

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: P931602

Luminaire Tested: DFN2DS-TR4F0-120DS940-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931602
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-TR4F0-120DS940-RLL
Description: 4 foot, Triangle Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

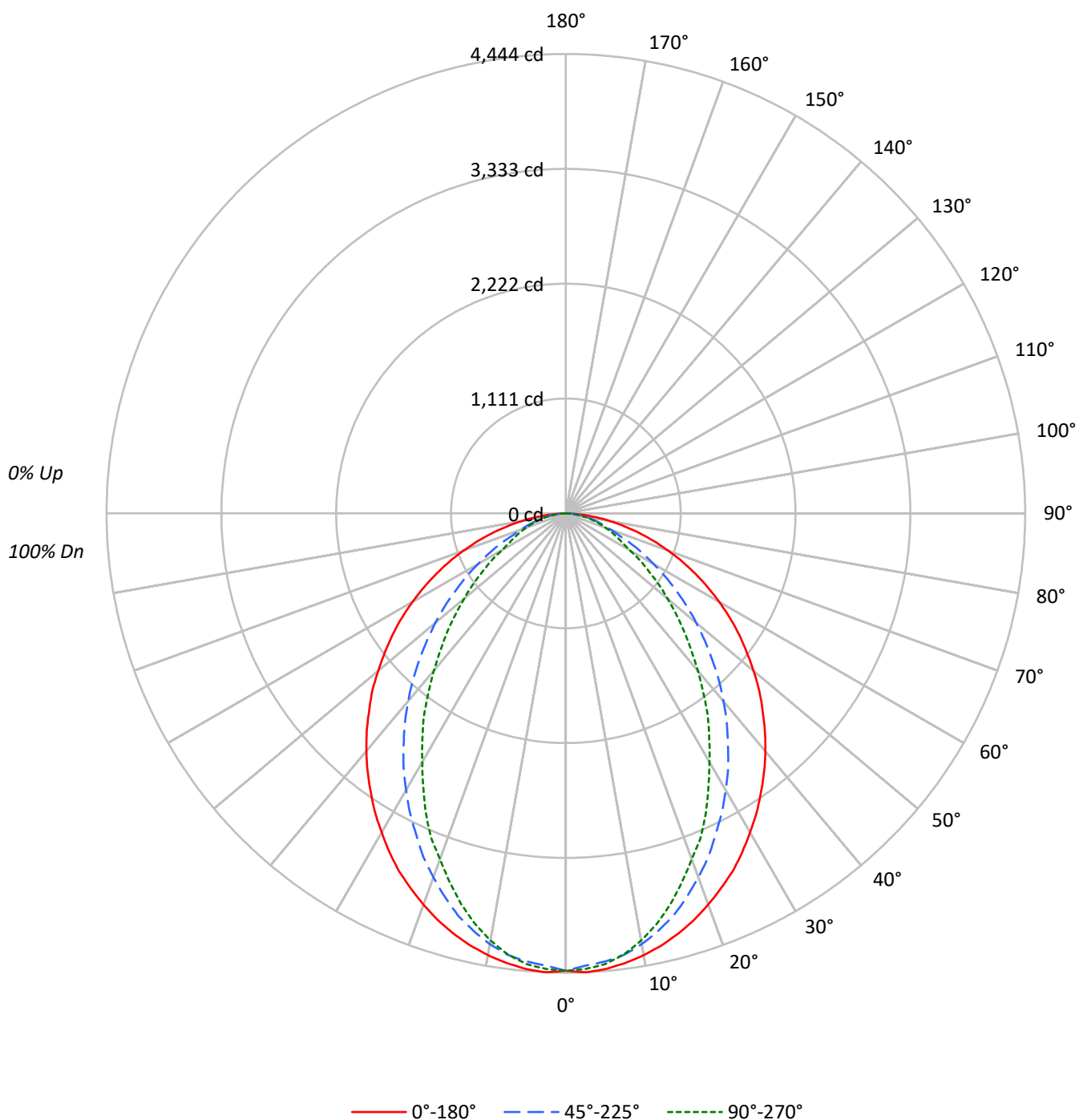
Lumens per Lamp: N/A
Luminaire Lumens: 9098.4 lumens
Efficiency: N/A
Efficacy: 69.0 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 3.96' x L: 3.43' x H: 0')
CIE Type: Direct

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

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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°	3515	3515	3515
5°	3528	3470	3490
10°	3501	3414	3385
15°	3461	3313	3217
20°	3405	3168	3009
25°	3348	3004	2807
30°	3269	2835	2549
35°	3192	2652	2322
40°	3114	2462	2059
45°	3023	2249	1822
50°	2929	2034	1589
55°	2833	1802	1364
60°	2723	1558	1133
65°	2597	1310	1031
70°	2446	1078	948
75°	2261	983	885
80°	1996	878	807
85°	1569	693	693

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 3023 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	414.6	4.6
10°-20°	1138.2	12.5
20°-30°	1598.0	17.6
30°-40°	1741.9	19.1
40°-50°	1601.0	17.6
50°-60°	1257.3	13.8
60°-70°	818.4	9.0
70°-80°	421.3	4.6
80°-90°	107.5	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°	3150.8	34.6
0°-40°	4892.8	53.8
0°-60°	7751.1	85.2
0°-90°	9098.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9098.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4424	4424	4424	4424	4424	
5°	4424	4404	4352	4388	4376	419
15°	4208	4164	4028	3952	3912	1186
25°	3820	3691	3427	3263	3203	1757
35°	3291	3087	2735	2482	2394	2060
45°	2690	2422	2002	1717	1621	2078
55°	2046	1734	1301	1061	985	1828
65°	1381	1057	697	561	548	1369
75°	736	456	320	292	288	779
85°	172	88	76	76	76	206
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4424.0	4424.0	4424.0	4424.0	4424.0
2.5°	4443.9	4424.0	4379.8	4420.1	4412.0
5°	4424.0	4404.0	4351.7	4387.8	4376.0
7.5°	4387.8	4364.0	4308.0	4323.7	4303.7
10°	4339.8	4311.8	4231.9	4219.6	4195.9
12.5°	4279.9	4243.9	4135.5	4111.8	4067.6
15°	4207.7	4163.6	4027.6	3951.6	3911.7
17.5°	4123.6	4059.5	3891.3	3803.4	3739.3
20°	4027.6	3947.4	3747.3	3647.5	3559.1
22.5°	3923.6	3831.4	3599.0	3463.1	3403.2
25°	3819.5	3691.2	3427.0	3263.0	3202.7
27.5°	3695.5	3559.1	3266.9	3078.7	2986.5
30°	3563.4	3410.9	3090.6	2886.7	2778.4
32.5°	3435.1	3250.7	2922.8	2682.4	2582.2
35°	3291.1	3086.8	2734.6	2482.3	2393.9
37.5°	3150.9	2930.5	2558.3	2281.8	2182.0
40°	3002.7	2762.7	2374.1	2089.9	1985.8
42.5°	2850.6	2594.5	2190.1	1893.6	1793.8
45°	2690.5	2422.0	2001.9	1717.4	1621.3
47.5°	2538.4	2254.3	1821.8	1537.3	1449.3
50°	2370.2	2086.0	1645.6	1369.0	1285.4
52.5°	2205.8	1905.5	1477.3	1213.1	1137.1
55°	2045.7	1733.5	1301.1	1061.0	985.0
57.5°	1881.7	1561.4	1145.1	920.9	856.8
60°	1713.5	1393.2	980.8	776.9	712.8
62.5°	1549.6	1229.3	840.6	648.7	616.7
65°	1381.4	1056.8	696.7	560.7	548.4
67.5°	1221.2	896.6	560.7	492.3	480.4
70°	1053.0	740.8	464.3	424.3	408.2
72.5°	892.9	596.4	388.2	356.4	348.3
75°	736.5	456.2	320.3	292.2	288.4
77.5°	580.7	324.1	252.3	236.2	228.1
80°	436.3	232.4	192.0	176.3	176.3
82.5°	304.2	156.3	132.1	124.0	124.0
85°	172.1	88.0	76.0	76.0	76.0
87.5°	64.1	31.8	31.8	28.0	28.0
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	15.60	17.12	15.97	17.44	17.75	11.56	13.08	11.93	13.40	13.71
	3H	17.37	18.73	17.74	19.06	19.42	12.83	14.19	13.21	14.52	14.88
	4H	18.03	19.31	18.43	19.66	20.04	13.33	14.61	13.73	14.96	15.34
	6H	18.52	19.71	18.93	20.07	20.46	13.71	14.89	14.12	15.26	15.65
	8H	18.69	19.81	19.11	20.20	20.60	13.83	14.96	14.26	15.35	15.75
	12H	18.79	19.87	19.22	20.25	20.68	13.92	14.99	14.35	15.38	15.81
4H	2H	15.71	16.99	16.11	17.33	17.71	12.26	13.54	12.66	13.89	14.27
	3H	17.64	18.70	18.05	19.10	19.50	13.70	14.76	14.11	15.16	15.56
	4H	18.39	19.34	18.82	19.76	20.20	14.30	15.26	14.73	15.67	16.11
	6H	18.98	19.81	19.44	20.25	20.71	14.79	15.62	15.25	16.06	16.52
	8H	19.19	19.97	19.66	20.42	20.88	14.95	15.73	15.41	16.17	16.64
	12H	19.35	20.04	19.83	20.52	20.99	15.07	15.76	15.55	16.24	16.71
8H	4H	18.41	19.19	18.88	19.63	20.10	14.65	15.43	15.12	15.88	16.34
	6H	19.05	19.69	19.55	20.18	20.66	15.24	15.88	15.74	16.37	16.85
	8H	19.30	19.88	19.81	20.39	20.87	15.46	16.04	15.98	16.55	17.04
	12H	19.50	20.01	20.01	20.51	21.07	15.64	16.15	16.15	16.64	17.21
12H	4H	18.40	19.09	18.88	19.57	20.04	14.70	15.39	15.18	15.87	16.34
	6H	19.03	19.61	19.54	20.12	20.61	15.30	15.88	15.82	16.39	16.88
	8H	19.32	19.83	19.83	20.32	20.88	15.58	16.09	16.09	16.58	17.14