

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: P931575

Luminaire Tested: DFN2DS-TR4F0-110DS850-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931575
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-TR4F0-110DS850-FLL
Description: 4 foot, Triangle Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

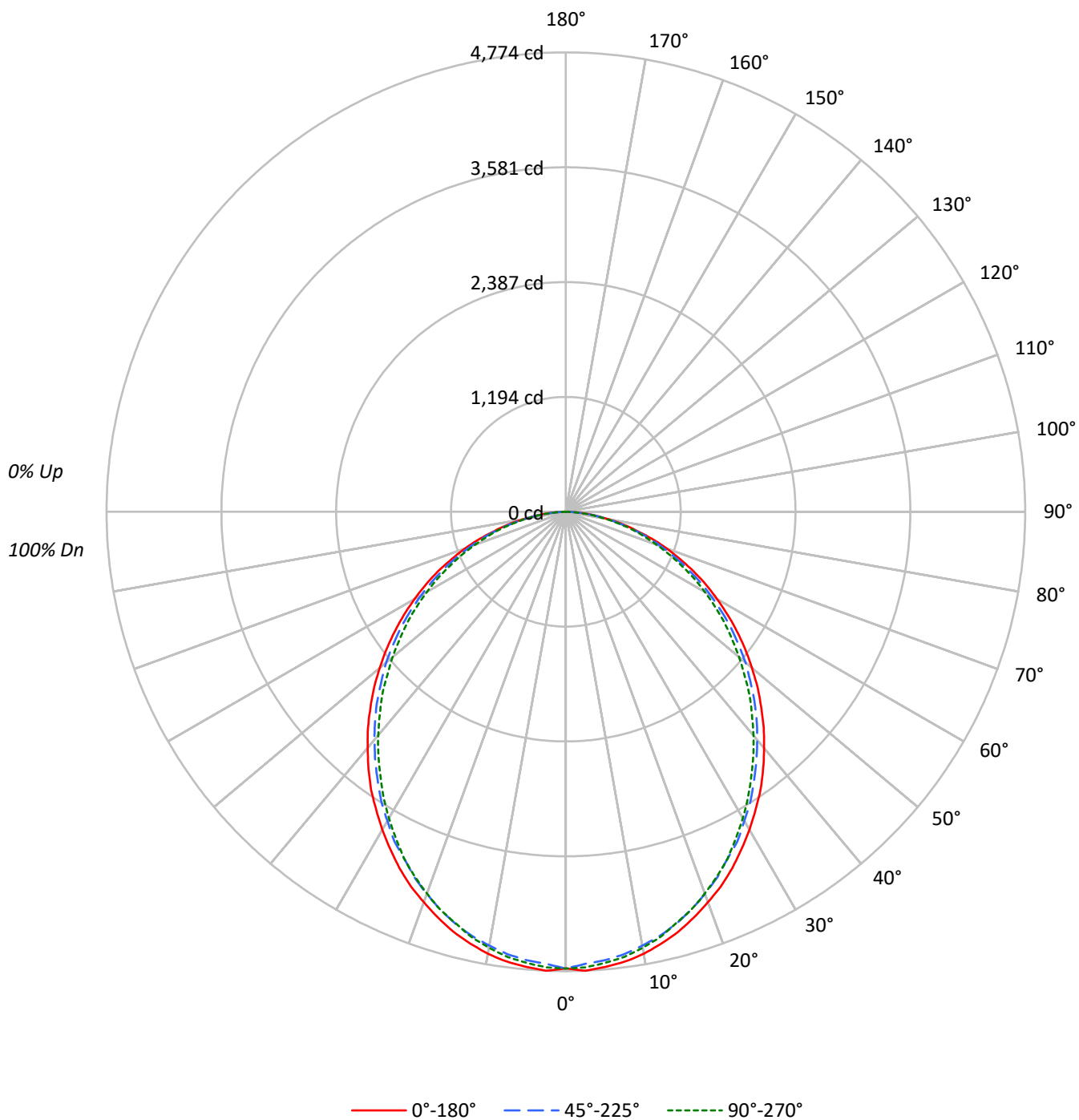
Lumens per Lamp: N/A
Luminaire Lumens: 12077.0 lumens
Efficiency: N/A
Efficacy: 101.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 3.96' x L: 3.43' x H: 0')
CIE Type: Direct

Input Watts (W): 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

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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°	3771	3771	3771
5°	3785	3731	3753
10°	3763	3693	3711
15°	3716	3645	3642
20°	3650	3573	3570
25°	3585	3485	3485
30°	3501	3404	3375
35°	3422	3307	3258
40°	3323	3209	3148
45°	3226	3113	3036
50°	3119	3012	2905
55°	3010	2896	2788
60°	2886	2756	2655
65°	2754	2617	2497
70°	2587	2449	2333
75°	2353	2255	2200
80°	2089	2025	1921
85°	1705	1624	1457

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 3226 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	446.8	3.7
10°-20°	1257.0	10.4
20°-30°	1847.3	15.3
30°-40°	2145.5	17.8
40°-50°	2142.9	17.7
50°-60°	1868.5	15.5
60°-70°	1381.3	11.4
70°-80°	781.5	6.5
80°-90°	206.3	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°	3551.1	29.4
0°-40°	5696.6	47.2
0°-60°	9708.0	80.4
0°-90°	12077.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	12077.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4747	4747	4747	4747	4747	
5°	4747	4729	4678	4715	4706	451
15°	4519	4491	4432	4450	4428	1273
25°	4090	4053	3976	3984	3976	1882
35°	3528	3483	3410	3382	3359	2203
45°	2871	2839	2770	2721	2702	2216
55°	2173	2145	2091	2036	2013	1943
65°	1465	1438	1392	1351	1328	1449
75°	766	758	735	708	717	818
85°	187	182	178	164	160	220
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4746.7	4746.7	4746.7	4746.7	4746.7
2.5°	4774.2	4751.5	4701.2	4746.7	4738.0
5°	4746.7	4728.8	4678.4	4714.7	4706.0
7.5°	4714.7	4687.6	4637.3	4674.1	4664.9
10°	4664.9	4632.8	4578.2	4614.4	4600.9
12.5°	4596.1	4569.0	4514.3	4537.0	4527.8
15°	4518.6	4491.4	4431.9	4450.3	4427.6
17.5°	4422.7	4395.6	4336.1	4358.8	4336.1
20°	4317.7	4290.5	4226.6	4240.2	4222.3
22.5°	4213.1	4171.8	4112.3	4112.3	4103.1
25°	4089.5	4053.3	3975.8	3984.5	3975.8
27.5°	3952.5	3920.5	3861.4	3847.9	3825.2
30°	3816.0	3779.1	3710.8	3697.3	3678.9
32.5°	3669.7	3642.6	3569.4	3541.8	3523.4
35°	3528.3	3482.8	3409.6	3382.0	3359.3
37.5°	3368.5	3327.3	3254.2	3222.2	3199.5
40°	3204.3	3167.5	3094.4	3053.7	3035.3
42.5°	3044.5	3007.7	2935.1	2889.1	2862.0
45°	2871.2	2839.2	2770.4	2720.6	2702.2
47.5°	2702.2	2670.3	2597.1	2546.7	2519.5
50°	2524.0	2501.2	2437.2	2373.4	2350.6
52.5°	2350.6	2318.6	2259.6	2209.1	2177.2
55°	2172.9	2145.2	2090.6	2035.8	2013.1
57.5°	1994.6	1971.9	1912.4	1857.6	1839.2
60°	1816.4	1798.6	1734.6	1684.2	1670.7
62.5°	1643.1	1611.2	1565.6	1520.1	1501.7
65°	1465.3	1437.7	1392.2	1351.1	1328.4
67.5°	1282.8	1259.6	1218.9	1187.0	1168.6
70°	1113.8	1095.4	1054.2	1022.3	1004.3
72.5°	940.4	922.0	899.3	867.3	853.7
75°	766.5	757.9	734.6	707.5	716.7
77.5°	611.6	593.2	584.0	570.5	556.9
80°	456.7	451.8	442.6	429.1	419.9
82.5°	310.4	310.4	306.1	287.7	287.7
85°	187.0	182.5	178.2	164.1	159.8
87.5°	82.3	73.1	63.9	50.3	45.5
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	15.89	17.50	16.26	17.82	18.13	15.45	17.06	15.81	17.37	17.69
	3H	17.64	19.10	18.02	19.43	19.79	17.15	18.61	17.53	18.93	19.29
	4H	18.29	19.66	18.69	20.01	20.38	17.80	19.16	18.19	19.51	19.89
	6H	18.76	20.03	19.17	20.39	20.78	18.26	19.53	18.67	19.89	20.28
	8H	18.90	20.11	19.33	20.50	20.90	18.40	19.61	18.82	20.00	20.40
	12H	18.99	20.15	19.42	20.53	20.96	18.48	19.64	18.91	20.02	20.45
4H	2H	16.45	17.82	16.85	18.17	18.55	16.10	17.47	16.50	17.82	18.19
	3H	18.43	19.58	18.84	19.97	20.37	18.02	19.17	18.43	19.57	19.97
	4H	19.21	20.24	19.64	20.66	21.09	18.78	19.82	19.21	20.23	20.67
	6H	19.80	20.71	20.26	21.15	21.60	19.37	20.28	19.82	20.72	21.17
	8H	19.99	20.84	20.45	21.28	21.75	19.55	20.40	20.01	20.84	21.31
	12H	20.12	20.88	20.60	21.36	21.83	19.67	20.43	20.15	20.91	21.38
8H	4H	19.48	20.33	19.94	20.77	21.23	19.11	19.95	19.57	20.39	20.86
	6H	20.19	20.90	20.69	21.39	21.86	19.81	20.52	20.31	21.00	21.48
	8H	20.45	21.08	20.96	21.59	22.08	20.06	20.69	20.57	21.20	21.69
	12H	20.65	21.21	21.16	21.70	22.26	20.24	20.80	20.75	21.29	21.85
12H	4H	19.51	20.27	19.99	20.74	21.21	19.14	19.90	19.62	20.38	20.85
	6H	20.24	20.87	20.75	21.38	21.86	19.87	20.50	20.38	21.01	21.50
	8H	20.55	21.11	21.06	21.60	22.16	20.18	20.73	20.68	21.22	21.78