

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: P931550

Luminaire Tested: DFN2DS-TR4F0-090DS950-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931550
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P333882)
Test Lab: INNOVATION CENTER
Issue Date: 11/20/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DS-TR4F0-090DS950-RLL
Description: 4 foot, Triangle Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

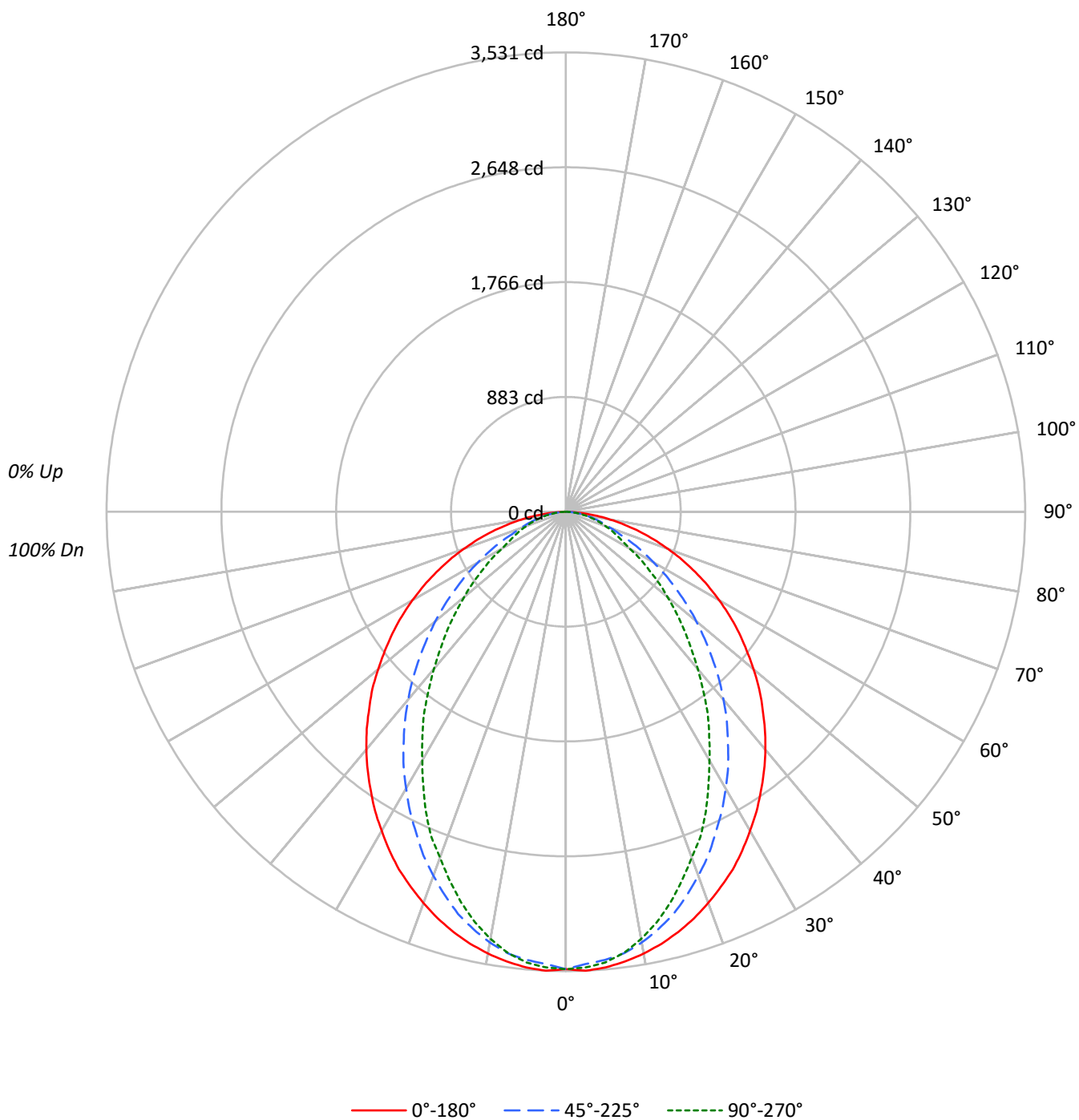
Lumens per Lamp: N/A
Luminaire Lumens: 7229.2 lumens
Efficiency: N/A
Efficacy: 77.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 3.96' x L: 3.43' x H: 0')
CIE Type: Direct

Input Watts (W): 93.7
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.099
Total Harmonic Distortion (THDi): 0.979
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	110	106	102	98	107	103	100	97	99	96	94		95	93	91		92
2	101	94	87	82	98	92	86	81	88	83	79		85	81	78		82
3	93	83	76	70	90	82	75	69	79	73	68		76	71	67		74
4	86	75	66	60	83	73	66	60	71	64	59		69	63	58		66
5	79	67	59	53	77	66	58	52	64	57	52		62	56	51		60
6	74	61	53	47	72	60	52	46	58	51	46		57	50	46		55
7	68	56	47	42	67	55	47	42	53	46	41		52	46	41		51
8	64	51	43	38	62	51	43	37	49	42	37		48	42	37		47
9	60	47	39	34	59	47	39	34	46	39	34		44	38	34		44
10	56	44	36	31	55	43	36	31	42	36	31		41	35	31		41

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2793	2793	2793
5°	2803	2757	2773
10°	2782	2713	2689
15°	2750	2632	2556
20°	2706	2517	2391
25°	2660	2387	2231
30°	2597	2253	2025
35°	2536	2107	1845
40°	2474	1956	1636
45°	2402	1787	1447
50°	2328	1616	1262
55°	2251	1432	1084
60°	2163	1238	900
65°	2063	1040	819
70°	1943	857	753
75°	1796	781	704
80°	1586	698	640
85°	1245	551	551

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2402 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	329.4	4.6
10°-20°	904.4	12.5
20°-30°	1269.7	17.6
30°-40°	1384.1	19.1
40°-50°	1272.1	17.6
50°-60°	999.0	13.8
60°-70°	650.3	9.0
70°-80°	334.7	4.6
80°-90°	85.5	1.2
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°	2503.5	34.6
0°-40°	3887.6	53.8
0°-60°	6158.8	85.2
0°-90°	7229.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7229.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3515	3515	3515	3515	3515	
5°	3515	3499	3458	3486	3477	333
15°	3343	3308	3200	3140	3108	942
25°	3035	2933	2723	2593	2545	1396
35°	2615	2453	2173	1972	1902	1637
45°	2138	1924	1591	1364	1288	1651
55°	1625	1377	1034	843	783	1452
65°	1098	840	554	446	436	1088
75°	585	362	254	232	229	619
85°	137	70	60	60	60	164
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3515.1	3515.1	3515.1	3515.1	3515.1
2.5°	3531.0	3515.1	3480.0	3512.1	3505.7
5°	3515.1	3499.2	3457.8	3486.4	3476.9
7.5°	3486.4	3467.5	3423.0	3435.5	3419.6
10°	3448.3	3426.0	3362.6	3352.8	3333.9
12.5°	3400.7	3372.0	3286.0	3267.1	3231.9
15°	3343.3	3308.3	3200.2	3139.8	3108.1
17.5°	3276.5	3225.6	3091.9	3022.0	2971.1
20°	3200.2	3136.5	2977.4	2898.1	2827.9
22.5°	3117.6	3044.3	2859.7	2751.7	2704.1
25°	3034.9	2932.9	2723.0	2592.7	2544.8
27.5°	2936.3	2827.9	2595.7	2446.2	2373.0
30°	2831.3	2710.2	2455.7	2293.7	2207.6
32.5°	2729.3	2582.9	2322.3	2131.4	2051.7
35°	2615.0	2452.7	2172.8	1972.4	1902.2
37.5°	2503.6	2328.5	2032.8	1813.1	1733.8
40°	2385.8	2195.1	1886.3	1660.6	1577.9
42.5°	2265.0	2061.5	1740.1	1504.6	1425.2
45°	2137.8	1924.5	1590.6	1364.5	1288.2
47.5°	2016.9	1791.2	1447.6	1221.4	1151.6
50°	1883.3	1657.4	1307.5	1087.8	1021.3
52.5°	1752.7	1514.1	1173.9	963.9	903.5
55°	1625.4	1377.3	1033.7	843.1	782.6
57.5°	1495.2	1240.7	909.9	731.7	680.8
60°	1361.5	1107.0	779.3	617.3	566.3
62.5°	1231.2	976.8	667.9	515.4	490.1
65°	1097.5	839.7	553.5	445.5	435.7
67.5°	970.3	712.4	445.5	391.1	381.7
70°	836.7	588.6	368.9	337.2	324.3
72.5°	709.4	473.8	308.4	283.1	276.8
75°	585.2	362.5	254.5	232.2	229.2
77.5°	461.3	257.5	200.4	187.7	181.3
80°	346.6	184.7	152.5	140.0	140.0
82.5°	241.6	124.2	105.0	98.6	98.6
85°	136.6	69.8	60.4	60.4	60.4
87.5°	50.9	25.3	25.3	22.3	22.3
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	14.80	16.32	15.17	16.64	16.95	10.76	12.28	11.13	12.60	12.91
	3H	16.57	17.93	16.95	18.26	18.62	12.03	13.39	12.41	13.72	14.08
	4H	17.23	18.51	17.63	18.86	19.24	12.53	13.81	12.93	14.16	14.54
	6H	17.72	18.91	18.14	19.27	19.66	12.91	14.09	13.32	14.46	14.85
	8H	17.89	19.01	18.31	19.40	19.81	13.04	14.16	13.46	14.55	14.95
	12H	17.99	19.07	18.42	19.45	19.88	13.12	14.20	13.55	14.58	15.01
4H	2H	14.91	16.19	15.31	16.54	16.91	11.46	12.74	11.86	13.09	13.47
	3H	16.84	17.90	17.25	18.30	18.70	12.90	13.96	13.31	14.36	14.77
	4H	17.59	18.55	18.02	18.96	19.40	13.50	14.46	13.93	14.87	15.31
	6H	18.18	19.01	18.64	19.46	19.92	13.99	14.82	14.45	15.26	15.72
	8H	18.40	19.17	18.86	19.62	20.08	14.15	14.93	14.61	15.37	15.84
	12H	18.55	19.24	19.03	19.72	20.19	14.27	14.96	14.75	15.44	15.91
8H	4H	17.61	18.39	18.08	18.83	19.30	13.85	14.63	14.32	15.08	15.54
	6H	18.25	18.89	18.75	19.38	19.86	14.44	15.08	14.94	15.58	16.05
	8H	18.50	19.08	19.02	19.59	20.08	14.66	15.24	15.18	15.75	16.24
	12H	18.71	19.22	19.21	19.71	20.27	14.84	15.35	15.35	15.84	16.41
12H	4H	17.60	18.29	18.08	18.77	19.24	13.90	14.59	14.38	15.07	15.54
	6H	18.23	18.81	18.75	19.32	19.81	14.50	15.08	15.02	15.59	16.08
	8H	18.52	19.03	19.03	19.52	20.08	14.78	15.29	15.29	15.78	16.34