

NCO Series LED



PROJECT NAME	
CATALOG #	
NOTES	

FEATURES

- > Driver temperature up to 167°F (75°C)
- > UL Listed Drivers with less than 1% failure rate
- > Patent-pending remote driver minimizes fixture operating temperature without re-gridding required
- > Patent-pending design extends fixture life by helping prevent build-up of insulating dust and debris and eliminating illumination dead spots
- > Includes 10 Year Module Warranty - Full light engine or plug & play driver module replacement, rather than parts
- > Fail off 15KA transient voltage surge suppressor (TVSS) protects fixture against failure due to power supply surges
- > Optional motion sensor. Choose from standard by Wattstopper with L7 lens (fig 1.1 & 1.2*), or Internet of Things (IOT) by Enlighted Sensors (fig 1.3).
- > Dimmable 0-10V
- > UL 1598 listed
- > IP65 rated

SPECIFICATIONS

Power Factor.....>0.9
 Available Wattages.....100, 150, 200, 250, 300, 400, 500, 600, 700, 800, 900
 Kelvin Temperatures4000K, 5000K
 Input Voltage120/277V & 347/480V
 Performance..... Up to 151 lm/W
 Distribution.....120°, 60° & Aisle
 Mount Type..... Suspension
 Color Rendering Index (4000K)>70
 Color Rendering Index (5000K)>90

LUMINOUS OUTPUT & DIMENSIONS

WATTAGE	STANDARD TEMP		HIGH TEMP		EXTREME TEMP	
	OUTPUT	LENGTH	OUTPUT	LENGTH	OUTPUT	LENGTH
100 Watts	12,960 lumens	18 in	12,960 lumens	18 in	12,960 lumens	18 in
150 Watts	21,600 lumens	18 in	21,600 lumens	26 in	21,600 lumens	26 in
200 Watts	28,800 lumens	26 in	28,800 lumens	34 in	28,800 lumens	34 in
250 Watts	36,000 lumens	34 in	36,000 lumens	42 in	36,000 lumens	42 in
300 Watts	43,200 lumens	34 in	43,200 lumens	50 in	43,200 lumens	50 in
400 Watts	57,600 lumens	50 in	57,600 lumens	66 in	57,600 lumens	66 in
500 Watts	72,000 lumens	50 in	72,000 lumens	82 in	72,000 lumens	82 in
600 Watts	86,400 lumens	66 in	86,400 lumens	98 in	86,400 lumens	98 in
700 Watts	100,800 lumens	82 in	100,800 lumens	114 in	100,800 lumens	114 in
800 Watts	115,200 lumens	90 in	115,200 lumens	130 in	115,200 lumens	130 in
900 Watts	129,600 lumens	98 in	123,300 lumens	146 in	123,300 lumens	146 in

OPERATIONAL TEMPERATURE

STANDARD TEMP	HIGH TEMP	EXTREME TEMP
-40°F to 130°F (or -40°C to 55°C)	-40°F to 195°F (-40°C to 90°C)	-40°F to 245°F (-40°C to 118°C)

NCO ORDERING INFORMATION

ORDER NUMBER: NCO-1-100-40-1-2-1-1-1-X-X-X-1-1

SERIES	WATTAGE	KELVIN	OPTICS	LENS	FINISH	DRIVER VOLTAGE	REMOTE CABLE	MOTION SENSOR	BATTERY BACKUP	DLC	POWER CORD TYPE	CORD LENGTH
NCO-1 Std Temp	100	40- (4000K)	1- No Optics	2- Flat Poly Clear ²	1- Black	1- 120/277V	1- 6'	X- No	X- No	X- N/A	1- whip 120-277V	1- 6'
NCO-2 High Temp	150 ¹	50- (5000K)	2- 60°	6- Tempered glass clear		4- 347/480V	2- 10'	1- Standard ³	1- Yes	1- Standard	2- whip 347-480V	2- 12'
NCO-3 Extreme	200		4- Aisle				3- 25'	2- IOT ³			3- 125V 15amp Straight	
	250 ¹						4- 50'				4- 125V 20amp Twistlock	
	300						5- 100'				5- 250V 20amp Twistlock	
	400 ¹						6- 200'				6- 277V 15amp Twistlock	
	500 ¹						7- 500'				7- 277V 20amp Twistlock	
	600 ¹						8- 1,000'				8- 480V 20amp Twistlock	
	700 ¹						9- Custom				9- 600V 20amp Twistlock	
	800 ¹											
	900 ¹											

¹ Under review - DLC approval pending

² Due to melting concerns, Flat Poly Clear Lenses are only available with NCO-1 Standard Temperature Fixtures

³ Motion Sensor information: Standard (1) features sensors by Wattstopper with L7 lens. Internet of Things or IOT, (2) features sensors by Enlighted Sensors

NCO Series LED

OPTIONS & ACCESSORIES

> Emergency Battery Backup

OPERATION

When AC power fails, OKT's EM series emergency LED driver immediately switches to the emergency mode, operating the LEDs at a reduced lumen output for a minimum of 90 minutes. When AC power is restored, the emergency driver automatically returns to the charging mode.



EM-L2554-LBF
OKT EM series
emergency LED Driver

EMERGENCY LUMEN OUTPUT EXAMPLE - 25 WATT BATTERY

Est Luminaire Efficacy	Est Lumens @ 1 Minute	Est Lumens @ 45 Minutes	Est Lumens @ 90 Minutes
140 LPW	3500	3500	3500
150 LPW	3750	3750	3750
160 LPW	4000	4000	4000

> Sensors

*All Motion sensor purchases come as a set, including a motion sensor and an L7 Wattstopper lens. Coverage includes up to 40' and the maximum temperature rating for the motion sensors is 165°F

fig 1.1



FSP-201
Wattstopper
with L7 lens

fig 1.2



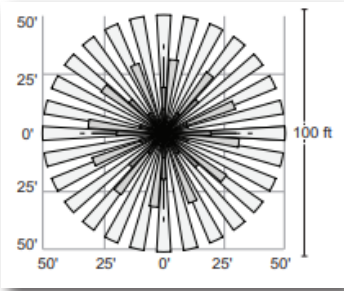
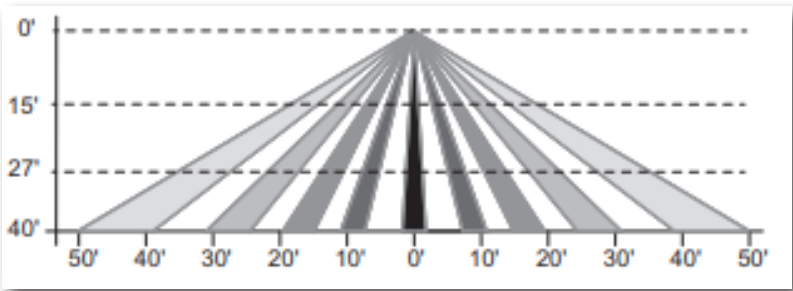
FSP-L7
Wattstopper
with L7 lens

fig 1.3



IoT
IoT sensor by
Siemens Enlighted

MOTION SENSOR COVERAGE



> Mounting Options



DB-Strut
Strut Mount
Driver Box

> Additional Literature

Component Temperature Ratings

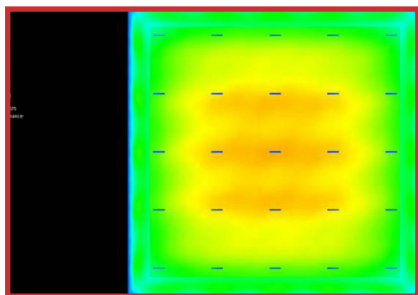
- > Cord(s): Up to 90°C (194°F)
- > Nylon Nut(s): Up to 121°C (250°F)
- > Polycarbonate Lens: Up to 138°C (280°F)
- > Motion Sensor: Up to 77°C (167°F)

NCO Series LED

OPTICS INFORMATION

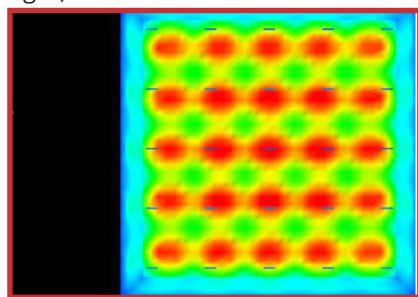
No Optics

- > Great for general illumination. No Optics are also great if you want to maximize horizontal light & to achieve uniform lighting overall. Ideal for 30 feet and below.



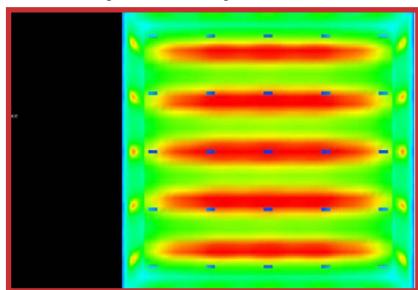
60 Degree Optics

- > Great for higher ceilings. Best used for fixtures mounted 30+ feet up. (This image captures a 25 foot mounting height).



Aisle Optics

- > Great for racking. With Aisle Optics, light is not wasted in adjoining aisles. This means you can reduce the number of fixtures in your facility, or can substantially reduce wattage when switching from HID or Fluorescents to LED.



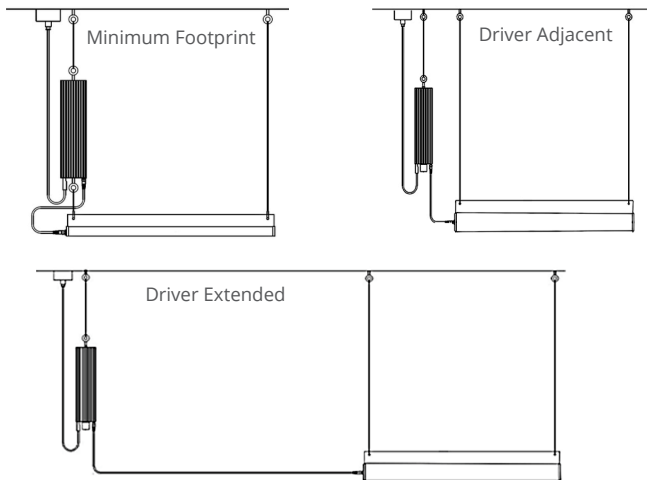
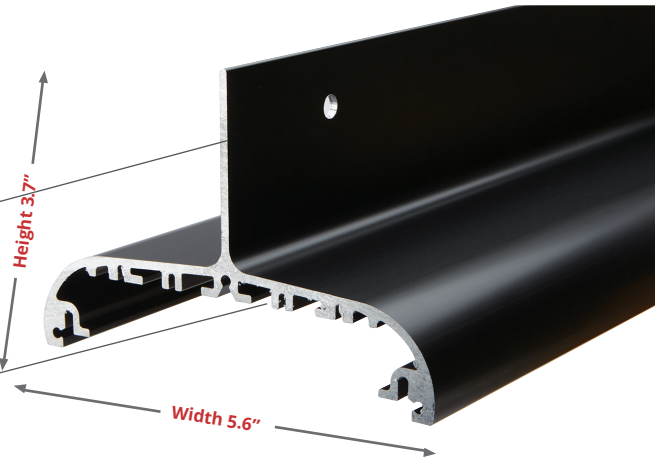
NCO Series LED

DISSIPATE HEAT MORE EFFICIENTLY

The NCO Series' unique design helps reduce unwanted heat build-up two different ways.

1. Patent-pending vertical exterior heat transfer cooling fin dissipates heat

2. Internal heat transfer cooling fins prevent buildup of dust and debris that can hinder cooling



REMOTE DRIVER SYSTEMS

Tactik Lighting uses drivers that are capable of being in ambient temperatures up to 167°F. With the light engine itself being capable of being in ambient temperatures of 245°F.

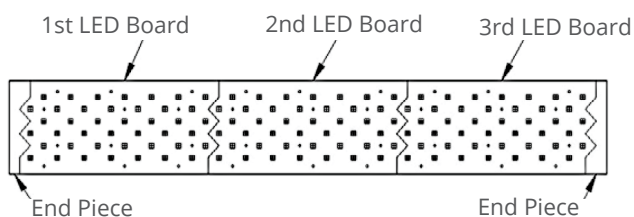
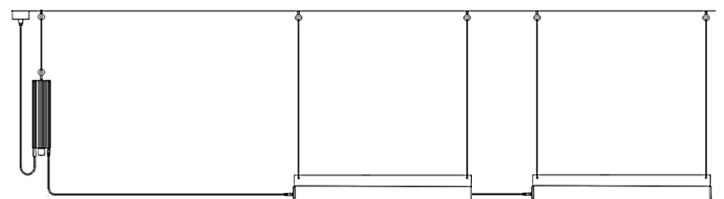
If an environment is above 167°F, the driver must be relocated to an area where the temperature falls below that threshold. This can range anywhere from 10' to 1000' with no voltage drop-off.

The driver box can be hung at ground level, ceiling level, mounted to strut or to a wall. The universal plug and play allow for complete accessibility.

DAISY CHAIN CONFIGURATIONS

Our custom daisy chain configurations allow you to power multiple fixtures with one driver, saving you money and space. And we can custom-mount your drivers at a height that best suits your environment.

Reach out to a manufacturing representative today for a custom quote for your facility.



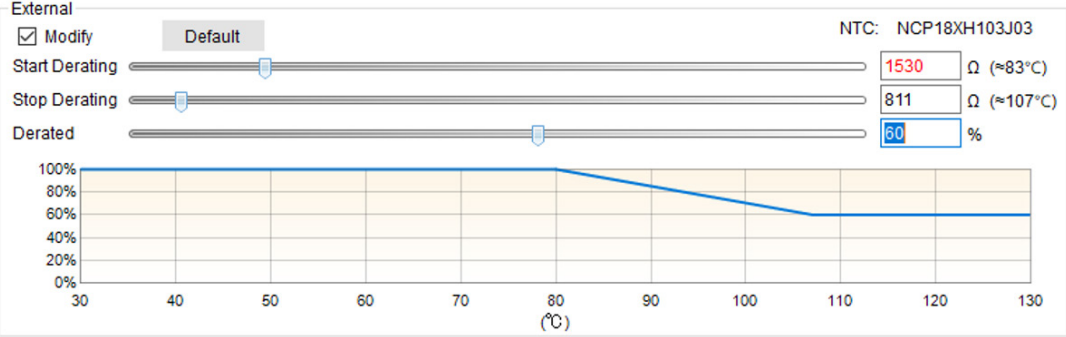
LED BOARD CONFIGURATIONS

Patent-pending shark tooth design enables LED boards to be configured for any of 11 models, ranging from 100-900 Watts. The resulting array provides uniform light distribution with no dead spots.

Each 8" board has a maximum wattage of 75W. The higher the selected wattage of the fixture, the longer the fixture gets.

NCO Series LED

EXTERNAL THERMISTOR DIMMING

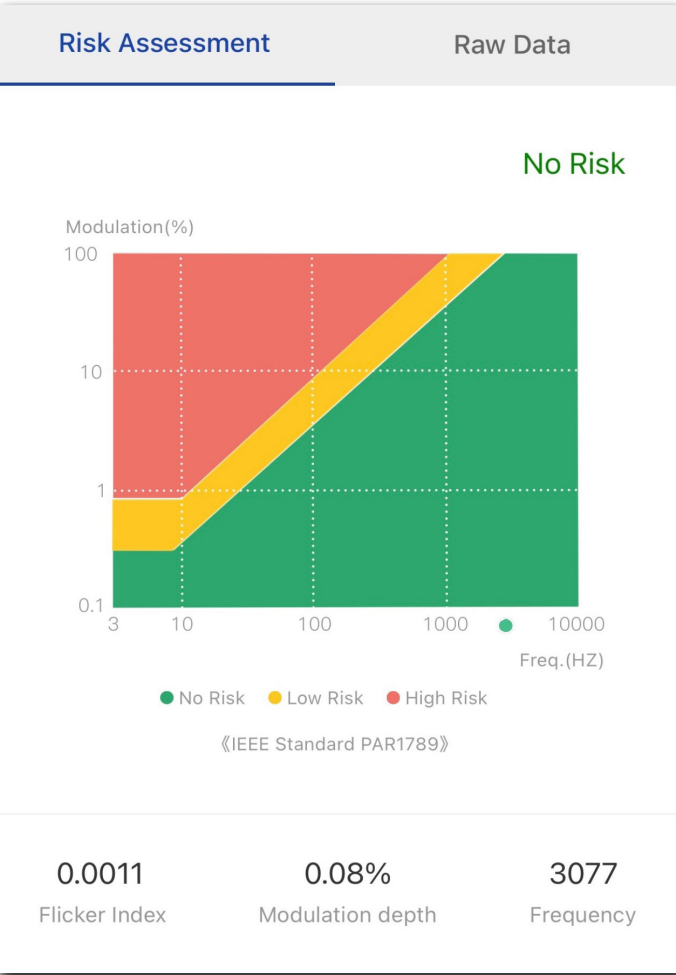


* LEDs set to dim to 60% once the boards reach 108°C

LM80 REPORT

AMBIENT TEMPERATURE	DATA AVERAGES				
	OPERATING HOURS				
	0	6,000	9,000	12,000	13,000
55°C	100%	96.92%	95.99%	95.33%	95.08%
85°C	100%	96.33%	95.14%	94.21%	93.88%
105°C	100%	95.48%	93.97%	92.70%	92.31%

FLICKER TEST



REPORT

TEST CONDITIONS			
TEMPERATURE	VOLTAGE	POWER FACTOR	FREQUENCY
25.1°C	120.0 VAC	0.999	60Hz

OPERATIONAL DATA			
PACKAGE	INPUT WATTAGE	CCT	NCO-X LUMENS (LPW)
100W	89.24 W	4000K	13,220 (156)
		5000K	13,881 (139)
150W	153.3 W	4000K	21,600 (153)
		5000K	22,680 (151)
200W	203.6 W	4000K	32,900 (157)
		5000K	34,545 (165)
250W	258.0 W	4000K	36,000 (144)
		5000K	39,910 (151)
300W	299.0 W	4000K	42,820 (159)
		5000K	49,550 (159)
350W	348.7 W	4000K	57,793 (165)
		5000K	57,973 (165)
400W	398.4 W	4000K	66,050 (165)
		5000K	66,050 (165)

NCO Series LED

3.1 DATA SET 1, 55°C, 200mA (LUMEN MAINTENANCE)

No.	V _F (V)	Φ(lm)	Lumen Maintenance (%)												
	0hr (Initial)		1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs	10000hrs	11000hrs	12000hrs	13000hrs
1	25.92	630.4	99.21	98.86	98.41	97.76	97.27	97.08	96.83	96.51	96.05	95.78	95.59	95.42	95.02
2	26.25	650.3	98.94	98.77	98.59	98.37	97.42	96.97	96.79	96.54	96.14	96.05	95.91	95.62	95.59
3	26.16	648.8	99.21	99.18	99.11	98.38	98.06	97.63	97.33	96.95	96.62	96.41	96.18	96.09	95.92
4	26.47	640.9	99.14	98.85	98.08	97.04	96.77	96.69	96.43	96.07	95.90	95.80	95.65	95.37	94.98
5	26.19	638.1	99.14	98.82	98.14	97.38	97.09	96.72	96.44	95.89	95.61	95.38	95.27	95.05	94.80
6	26.05	641.3	99.20	99.06	98.35	97.97	96.99	96.55	96.09	95.73	95.26	94.95	94.79	94.45	94.09
7	26.34	636.7	98.93	98.51	98.30	97.68	97.19	96.80	96.29	95.90	95.65	95.38	95.16	94.93	94.58
8	26.27	645.8	99.24	98.84	98.58	97.89	97.51	97.38	97.04	96.78	96.30	96.07	95.63	95.52	95.42
9	26.22	644.8	99.40	99.12	98.71	98.60	97.98	97.64	97.02	96.71	96.53	96.20	95.87	95.63	95.39
10	26.15	635.3	98.77	98.73	98.24	97.75	96.95	96.76	96.49	96.29	95.92	95.75	95.42	95.17	95.01
11	26.14	639.0	99.17	98.92	98.23	97.48	96.90	96.54	96.31	95.96	95.62	95.41	95.40	95.12	94.91
12	26.12	607.8	98.96	98.21	97.96	97.22	96.78	96.33	95.99	95.41	95.13	94.95	94.62	94.46	94.27
13	25.86	627.6	99.09	98.66	98.12	97.55	96.75	96.22	95.94	95.73	95.54	95.38	95.14	94.89	94.60
14	26.06	625.6	99.38	99.26	98.90	98.31	97.55	97.15	96.55	96.36	96.15	95.88	95.72	95.40	95.24
15	26.17	643.6	99.18	98.87	98.71	98.07	97.14	96.92	96.38	96.22	95.87	95.71	95.49	95.18	94.73
16	26.24	627.3	98.80	98.37	97.85	96.83	96.33	96.14	95.73	95.36	95.01	94.91	94.69	94.29	94.23
17	26.25	632.9	99.37	98.70	98.53	98.09	97.14	96.93	96.70	96.56	96.43	96.21	95.97	95.53	95.70
18	26.28	631.3	99.02	98.56	98.26	97.54	92.20	96.71	96.64	96.45	96.09	95.88	95.69	95.31	95.20
19	26.09	651.5	99.22	98.77	98.30	97.76	97.59	97.18	97.13	96.88	96.70	96.52	96.21	95.92	95.56
20	26.13	636.2	99.76	99.07	98.83	98.77	98.02	97.74	97.60	97.25	96.81	96.70	96.49	96.37	96.05
21	26.25	636.4	99.31	99.01	98.65	98.51	98.05	97.42	97.28	96.18	96.53	96.28	96.15	95.80	95.44
22	25.99	634.1	99.10	98.63	98.42	98.23	97.40	96.81	96.69	96.39	96.04	95.90	95.82	95.43	95.02
Ave.	26.16	636.6	99.16	98.81	98.42	97.87	97.28	96.92	96.62	96.31	95.99	95.79	95.59	95.33	95.08
Med.	26.17	636.6	99.17	98.83	98.38	97.81	97.19	96.87	96.59	96.37	96.05	95.84	95.64	95.38	95.02
st dev	0.1374	9.7938	0.2177	0.2599	0.3172	0.5154	0.4691	0.4494	0.4822	0.5046	0.5055	0.5035	0.4987	0.5278	0.5342
Min.	25.86	607.8	98.77	98.21	97.85	96.83	96.33	96.14	95.73	95.36	95.01	94.91	94.62	94.29	94.09
Max.	26.47	651.5	99.76	99.26	99.11	98.77	98.06	97.74	97.60	97.25	96.81	96.70	96.49	96.37	96.05

NCO Series LED

3.3 DATA SET 2, 85°C, 200mA (LUMEN MAINTENANCE)

No.	V _F (V)	Φ(lm)	Lumen Maintenance (%)												
	0hr (Initial)		1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs	10000hrs	11000hrs	12000hrs	13000hrs
23	26.04	643.5	98.63	98.14	97.95	97.16	96.29	95.85	95.49	94.95	94.78	94.58	94.30	93.94	93.80
24	25.93	632.3	98.92	98.50	97.91	96.74	95.94	95.68	95.19	94.78	94.37	94.18	93.82	93.56	93.14
25	26.44	640.0	99.16	98.66	98.09	97.16	96.66	95.89	95.39	95.08	94.59	94.16	93.81	93.47	93.25
26	25.99	647.6	99.09	98.36	97.82	97.16	96.14	95.92	95.35	94.86	94.50	94.26	94.15	93.76	93.47
27	26.45	633.6	98.99	98.48	98.22	97.35	97.14	96.84	96.69	96.29	95.94	95.50	95.14	94.89	94.41
28	26.34	641.7	98.66	98.24	97.48	96.70	95.75	95.28	94.90	94.50	94.17	93.98	93.45	93.16	92.68
29	26.24	649.2	98.86	98.55	97.66	96.78	95.83	95.07	94.73	94.49	94.05	93.68	93.30	92.98	92.84
30	26.03	641.7	98.74	98.52	97.87	97.07	96.59	96.57	96.35	95.98	95.56	95.12	94.90	94.76	94.27
31	25.87	648.2	98.83	98.59	98.15	97.55	96.65	96.54	96.31	95.97	95.62	95.33	94.85	94.40	93.95
32	26.37	658.1	98.63	97.92	97.33	96.47	96.08	95.49	94.71	94.33	93.89	93.60	93.47	93.28	92.90
33	26.04	637.3	98.95	98.42	97.80	97.38	96.56	96.42	95.70	95.43	94.88	94.59	94.24	93.90	93.44
34	25.89	648.5	98.83	98.23	98.20	97.83	97.18	96.95	96.58	96.30	96.14	95.76	95.57	95.45	95.16
35	26.02	651.4	99.25	98.53	98.33	97.97	97.18	96.71	96.28	95.75	98.43	95.15	94.73	94.37	94.12
36	26.01	649.0	99.85	99.32	98.67	98.14	97.35	97.06	96.38	95.82	95.62	95.21	94.87	94.67	94.51
37	26.16	656.6	99.03	98.58	99.21	98.48	98.00	97.56	97.11	96.74	96.38	96.09	95.92	95.74	95.23
38	26.40	636.1	99.18	98.70	98.16	97.44	96.75	96.45	96.07	95.69	95.32	95.16	94.86	94.51	94.21
39	26.09	648.5	99.34	98.81	98.43	97.50	96.79	96.19	96.02	95.64	95.40	95.08	94.76	94.48	94.09
40	26.03	642.8	99.30	99.22	98.46	97.96	97.43	97.12	96.58	96.25	95.86	95.44	95.38	95.19	94.80
41	26.16	640.4	98.86	98.81	98.16	97.64	97.41	97.19	96.89	96.58	96.22	95.78	95.58	95.21	94.89
42	26.28	634.7	98.93	98.52	97.48	96.86	96.27	95.64	95.27	94.83	94.34	93.92	93.51	93.07	92.94
43	26.20	646.0	98.62	98.34	97.49	96.55	96.21	95.98	95.50	94.77	94.15	93.79	93.44	93.00	92.68
44	26.15	652.6	99.31	99.07	98.39	97.61	97.59	96.87	96.75	96.23	95.88	95.66	95.23	94.94	94.51
Ave.	26.14	644.5	99.00	98.57	98.06	97.34	96.72	96.33	95.92	95.51	95.14	94.82	94.51	94.21	93.88
Med.	26.12	644.8	98.94	98.52	98.12	97.36	96.65	96.43	96.05	95.66	95.36	95.10	94.75	94.38	94.02
st dev	0.1774	7.1951	0.2970	0.3350	0.4440	0.5369	0.6255	0.6785	0.7263	0.7411	0.7882	0.7680	0.8051	0.8488	0.8147
Min.	25.87	632.3	98.62	97.92	97.33	96.47	95.75	95.07	94.71	94.33	93.89	93.60	93.30	92.98	92.68
Max.	26.45	658.1	99.85	99.32	99.21	98.48	98.00	97.56	97.11	96.74	96.38	96.09	95.92	95.74	95.23

NCO Series LED

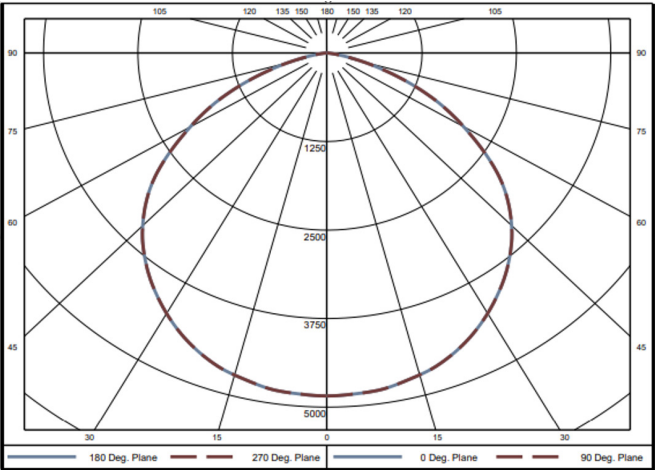
3.5 DATA SET 3, 105°C, 200mA (LUMEN MAINTENANCE)

No.	V _F (V)	Φ(lm)	Lumen Maintenance (%)												
	0hr (Initial)		1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs	10000hrs	11000hrs	12000hrs	13000hrs
45	26.31	639.0	99.01	98.48	97.79	96.73	95.92	95.31	94.87	94.26	93.80	93.40	92.94	92.47	92.16
46	26.17	645.4	98.99	98.22	97.57	97.07	96.16	95.32	95.18	94.67	94.17	93.76	93.11	92.84	92.28
47	26.05	648.0	99.15	98.37	98.02	97.13	96.67	96.11	95.57	95.02	94.34	93.83	93.46	93.16	92.75
48	26.20	639.6	98.95	98.55	97.72	96.89	95.95	95.29	94.89	94.15	93.62	93.14	92.60	92.03	91.74
49	26.24	648.5	99.03	98.57	97.67	96.75	96.31	95.81	95.20	94.71	94.40	94.12	93.69	93.28	92.74
50	26.08	648.2	99.35	98.72	98.21	97.42	97.16	96.84	96.48	95.87	95.22	94.88	94.32	93.88	93.58
51	26.41	635.7	98.87	98.54	97.84	97.06	96.07	95.33	94.56	93.79	93.24	92.76	92.45	92.01	91.57
52	26.29	633.8	98.97	98.37	98.01	97.18	96.45	95.55	94.87	94.29	93.83	93.48	92.88	92.54	92.19
53	26.07	641.5	99.08	98.07	97.68	95.88	94.86	94.50	94.01	93.42	93.11	92.67	92.11	91.69	91.32
54	26.35	637.9	99.03	98.21	97.52	97.02	95.85	95.69	95.20	94.73	94.37	93.84	93.35	92.84	92.33
55	25.99	639.0	98.89	98.47	97398	96.85	96.48	96.06	95.32	94.90	94.30	93.96	93.57	93.10	92.52
56	26.18	639.4	99.12	98.20	97.79	96.67	95.93	95.87	95.20	94.64	93.98	93.73	93.53	92.99	92.71
57	26.32	632.3	99.04	97.96	97.31	96.28	95.40	95.14	94.65	94.35	93.71	93.20	92.88	92.33	92.12
58	26.26	643.2	98.63	97.89	97.25	96.10	95.60	95.18	94.50	93.92	93.27	92.79	92.40	91.95	91.51
59	26.26	632.8	99.05	98.44	97.49	96.78	95.97	95.73	94.99	94.47	94.11	93.63	93.14	92.86	92.57
60	26.30	638.0	99.17	98.43	97.38	96.45	95.47	95.25	94.81	94.12	93.50	93.21	92.57	92.26	91.93
61	26.20	636.0	99.09	98.52	97.91	96.70	96.35	96.05	95.68	95.24	94.81	94.48	94.06	93.73	93.33
62	26.24	636.8	98.90	98.65	97.71	96.69	95.74	94.60	94.38	94.13	93.50	93.07	92.57	92.09	91.79
63	25.97	641.9	98.91	98.33	97.55	96.73	96.15	95.45	95.12	94.73	94.20	93.68	93.29	92.88	92.43
64	25.91	632.0	99.22	98.28	97.31	96.11	95.71	94.97	94.54	94.13	93.48	93.07	92.82	92.50	92.20
65	26.48	636.3	98.54	97.64	96.83	96.20	96.18	95.29	94.92	94.59	94.17	93.84	93.37	92.85	92.39
66	26.18	644.5	98.63	98.03	97.15	97.01	96.25	95.25	94.97	94.66	94.29	93.98	93.55	93.17	92.68
Ave.	26.20	639.5	98.98	98.33	97.62	96.71	96.03	95.48	95.00	94.49	93.97	93.57	93.12	92.70	92.31
Med.	26.22	639.0	99.02	98.40	97.67	96.74	96.02	95.32	94.95	94.53	94.04	93.65	93.12	92.84	92.31
st dev	0.1442	5.1046	0.1938	0.2787	0.3303	0.3981	0.4818	0.5227	0.5109	0.5227	0.5261	0.5567	0.5583	0.5739	0.5549
Min.	25.91	632.0	98.54	97.64	96.83	95.88	94.83	94.50	94.01	93.42	93.11	92.67	92.11	91.69	91.32
Max.	26.48	648.5	99.35	98.72	98.21	97.42	97.16	96.84	96.48	95.87	95.22	94.88	94.32	93.88	93.58

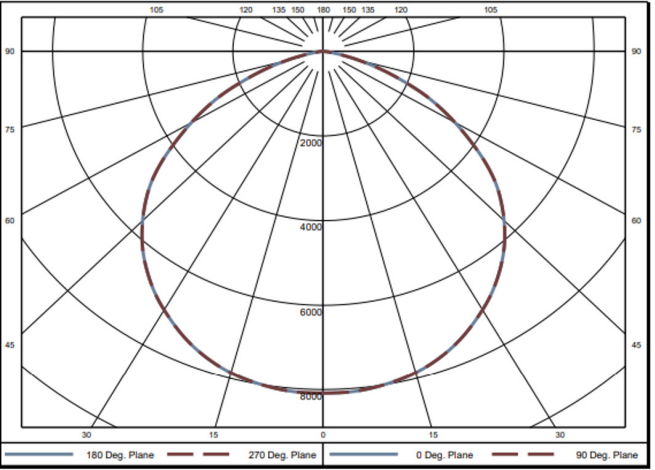
NCO Series LED

DISTRIBUTION - POLAR PLOT

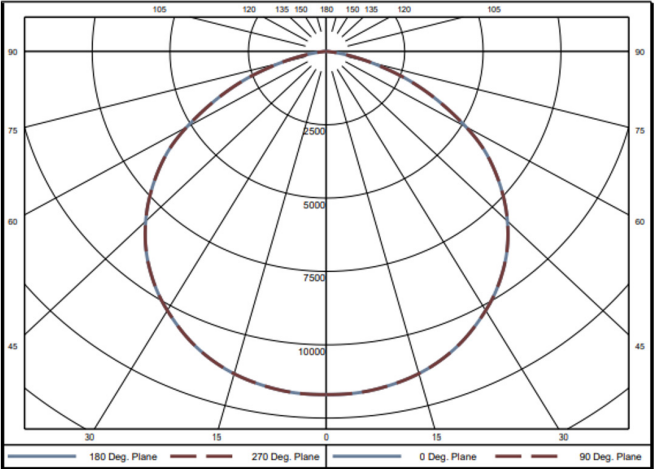
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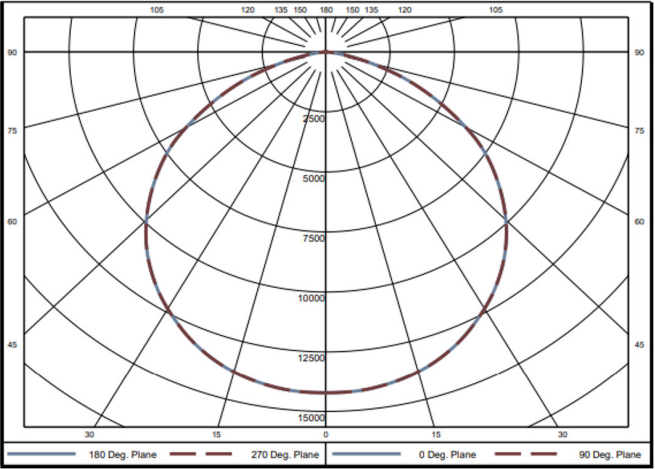
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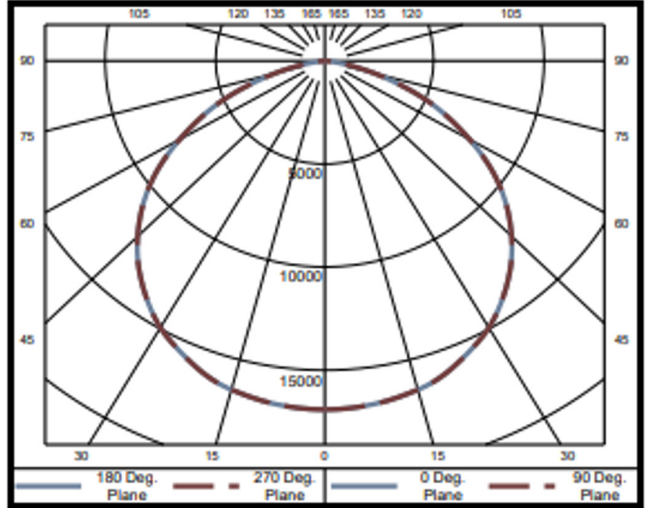
> 200W



> 250W



> 300W



> 400W - NOT TESTED