

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P931555

Luminaire Tested: DFN2DS-TR4F0-100DS840-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931555
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P333812)
Test Lab: INNOVATION CENTER
Issue Date: 11/20/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DS-TR4F0-100DS840-FLL
Description: 4 foot, Triangle Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

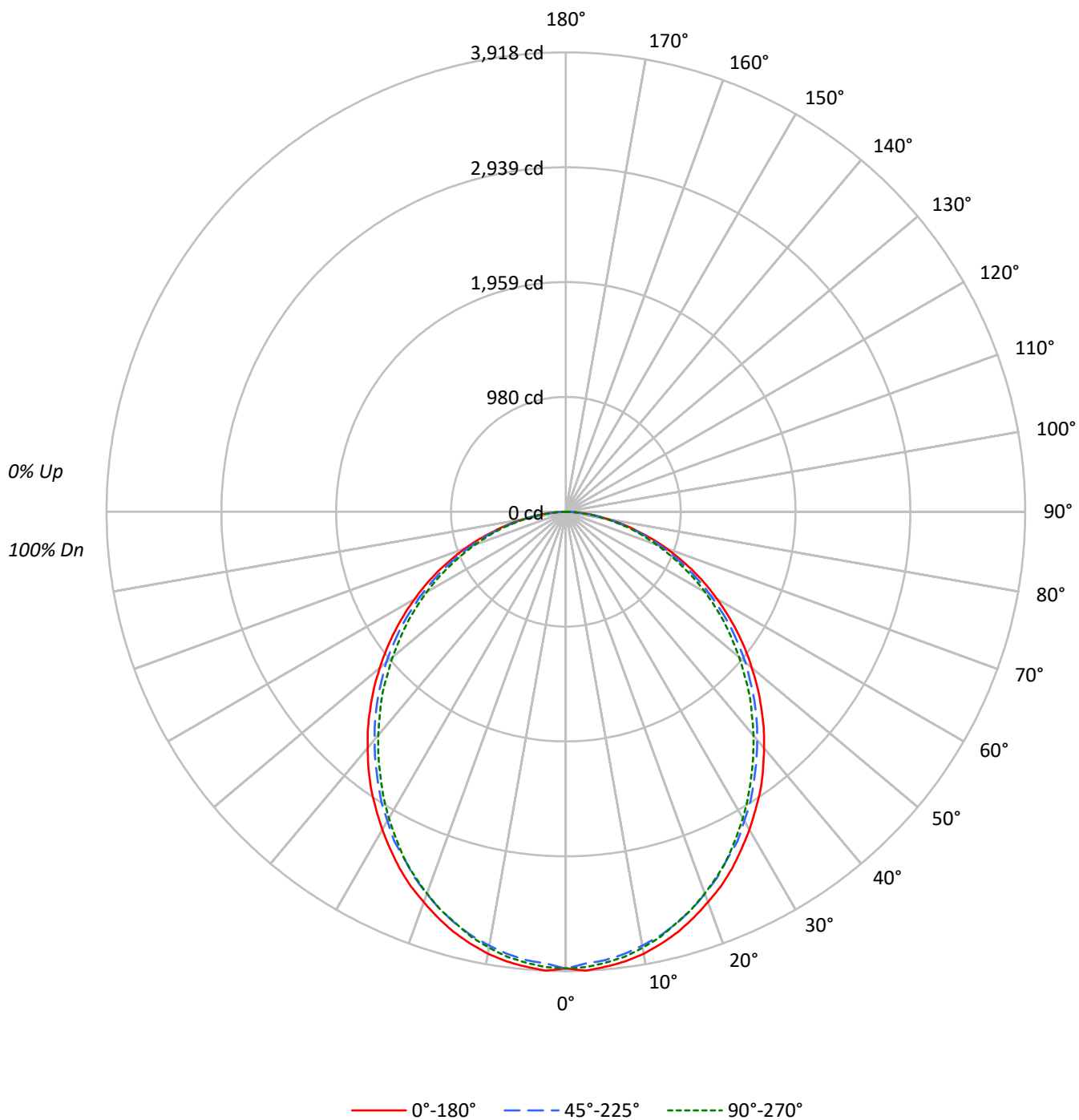
Lumens per Lamp: N/A
Luminaire Lumens: 9909.9 lumens
Efficiency: N/A
Efficacy: 92.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 3.96' x L: 3.43' x H: 0')
CIE Type: Direct

Input Watts (W): 107.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9972
Total Harmonic Distortion (THDi): 0.128
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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Luminous Intensity Polar Plot



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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20
RC	80				70				50				30				10
RW	70	50	30	10	70	50	30	10	50	30	10		50	30	10		50
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111		106	106	106		102
1	109	104	100	96	106	102	98	95	98	95	92		94	91	89		90
2	99	91	85	79	97	89	83	78	86	81	76		83	78	74		80
3	91	80	72	66	88	79	71	65	76	69	64		73	68	63		71
4	83	71	63	56	81	70	62	56	68	61	55		65	59	54		63
5	77	64	55	49	75	63	55	48	61	53	48		59	52	47		57
6	71	58	49	43	69	57	48	42	55	48	42		53	47	42		52
7	66	52	44	38	64	52	43	38	50	43	37		49	42	37		47
8	61	48	40	34	60	47	39	34	46	39	33		45	38	33		44
9	57	44	36	30	56	43	36	30	42	35	30		41	35	30		40
10	54	41	33	28	53	40	33	28	39	32	27		38	32	27		37

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3094	3094	3094
5°	3106	3061	3080
10°	3088	3030	3046
15°	3050	2991	2988
20°	2995	2932	2929
25°	2942	2860	2860
30°	2872	2793	2769
35°	2808	2713	2673
40°	2727	2633	2583
45°	2647	2554	2491
50°	2560	2472	2384
55°	2470	2376	2288
60°	2368	2261	2178
65°	2260	2147	2049
70°	2123	2009	1914
75°	1931	1850	1805
80°	1714	1662	1576
85°	1398	1333	1195

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2647 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	366.6	3.7
10°-20°	1031.5	10.4
20°-30°	1515.8	15.3
30°-40°	1760.5	17.8
40°-50°	1758.4	17.7
50°-60°	1533.2	15.5
60°-70°	1133.4	11.4
70°-80°	641.3	6.5
80°-90°	169.3	1.7
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	2913.9	29.4
0°-40°	4674.4	47.2
0°-60°	7966.0	80.4
0°-90°	9909.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9909.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3895	3895	3895	3895	3895	
5°	3895	3880	3839	3869	3862	370
15°	3708	3686	3637	3652	3633	1044
25°	3356	3326	3262	3270	3262	1544
35°	2895	2858	2798	2775	2756	1808
45°	2356	2330	2273	2232	2217	1818
55°	1783	1760	1715	1670	1652	1594
65°	1202	1180	1142	1109	1090	1189
75°	629	622	603	581	588	672
85°	153	150	146	135	131	180
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3895.0	3895.0	3895.0	3895.0	3895.0
2.5°	3917.6	3898.9	3857.6	3895.0	3887.8
5°	3895.0	3880.3	3838.9	3868.8	3861.6
7.5°	3868.8	3846.4	3805.1	3835.3	3827.8
10°	3827.8	3801.6	3756.7	3786.5	3775.4
12.5°	3771.4	3749.1	3704.2	3722.9	3715.3
15°	3707.8	3685.6	3636.6	3651.7	3633.1
17.5°	3629.1	3606.9	3558.0	3576.7	3558.0
20°	3542.8	3520.6	3468.2	3479.3	3464.6
22.5°	3457.1	3423.3	3374.4	3374.4	3366.9
25°	3355.8	3325.9	3262.4	3269.5	3262.4
27.5°	3243.2	3217.0	3168.6	3157.5	3138.7
30°	3131.2	3101.0	3044.9	3033.8	3018.7
32.5°	3011.2	2989.0	2928.9	2906.3	2891.2
35°	2895.2	2857.9	2797.8	2775.2	2756.5
37.5°	2764.1	2730.2	2670.3	2644.0	2625.3
40°	2629.3	2599.1	2539.1	2505.8	2490.7
42.5°	2498.2	2468.0	2408.4	2370.7	2348.4
45°	2356.0	2329.7	2273.3	2232.3	2217.3
47.5°	2217.3	2191.1	2131.0	2089.7	2067.5
50°	2071.1	2052.4	1999.9	1947.4	1928.8
52.5°	1928.8	1902.6	1854.1	1812.8	1786.6
55°	1783.0	1760.4	1715.4	1670.5	1651.9
57.5°	1636.7	1618.0	1569.2	1524.3	1509.2
60°	1490.5	1475.8	1423.3	1382.0	1370.9
62.5°	1348.2	1322.0	1284.7	1247.3	1232.2
65°	1202.4	1179.8	1142.4	1108.6	1090.0
67.5°	1052.7	1033.5	1000.2	974.0	958.9
70°	913.9	898.8	865.1	838.8	824.1
72.5°	771.7	756.6	737.9	711.7	700.5
75°	629.0	621.9	602.8	580.6	588.1
77.5°	501.9	486.8	479.2	468.1	457.0
80°	374.7	370.8	363.2	352.1	344.5
82.5°	254.8	254.8	251.2	236.0	236.0
85°	153.4	149.8	146.2	134.7	131.1
87.5°	67.6	60.0	52.5	41.3	37.3
90°	0.0	0.0	0.0	0.0	0.0

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CIE UGR TABLE:

Reflectances:											
Ceiling		0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
Wall		0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
Reference plane		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions		Viewed crosswise					Viewed endwise				
X=2H	Y=2H	15.21	16.82	15.57	17.13	17.45	14.76	16.37	15.13	16.69	17.00
	3H	16.96	18.41	17.33	18.74	19.10	16.47	17.92	16.84	18.25	18.61
	4H	17.60	18.97	18.00	19.32	19.70	17.11	18.48	17.51	18.83	19.20
	6H	18.07	19.34	18.48	19.71	20.10	17.57	18.84	17.98	19.20	19.60
	8H	18.22	19.43	18.64	19.82	20.21	17.71	18.92	18.14	19.31	19.71
	12H	18.31	19.47	18.74	19.85	20.28	17.79	18.95	18.22	19.34	19.76
4H	2H	15.77	17.14	16.17	17.48	17.86	15.41	16.78	15.81	17.13	17.51
	3H	17.74	18.89	18.15	19.29	19.69	17.34	18.48	17.75	18.88	19.28
	4H	18.52	19.55	18.95	19.97	20.40	18.10	19.13	18.53	19.54	19.98
	6H	19.12	20.02	19.57	20.46	20.92	18.68	19.59	19.14	20.03	20.49
	8H	19.31	20.15	19.77	20.59	21.06	18.87	19.71	19.33	20.16	20.62
	12H	19.44	20.20	19.92	20.67	21.14	18.98	19.74	19.47	20.22	20.69
8H	4H	18.79	19.64	19.25	20.08	20.55	18.42	19.26	18.88	19.71	20.17
	6H	19.51	20.21	20.00	20.70	21.17	19.13	19.83	19.62	20.32	20.79
	8H	19.77	20.40	20.28	20.90	21.39	19.37	20.01	19.88	20.51	21.00
	12H	19.97	20.52	20.47	21.01	21.58	19.55	20.11	20.06	20.60	21.16
12H	4H	18.82	19.58	19.30	20.05	20.52	18.45	19.21	18.93	19.69	20.16
	6H	19.55	20.18	20.06	20.69	21.18	19.18	19.82	19.69	20.32	20.81
	8H	19.87	20.42	20.37	20.91	21.48	19.49	20.05	20.00	20.54	21.10