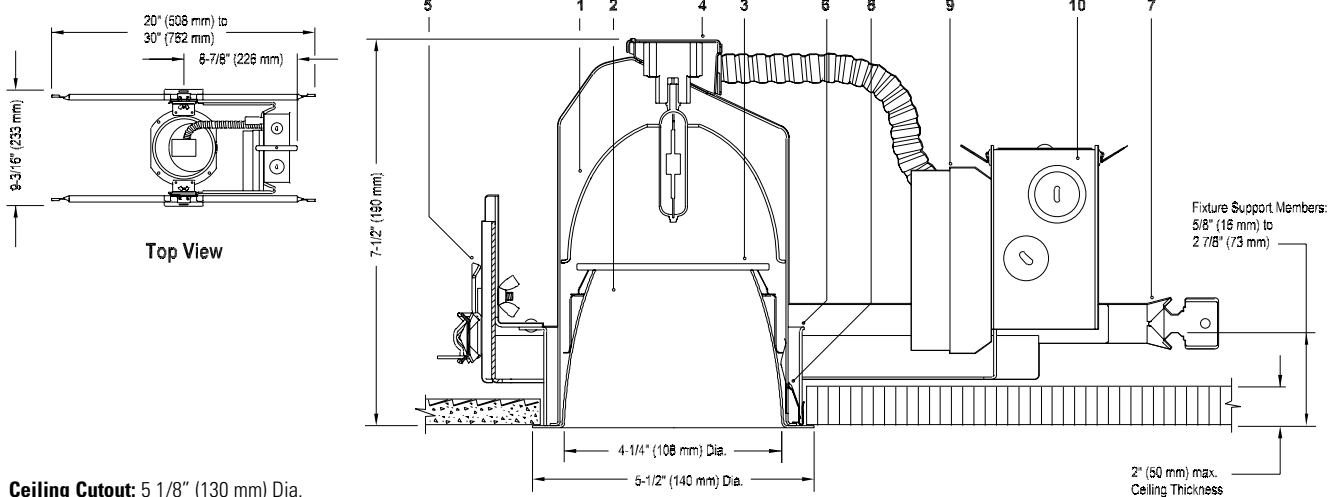


# Calculite® HID Downlight C4T4VM



Ceiling Cutout: 5 1/8" (130 mm) Dia.

Reflector Trim			Frame-In Kit		Lamp (Ceramic Metal Halide)
<b>C4T4VM</b>	<b>CLW</b>	Specular Clear, White Painted Flange	<b>C420BT5PGJ5E1</b>	Electronic 120V	22W Philips MiniMasterColor
	<b>CLP</b>	Specular Clear, Matching Flange	<b>C420T4GU65EU</b>	Electronic 120V/277V	20W GE ConstantColor
	<b>CCDW</b>	Comfort Clear Diffuse, White Painted Flange	<b>C420T4EU</b>	Electronic 120V/277V	20W T4.5
	<b>CCDP</b>	Comfort Clear Diffuse, Matching Flange	<b>C439T4GU65EU</b>	Electronic 120V/277V	39W Philips MiniMasterColor
	<b>CCZW</b>	Champagne Bronze, White Painted Flange	<b>C439T4E1</b>	Electronic 120V	39W T4.5
	<b>CCZP</b>	Champagne Bronze, Matching Flange	<b>C439T4E2</b>	Electronic 277V	39W T4.5
			<b>C470T4E1</b>	Electronic 120V	70W T4.5
			<b>C470T4E2</b>	Electronic 277V	70W T4.5

## Features

- Upper Reflector:** Clear anodized aluminum, 0.040" (16-ga.). Provides medium beam optics ideal for general lighting. Also available in medium and wide beam, see C4T4VN and C4T4VW specification sheets.
- Aperture Cone:** Provides 50° visual cut-off to lamp and lamp image; self-flange in painted white or aperture-matching polished flange. Consult factory for other finishes.
- Lamp Shield:** High-temperature glass as required by code, captive during re-lamping. Light diffusion provides exceptionally smooth beam.
- Socket Housing:** Galvanized steel, pre-wired with G8.5 pulse rated socket. Snaps onto upper reflector for secure attachment without tools; unitized construction assures proper lamp alignment to optics for consistent performance.
- Mounting Frame:** 0.048" (18-ga.) galvanized steel. Vertical adjustment mechanism accommodates mounting to virtually any ceiling system using mounting bars (provided, or 1/2" EMT tubing (by others). Single locking feature secures all adjustments. Alignment holes and markings allow fixture to be preset prior to installation.
- Mounting Ring:** 0.048" (18-ga.) galvanized steel. Designed for vertical adjustment from above or below for ceilings from 0" to 2" thick. Center-line notches allow consistent alignment of multiple fixtures.
- Mounting Bars:** 0.048" (18-ga.) pre-installed, telescoping bars extend to 30" long and lock securely into position. Built-in locking tabs provide positive attachment to common T-bar systems. Self-centering feature simplifies installation in 24" O.C. grid systems. Attaches to steel or wood joists without accessories.
- Trim Retention Springs:** Rust resistant springs secure reflector/housing for quick, tool-less installation.
- Ballast / Socket Housing / Cover Assembly:** Snaps onto junction box without tools for inspection and ballast replacement, accessible from below.
- Junction Box:** 0.048" (18-ga.) galvanized steel. UL listed for 8 No. 12 AWG, 90°C through branch circuit conductors. Allows inspection from below.
- Thermal Protector:** (Not Shown) Meets NEC and UL requirements. Do not install insulation above nor within 3" (76mm) of any part of the luminaire.

## Electrical

**Electronic Ballast:** 120 or 277V, 50/60 Hz., enclosed, high power factor, T.H.D. <15%, thermally and transient protected, RMI/RFI complies with FCC Part 18 non-consumer limits, shut-down circuit at end of lamp life, sound rating "A", -5°F minimum starting temperature, Type 1 Outdoor rating.

Ballast	ANSI Code	Voltage	Max. Amps	Input Watts
20W MH	M156	120/277	0.21/0.10	23
39W MH	M130	120/277	0.39/0.17	44
70W MH	M139	120/277	0.67/0.29	78

## Options and Accessories

**Slope Ceiling Adapters:** See Specification Sheet SCA.

**Chicago Plenum:** Consult Factory.

## Labels

UL (Suitable for Damp Locations), CSA, I.B.E.W.

For 70W, install fixtures with minimum spacing between:

- Center-to center of adjacent luminaires: 2 feet.
- Top of luminaire to overhead building member: 1/2 inch.
- Luminaire center to side building member: 1 foot.

## Job Information

## Type:

**Job Name:**

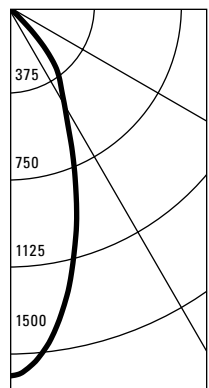
**Cat. No.:**

**Lamp(s):**

**Notes:**

## 20W T4 GE CMH Lamp, Lumen Rating = 1700 LMS, Aromat 20W Electronic Ballast CL Finish Trim

### CANDLEPOWER DISTRIBUTION



ANGLE	MEAN CP	LUMENS
0	1595	
5	1524	143
10	1345	
15	1109	314
20	867	
25	649	308
30	493	
35	396	248
40	294	
45	125	107
50	10	
55	0	2
60	0	
65	0	0
70	0	
75	0	0
80	0	
85	0	0
90	0	

LUMINANCE SUMMARY CD. / SQ. M.	
ANGLE	MEAN CD/SQ M
45	17255
55	39
65	0
75	0
85	0

ZONAL LUMENS AND PERCENTAGES			
ZONE	LUMENS	% LAMP	% LUMINAIRE
0-30	764	44.96	68.13
0-40	1012	59.56	90.25
0-60	1121	66	100
0-90	1121	66	100
40-90	109	6.43	9.75
60-90	0	0	0
90-180	0	0	0
0-180	1121	66	100

Ceiling	Coefficients of Utilization										
	80%		70%		50%		30%				
Wall	70	50	30	10	50	10	50	10	50	10	0
RCR	Zonal Cavity Method - Effective Floor Cavity Reflectance = 20%										
0	.79	.79	.79	.79	.77	.77	.74	.74	.71	.71	.66
1	.76	.74	.73	.72	.73	.71	.70	.68	.68	.66	.63
2	.73	.70	.68	.66	.69	.65	.67	.64	.65	.63	.60
3	.70	.66	.64	.61	.65	.61	.64	.60	.62	.59	.57
4	.67	.63	.60	.58	.62	.57	.61	.57	.60	.56	.54
5	.64	.60	.56	.54	.59	.54	.58	.53	.57	.53	.51
6	.62	.57	.53	.51	.56	.51	.55	.50	.54	.50	.49
7	.59	.53	.50	.48	.53	.47	.52	.47	.51	.47	.46
8	.56	.51	.47	.45	.50	.45	.49	.44	.49	.44	.43
9	.53	.48	.44	.42	.47	.42	.47	.42	.46	.42	.41
10	.51	.45	.42	.39	.45	.39	.44	.39	.44	.39	.38

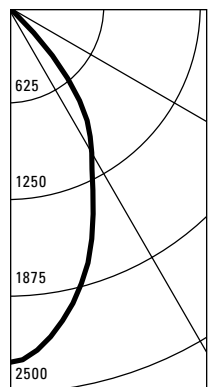
\*\*EFFICIENCY = 66.0%\*\*  
SC = .7

CERTIFIED TEST REPORT NO. 2322FR, DATE: OCT 04, 2003  
COMPUTED BY LSI PROGRAM \*\*TEST-LITE\*\*

LUMINAIRE INPUT WATTS = 23

## 39W T4 Philips CMH Lamp, Lumen Rating = 3300 LMS, Aromat 39W Electronic Ballast, CL Finish Trim

### CANDLEPOWER DISTRIBUTION



ANGLE	MEAN CP	LUMENS
0	2306	
5	2232	211
10	2064	
15	1856	523
20	1601	
25	1313	616
30	1095	
35	902	551
40	609	
45	243	216
50	20	
55	3	6
60	0	
65	0	0
70	0	
75	0	0
80	0	
85	0	0
90	0	

LUMINANCE SUMMARY CD. / SQ. M.	
ANGLE	MEAN CD/SQ M
45	33651
55	466
65	0
75	0
85	0

ZONAL LUMENS AND PERCENTAGES			
ZONE	LUMENS	% LAMP	% LUMINAIRE
0-30	1349	40.9	63.6
0-40	1900	57.59	89.56
0-60	2121	64.3	100
0-90	2121	64.3	100
40-90	221	6.72	10.44
60-90	0	0	0
90-180	0	0	0
0-180	2121	64.3	100

Ceiling	Coefficients of Utilization										
	80%		70%		50%		30%				
Wall	70	50	30	10	50	10	50	10	50	10	0
RCR	Zonal Cavity Method - Effective Floor Cavity Reflectance = 20%										
0	.77	.77	.77	.77	.75	.75	.72	.72	.69	.69	.65
1	.74	.72	.71	.70	.71	.68	.68	.66	.66	.64	.61
2	.71	.68	.66	.64	.67	.63	.65	.62	.63	.60	.58
3	.68	.64	.61	.59	.63	.59	.62	.58	.60	.57	.55
4	.65	.60	.57	.55	.60	.54	.58	.54	.57	.53	.52
5	.62	.57	.53	.51	.56	.51	.55	.50	.54	.50	.49
6	.59	.54	.50	.48	.53	.48	.52	.47	.51	.47	.46
7	.56	.51	.47	.45	.50	.44	.49	.44	.48	.44	.43
8	.53	.47	.44	.42	.47	.41	.46	.41	.46	.41	.40
9	.50	.45	.41	.39	.44	.39	.44	.38	.43	.38	.37
10	.48	.42	.38	.36	.42	.36	.41	.36	.41	.36	.35

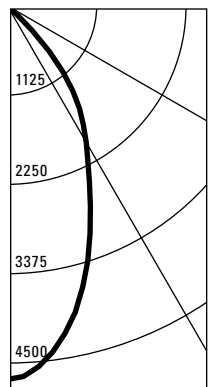
\*\*EFFICIENCY = 64.3%\*\*  
SC = .8

CERTIFIED TEST REPORT NO. 2321FR, DATE: OCT 01, 2003  
COMPUTED BY LSI PROGRAM \*\*TEST-LITE\*\*

LUMINAIRE INPUT WATTS = 44

## 70W T4 Philips CMH Lamp, Lumen Rating = 6400 LMS, Aromat 70W Electronic Ballast, CL Finish Trim

### CANDLEPOWER DISTRIBUTION



ANGLE	MEAN CP	LUMENS
0	4707	
5	4560	430
10	4188	
15	3667	1032
20	3046	
25	2445	1148
30	1987	
35	1587	982
40	1090	
45	444	390
50	38	
55	3	10
60	0	
65	0	0
70	0	
75	0	0
80	0	
85	0	0
90	0	

LUMINANCE SUMMARY CD. / SQ. M.	
ANGLE	MEAN CD/SQ M
45	61418
55	584
65	0
75	0
85	0

ZONAL LUMENS AND PERCENTAGES			
ZONE	LUMENS	% LAMP	% LUMINAIRE
0-30	2610	40.79	65.39
0-40	3592	56.13	89.97
0-60	3992	62.38	100
0-90	3992	62.38	100
40-90	400	6.26	10.03
60-90	0	0	0
90-180	0	0	0
0-180	3992	62.38	100

Ceiling	Coefficients of Utilization										
	80%		70%		50%		30%				
Wall	70	50	30	10	50	10	50	10	50	10	0
RCR	Zonal Cavity Method - Effective Floor Cavity Reflectance = 20%										
0	.74	.74	.74	.74	.73	.73	.70	.70	.67	.67	.63
1	.71	.70	.69	.67	.69	.66	.66	.64	.64	.62	.59
2	.68	.66	.64	.62	.65	.61	.63	.60	.61	.59	.56
3	.66	.62	.59	.57	.61	.57	.60	.56	.58	.55	.53
4	.63	.59	.56	.54	.58	.53	.57	.53	.56	.52	.51
5	.60	.56	.52	.50	.55	.50	.54	.49	.53	.49	.48
6	.57	.53	.49	.47	.52	.47	.51	.46	.50	.46	.45
7	.55	.49	.46	.44	.49	.44	.48	.43	.47	.43	.42
8	.52	.47	.43	.41	.46	.41	.46	.41	.45	.40	.39
9	.49	.44	.41	.38	.44	.38	.43	.38	.42	.38	.37
10	.47	.41	.38	.36	.41	.36	.41	.36	.40	.35	.34

\*\*EFFICIENCY = 62.4%\*\*  
SC = .8

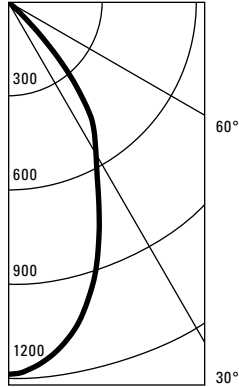
CERTIFIED TEST REPORT NO. 2320FR, DATE: OCT 01, 2003  
COMPUTED BY LSI PROGRAM \*\*TEST-LITE\*\*

LUMINAIRE INPUT WATTS = 78

<b>Job Information</b>	<b>Type:</b>
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## 22W PGJ5 Philips MiniMastercolor CMH Lamp, Lumen Rating = 1650 lms, Aromat Electronic Ballast, CL Finish Trim

### CANDLEPOWER DISTRIBUTION



ANGLE	MEAN CP	LUMENS
0	1184	
5	1155	109
10	1089	
15	981	275
20	837	
25	679	319
30	558	
35	466	282
40	305	
45	112	104
50	9	
55	0	2
60	0	
65	0	0
70	0	
75	0	0
80	0	
85	0	0
90	0	

LUMINANCE SUMMARY CD. / SQ. M.	
ANGLE	MEAN CD/SQ M
45	15448
55	30
65	0
75	0
85	0

ZONAL LUMENS AND PERCENTAGES			
ZONE	LUMENS	% LAMP	% LUMINAIRE
0-30	703	43.28	64.45
0-40	985	60.63	90.28
0-60	1091	67.16	100
0-90	1091	67.16	100
40-90	106	6.53	9.72
60-90	0	0	0
90-180	0	0	0
0-180	1091	67.16	100

Ceiling	Coefficients of Utilization										
	80%		70%		50%		30%				
Wall	70	50	30	10	50	10	50	10	50	10	0
RCR	Zonal Cavity Method - Effective Floor Cavity Reflectance = 20%										
0	.80	.80	.80	.80	.78	.78	.75	.75	.71	.71	.67
1	.77	.75	.74	.72	.74	.71	.71	.69	.68	.67	.64
2	.74	.71	.69	.66	.70	.66	.67	.64	.66	.63	.61
3	.70	.67	.64	.61	.66	.61	.64	.60	.63	.59	.57
4	.67	.63	.60	.57	.62	.57	.61	.56	.60	.56	.54
5	.64	.59	.56	.53	.59	.53	.58	.53	.57	.52	.51
6	.62	.56	.53	.50	.56	.50	.55	.50	.54	.49	.48
7	.58	.53	.49	.47	.53	.46	.52	.46	.51	.46	.45
8	.56	.5	.46	.44	.49	.43	.49	.43	.48	.43	.42
9	.53	.47	.43	.41	.46	.41	.46	.40	.45	.40	.39
10	.50	.44	.40	.38	.44	.38	.43	.38	.43	.38	.37

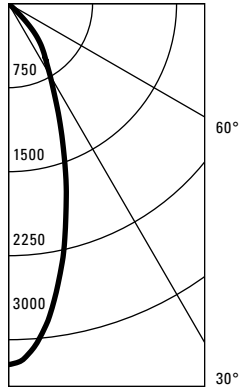
\*\*EFFICIENCY = 67.2%\*\*  
SC = .8

CERTIFIED TEST REPORT NO. 3896FR

LUMINAIRE INPUT WATTS = 25

## 39W PGJ5 Philips MiniMastercolor CMH Lamp, Lumen Rating = 3000 lms, Aromat Electronic Ballast, CL Finish Trim

### CANDLEPOWER DISTRIBUTION



ANGLE	MEAN CP	LUMENS
0	3222	
5	3023	282
10	2543	
15	1975	563
20	1453	
25	1032	493
30	742	
35	559	356
40	408	
45	178	152
50	20	
55	4	7
60	3	
65	2	2
70	1	
75	0	0
80	0	
85	0	0
90	0	

LUMINANCE SUMMARY CD. / SQ. M.	
ANGLE	MEAN CD/SQ M
45	24647
55	605
65	404
75	65
85	0

ZONAL LUMENS AND PERCENTAGES			
ZONE	LUMENS	% LAMP	% LUMINAIRE
0-30	1337	44.59	72.13
0-40	1694	56.47	91.34
0-60	1852	61.75	99.89
0-90	1854	61.82	100
40-90	160	5.35	8.66
60-90	2	0.07	0.11
90-180	0	0	0
0-180	1854	61.82	100

Ceiling	Coefficients of Utilization										
	80%		70%		50%		30%				
Wall	70	50	30	10	50	10	50	10	50	10	0
RCR	Zonal Cavity Method - Effective Floor Cavity Reflectance = 20%										
0	.74	.74	.74	.74	.72	.72	.69	.69	.66	.66	.62
1	.71	.69	.68	.67	.68	.66	.66	.64	.63	.62	.59
2	.68	.66	.64	.62	.65	.61	.63	.60	.61	.59	.57
3	.65	.62	.60	.58	.61	.58	.60	.57	.59	.56	.54
4	.63	.59	.57	.55	.59	.54	.57	.54	.56	.53	.52
5	.61	.56	.53	.51	.56	.51	.55	.51	.54	.50	.49
6	.58	.54	.51	.49	.53	.48	.52	.48	.52	.48	.47
7	.56	.51	.48	.46	.51	.46	.50	.46	.49	.45	.44
8	.54	.49	.46	.44	.48	.43	.48	.43	.47	.43	.42
9	.51	.46	.43	.41	.46	.41	.45	.41	.45	.41	.40
10	.49	.44	.41	.39	.44	.39	.43	.39	.43	.39	.38

\*\*EFFICIENCY = 61.8%\*\*  
SC = .6

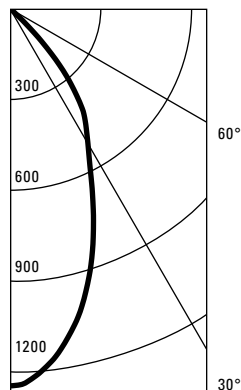
CERTIFIED TEST REPORT NO. 3910FR,

LUMINAIRE INPUT WATTS = 25

**Job Information** **Type:**

## 20W GU6.5 GE ConstantColor CMH Lamp, Lumen Rating = 1615 lms, Aromat Electronic Ballast, CL Finish Trim

### CANDLEPOWER DISTRIBUTION



ANGLE	MEAN CP	LUMENS
0	1243	
5	1199	113
10	1100	
15	964	271
20	800	
25	635	299
30	512	
35	423	258
40	287	
45	112	101
50	8	
55	0	2
60	0	
65	0	0
70	0	
75	0	0
80	0	
85	0	0
90	0	

LUMINANCE SUMMARY CD. / SQ. M.	
ANGLE	MEAN CD/SQ M
45	15493
55	0
65	0
75	0
85	0

ZONAL LUMENS AND PERCENTAGES		
ZONE	LUMENS	% LAMP %LUMINAIRE
0-30	683	42.31 65.45
0-40	941	58.3 90.19
0-60	1043	64.64 99.99
0-90	1043	64.64 100
40-90	102	6.34 9.81
60-90	0	0 0.01
90-180	0	0 0
0-180	1043	64.64 100

Ceiling	Coefficients of Utilization										
	80%		70%		50%		30%				
Wall	70	50	30	10	50	10	50	10	50	10	0
RCR	Zonal Cavity Method - Effective Floor Cavity Reflectance = 20%										
0	.77	.77	.77	.77	.75	.75	.72	.72	.69	.69	.65
1	.74	.72	.71	.70	.71	.69	.68	.67	.66	.65	.62
2	.71	.68	.66	.64	.67	.63	.65	.62	.63	.61	.59
3	.68	.64	.62	.59	.63	.59	.62	.58	.60	.57	.55
4	.65	.61	.58	.56	.60	.55	.59	.55	.58	.54	.52
5	.62	.57	.54	.52	.57	.51	.56	.51	.55	.51	.49
6	.59	.54	.51	.49	.54	.48	.53	.48	.52	.48	.47
7	.57	.51	.48	.45	.51	.45	.50	.45	.49	.45	.44
8	.54	.48	.45	.43	.48	.42	.47	.42	.47	.42	.41
9	.51	.46	.42	.40	.45	.40	.45	.39	.44	.39	.38
10	.49	.43	.39	.37	.43	.37	.42	.37	.42	.37	.36

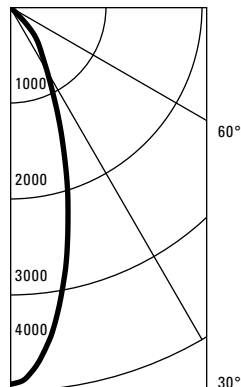
\*\*EFFICIENCY = 64.6%\*\*  
SC = .8

CERTIFIED TEST REPORT NO. 3832FR

LUMINAIRE INPUT WATTS = 25

## 39W GU6.5 GE Constantcolor CMH Lamp, Lumen Rating = 3400 lms, Aromat Electronic Ballast, CL Finish Trim

### CANDLEPOWER DISTRIBUTION



ANGLE	MEAN CP	LUMENS
0	3930	
5	3674	342
10	3063	
15	2333	665
20	1661	
25	1129	543
30	774	
35	564	364
40	418	
45	178	150
50	1	
55	0	0
60	0	
65	0	0
70	0	
75	0	0
80	0	
85	0	0
90	0	

LUMINANCE SUMMARY CD. / SQ. M.	
ANGLE	MEAN CD/SQ M
45	24675
55	0
65	0
75	0
85	0

ZONAL LUMENS AND PERCENTAGES		
ZONE	LUMENS	% LAMP %LUMINAIRE
0-30	1550	45.61 75.09
0-40	1914	56.32 92.73
0-60	2064	60.73 100
0-90	2064	60.73 100
40-90	150	4.42 7.27
60-90	0	0 0
90-180	0	0 0
0-180	2064	60.73 100

Ceiling	Coefficients of Utilization										
	80%		70%		50%		30%				
Wall	70	50	30	10	50	10	50	10	50	10	0
RCR	Zonal Cavity Method - Effective Floor Cavity Reflectance = 20%										
0	.72	.72	.72	.72	.71	.71	.67	.67	.65	.65	.61
1	.70	.68	.67	.66	.67	.65	.65	.63	.62	.61	.58
2	.67	.65	.63	.61	.64	.61	.62	.59	.6	.58	.56
3	.65	.62	.59	.57	.61	.57	.59	.56	.58	.55	.54
4	.62	.59	.56	.54	.58	.54	.57	.53	.56	.53	.51
5	.60	.56	.53	.51	.56	.51	.54	.51	.54	.50	.49
6	.58	.54	.51	.49	.53	.49	.52	.48	.52	.48	.47
7	.56	.51	.48	.46	.51	.46	.50	.46	.49	.46	.45
8	.54	.49	.46	.44	.48	.44	.48	.44	.47	.43	.43
9	.51	.47	.44	.42	.46	.42	.46	.41	.45	.41	.41
10	.49	.44	.42	.40	.44	.40	.44	.40	.43	.39	.39

\*\*EFFICIENCY = 60.7%\*\*  
SC = .6

CERTIFIED TEST REPORT NO. 3915FR

LUMINAIRE INPUT WATTS = 45

<b>Job Information</b>	<b>Type:</b>
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