

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: P931604

Luminaire Tested: DFN2DS-TR4F0-120DS950-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931604
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-TR4F0-120DS950-RLL
Description: 4 foot, Triangle Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

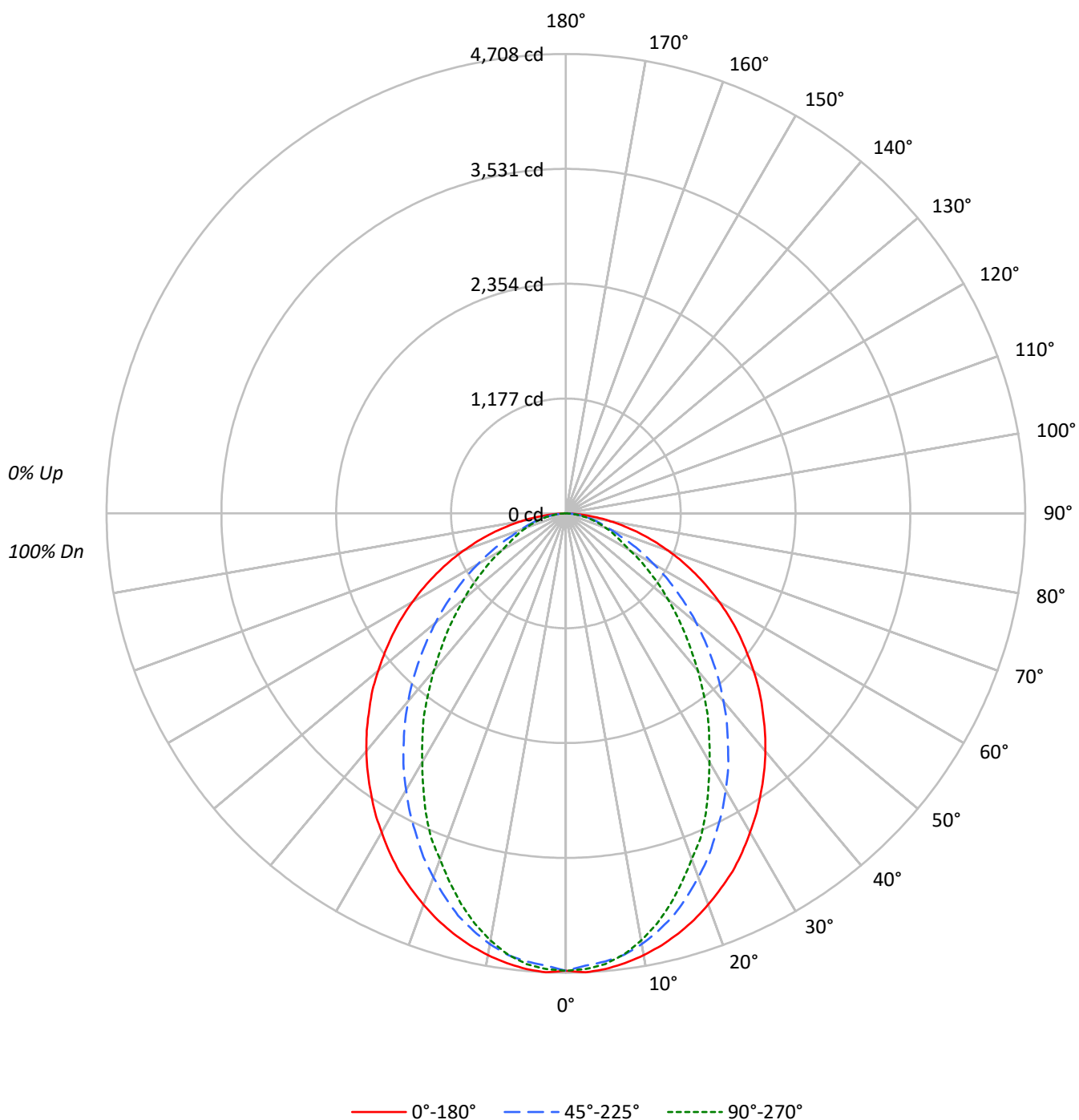
Lumens per Lamp: N/A
Luminaire Lumens: 9639.0 lumens
Efficiency: N/A
Efficacy: 73.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 3.96' x L: 3.43' x H: 0')
CIE Type: Direct

Input Watts (W): 131.9
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9821
Total Harmonic Distortion (THDi): 0.08
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P931604

CATALOG NUMBER: DFN2DS-TR4F0-120DS950-RLL

Luminous Intensity Polar Plot



TEST NUMBER: P931604

CATALOG NUMBER: DFN2DS-TR4F0-120DS950-RLL

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°	3723	3723	3723
5°	3738	3677	3697
10°	3709	3617	3586
15°	3666	3509	3408
20°	3607	3356	3188
25°	3547	3182	2974
30°	3463	3004	2700
35°	3381	2810	2460
40°	3299	2608	2182
45°	3202	2383	1930
50°	3104	2155	1683
55°	3002	1909	1445
60°	2884	1651	1200
65°	2751	1387	1092
70°	2591	1143	1004
75°	2395	1041	938
80°	2115	931	854
85°	1662	734	734

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 3202 cd/sqm

TEST NUMBER: P931604

CATALOG NUMBER: DFN2DS-TR4F0-120DS950-RLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	439.3	4.6
10°-20°	1205.8	12.5
20°-30°	1693.0	17.6
30°-40°	1845.4	19.1
40°-50°	1696.2	17.6
50°-60°	1332.1	13.8
60°-70°	867.0	9.0
70°-80°	446.3	4.6
80°-90°	113.9	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°	3338.0	34.6
0°-40°	5183.5	53.8
0°-60°	8211.7	85.2
0°-90°	9639.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9639.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4687	4687	4687	4687	4687	
5°	4687	4666	4610	4648	4636	444
15°	4458	4411	4267	4186	4144	1256
25°	4046	3910	3631	3457	3393	1861
35°	3487	3270	2897	2630	2536	2182
45°	2850	2566	2121	1819	1718	2201
55°	2167	1836	1378	1124	1044	1937
65°	1463	1120	738	594	581	1451
75°	780	483	339	310	306	825
85°	182	93	80	80	80	219
90°	0	0	0	0	0	

TEST NUMBER: P931604

CATALOG NUMBER: DFN2DS-TR4F0-120DS950-RLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4686.8	4686.8	4686.8	4686.8	4686.8
2.5°	4708.0	4686.8	4640.0	4682.8	4674.2
5°	4686.8	4665.7	4610.3	4648.5	4636.0
7.5°	4648.5	4623.3	4564.0	4580.6	4559.4
10°	4597.7	4568.0	4483.4	4470.3	4445.2
12.5°	4534.2	4496.0	4381.2	4356.1	4309.3
15°	4457.8	4411.0	4267.0	4186.3	4144.1
17.5°	4368.6	4300.7	4122.5	4029.4	3961.4
20°	4267.0	4181.9	3969.9	3864.2	3770.6
22.5°	4156.7	4059.1	3812.9	3668.9	3605.5
25°	4046.5	3910.5	3630.6	3456.9	3393.0
27.5°	3915.0	3770.6	3461.0	3261.7	3164.0
30°	3775.1	3613.6	3274.2	3058.2	2943.5
32.5°	3639.2	3443.9	3096.5	2841.8	2735.6
35°	3486.7	3270.2	2897.1	2629.8	2536.2
37.5°	3338.1	3104.6	2710.4	2417.4	2311.7
40°	3181.1	2926.9	2515.1	2214.0	2103.8
42.5°	3019.9	2748.6	2320.3	2006.1	1900.4
45°	2850.3	2566.0	2120.9	1819.4	1717.6
47.5°	2689.2	2388.2	1930.1	1628.6	1535.4
50°	2511.1	2210.0	1743.3	1450.4	1361.7
52.5°	2336.9	2018.7	1565.1	1285.2	1204.7
55°	2167.3	1836.5	1378.4	1124.1	1043.6
57.5°	1993.5	1654.2	1213.2	975.6	907.7
60°	1815.3	1476.0	1039.0	823.1	755.1
62.5°	1641.7	1302.3	890.6	687.2	653.4
65°	1463.4	1119.6	738.0	594.0	581.0
67.5°	1293.8	949.9	594.0	521.5	509.0
70°	1115.6	784.8	491.9	449.5	432.4
72.5°	945.9	631.8	411.3	377.5	369.0
75°	780.3	483.3	339.3	309.6	305.5
77.5°	615.2	343.3	267.3	250.2	241.6
80°	462.2	246.2	203.4	186.7	186.7
82.5°	322.2	165.6	140.0	131.4	131.4
85°	182.3	93.2	80.5	80.5	80.5
87.5°	67.9	33.7	33.7	29.7	29.7
90°	0.0	0.0	0.0	0.0	0.0

TEST NUMBER: P931604

CATALOG NUMBER: DFN2DS-TR4F0-120DS950-RLL

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	15.80	17.32	16.17	17.64	17.95	11.76	13.28	12.13	13.60	13.91
	3H	17.57	18.93	17.95	19.26	19.62	13.03	14.39	13.41	14.72	15.08
	4H	18.23	19.51	18.63	19.86	20.24	13.53	14.81	13.93	15.16	15.54
	6H	18.72	19.91	19.13	20.27	20.66	13.91	15.09	14.32	15.46	15.85
	8H	18.89	20.01	19.31	20.40	20.81	14.03	15.16	14.46	15.55	15.95
	12H	18.99	20.07	19.42	20.45	20.88	14.12	15.19	14.55	15.58	16.01
4H	2H	15.91	17.19	16.31	17.54	17.91	12.46	13.74	12.86	14.09	14.47
	3H	17.84	18.90	18.25	19.30	19.70	13.90	14.96	14.31	15.36	15.76
	4H	18.59	19.55	19.02	19.96	20.40	14.50	15.46	14.93	15.87	16.31
	6H	19.18	20.01	19.64	20.46	20.91	14.99	15.82	15.45	16.26	16.72
	8H	19.40	20.17	19.86	20.62	21.08	15.15	15.93	15.61	16.37	16.84
	12H	19.55	20.24	20.03	20.72	21.19	15.27	15.96	15.75	16.44	16.91
8H	4H	18.61	19.39	19.08	19.83	20.30	14.85	15.63	15.32	16.08	16.54
	6H	19.25	19.89	19.75	20.38	20.86	15.44	16.08	15.94	16.57	17.05
	8H	19.50	20.08	20.01	20.59	21.08	15.66	16.24	16.18	16.75	17.24
	12H	19.71	20.21	20.21	20.71	21.27	15.84	16.35	16.35	16.84	17.41
12H	4H	18.60	19.29	19.08	19.77	20.24	14.90	15.59	15.38	16.07	16.54
	6H	19.23	19.81	19.75	20.32	20.81	15.50	16.08	16.02	16.59	17.08
	8H	19.52	20.03	20.03	20.52	21.08	15.78	16.29	16.29	16.78	17.34