

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: P931578

Luminaire Tested: DFN2DS-TR4F0-110DS927-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931578
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-TR4F0-110DS927-RLL
Description: 4 foot, Triangle Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

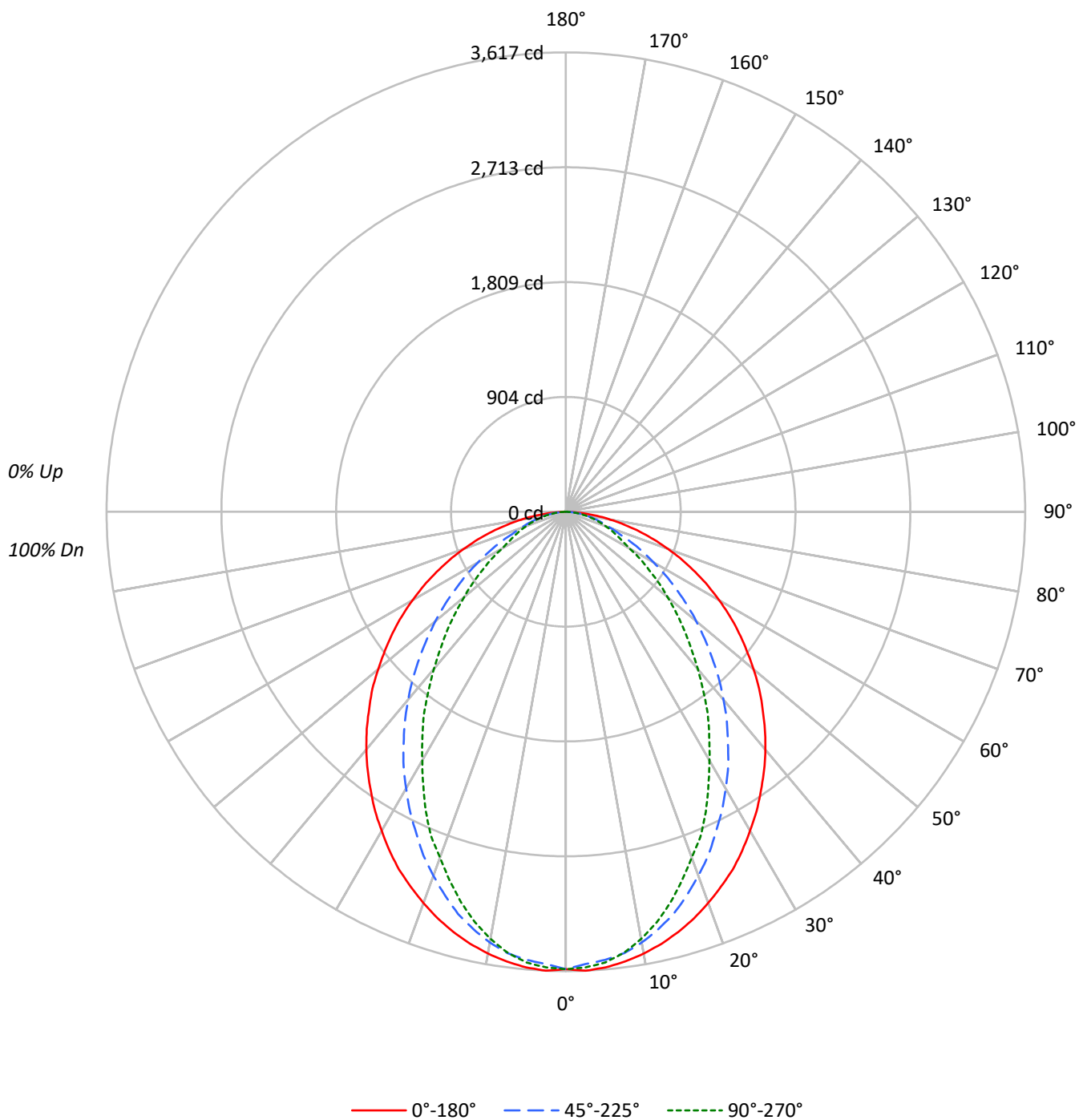
Lumens per Lamp: N/A
Luminaire Lumens: 7405.2 lumens
Efficiency: N/A
Efficacy: 62.3 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 3.96' x L: 3.43' x H: 0')
CIE Type: Direct

Input Watts (W): 118.9
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9613
Total Harmonic Distortion (THDi): 0.083
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P931578

CATALOG NUMBER: DFN2DS-TR4F0-110DS927-RLL

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°	2861	2861	2861
5°	2871	2825	2840
10°	2849	2779	2755
15°	2817	2696	2618
20°	2771	2578	2449
25°	2725	2445	2285
30°	2660	2308	2074
35°	2598	2159	1890
40°	2534	2004	1676
45°	2460	1831	1483
50°	2384	1655	1293
55°	2306	1467	1110
60°	2216	1268	922
65°	2113	1066	839
70°	1991	878	772
75°	1840	800	720
80°	1625	715	657
85°	1276	564	564

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2460 cd/sqm

TEST NUMBER: P931578

CATALOG NUMBER: DFN2DS-TR4F0-110DS927-RLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	337.5	4.6
10°-20°	926.4	12.5
20°-30°	1300.6	17.6
30°-40°	1417.8	19.1
40°-50°	1303.1	17.6
50°-60°	1023.4	13.8
60°-70°	666.1	9.0
70°-80°	342.9	4.6
80°-90°	87.6	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°	2564.5	34.6
0°-40°	3982.2	53.8
0°-60°	6308.7	85.2
0°-90°	7405.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7405.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3601	3601	3601	3601	3601	
5°	3601	3584	3542	3571	3562	341
15°	3425	3389	3278	3216	3184	965
25°	3109	3004	2789	2656	2607	1430
35°	2679	2512	2226	2020	1948	1677
45°	2190	1971	1629	1398	1320	1691
55°	1665	1411	1059	864	802	1488
65°	1124	860	567	456	446	1115
75°	600	371	261	238	235	634
85°	140	72	62	62	62	168
90°	0	0	0	0	0	

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CATALOG NUMBER: DFN2DS-TR4F0-110DS927-RLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3600.7	3600.7	3600.7	3600.7	3600.7
2.5°	3616.9	3600.7	3564.7	3597.6	3591.0
5°	3600.7	3584.4	3541.9	3571.3	3561.6
7.5°	3571.3	3551.9	3506.3	3519.1	3502.8
10°	3532.2	3509.4	3444.4	3434.3	3415.0
12.5°	3483.5	3454.1	3365.9	3346.5	3310.6
15°	3424.7	3388.7	3278.1	3216.2	3183.7
17.5°	3356.3	3304.1	3167.1	3095.5	3043.3
20°	3278.1	3212.7	3049.9	2968.7	2896.7
22.5°	3193.4	3118.3	2929.3	2818.6	2769.9
25°	3108.7	3004.3	2789.3	2655.8	2606.7
27.5°	3007.8	2896.7	2658.9	2505.7	2430.7
30°	2900.2	2776.1	2515.5	2349.5	2261.3
32.5°	2795.8	2645.8	2378.9	2183.2	2101.7
35°	2678.6	2512.3	2225.8	2020.4	1948.5
37.5°	2564.6	2385.1	2082.2	1857.2	1776.0
40°	2443.9	2248.6	1932.2	1700.9	1616.2
42.5°	2320.1	2111.6	1782.6	1541.2	1460.0
45°	2189.8	1971.3	1629.4	1397.7	1319.6
47.5°	2066.0	1834.7	1482.8	1251.1	1179.6
50°	1929.1	1697.8	1339.4	1114.3	1046.2
52.5°	1795.3	1550.9	1202.4	987.4	925.5
55°	1664.9	1410.9	1058.9	863.6	801.7
57.5°	1531.6	1270.8	932.0	749.5	697.3
60°	1394.6	1134.0	798.3	632.3	580.1
62.5°	1261.2	1000.5	684.2	527.9	502.0
65°	1124.2	860.1	567.0	456.4	446.3
67.5°	994.0	729.8	456.4	400.7	391.0
70°	857.0	602.9	377.9	345.4	332.2
72.5°	726.7	485.4	316.0	290.0	283.5
75°	599.5	371.3	260.6	237.8	234.7
77.5°	472.6	263.8	205.4	192.2	185.6
80°	355.1	189.1	156.3	143.5	143.5
82.5°	247.5	127.2	107.6	101.0	101.0
85°	140.0	71.6	61.9	61.9	61.9
87.5°	52.2	25.9	25.9	22.8	22.8
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	14.89	16.41	15.25	16.72	17.04	10.85	12.37	11.21	12.68	13.00
	3H	16.65	18.02	17.03	18.34	18.71	12.11	13.48	12.49	13.80	14.17
	4H	17.32	18.60	17.72	18.95	19.33	12.61	13.89	13.01	14.24	14.62
	6H	17.81	18.99	18.22	19.36	19.75	12.99	14.18	13.41	14.54	14.94
	8H	17.97	19.10	18.40	19.49	19.89	13.12	14.25	13.55	14.64	15.04
	12H	18.08	19.15	18.51	19.54	19.96	13.20	14.28	13.63	14.66	15.09
4H	2H	14.99	16.27	15.39	16.62	17.00	11.54	12.82	11.94	13.17	13.55
	3H	16.92	17.99	17.33	18.39	18.79	12.99	14.05	13.40	14.45	14.85
	4H	17.67	18.63	18.11	19.05	19.48	13.58	14.54	14.02	14.96	15.40
	6H	18.26	19.10	18.72	19.54	20.00	14.07	14.90	14.53	15.35	15.81
	8H	18.48	19.26	18.94	19.70	20.17	14.23	15.01	14.70	15.46	15.92
	12H	18.63	19.33	19.11	19.81	20.28	14.35	15.05	14.83	15.53	16.00
8H	4H	17.70	18.47	18.16	18.92	19.39	13.94	14.72	14.40	15.16	15.63
	6H	18.33	18.98	18.83	19.47	19.95	14.53	15.17	15.02	15.66	16.14
	8H	18.58	19.16	19.10	19.67	20.16	14.75	15.32	15.26	15.83	16.32
	12H	18.79	19.30	19.30	19.79	20.36	14.93	15.44	15.44	15.93	16.49
12H	4H	17.68	18.38	18.16	18.85	19.33	13.98	14.68	14.46	15.15	15.63
	6H	18.32	18.89	18.83	19.40	19.89	14.59	15.17	15.10	15.68	16.16
	8H	18.60	19.11	19.11	19.60	20.17	14.86	15.37	15.37	15.86	16.43