

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: P931576

Luminaire Tested: DFN2DS-TR4F0-110DS850-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931576
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-TR4F0-110DS850-RLL
Description: 4 foot, Triangle Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

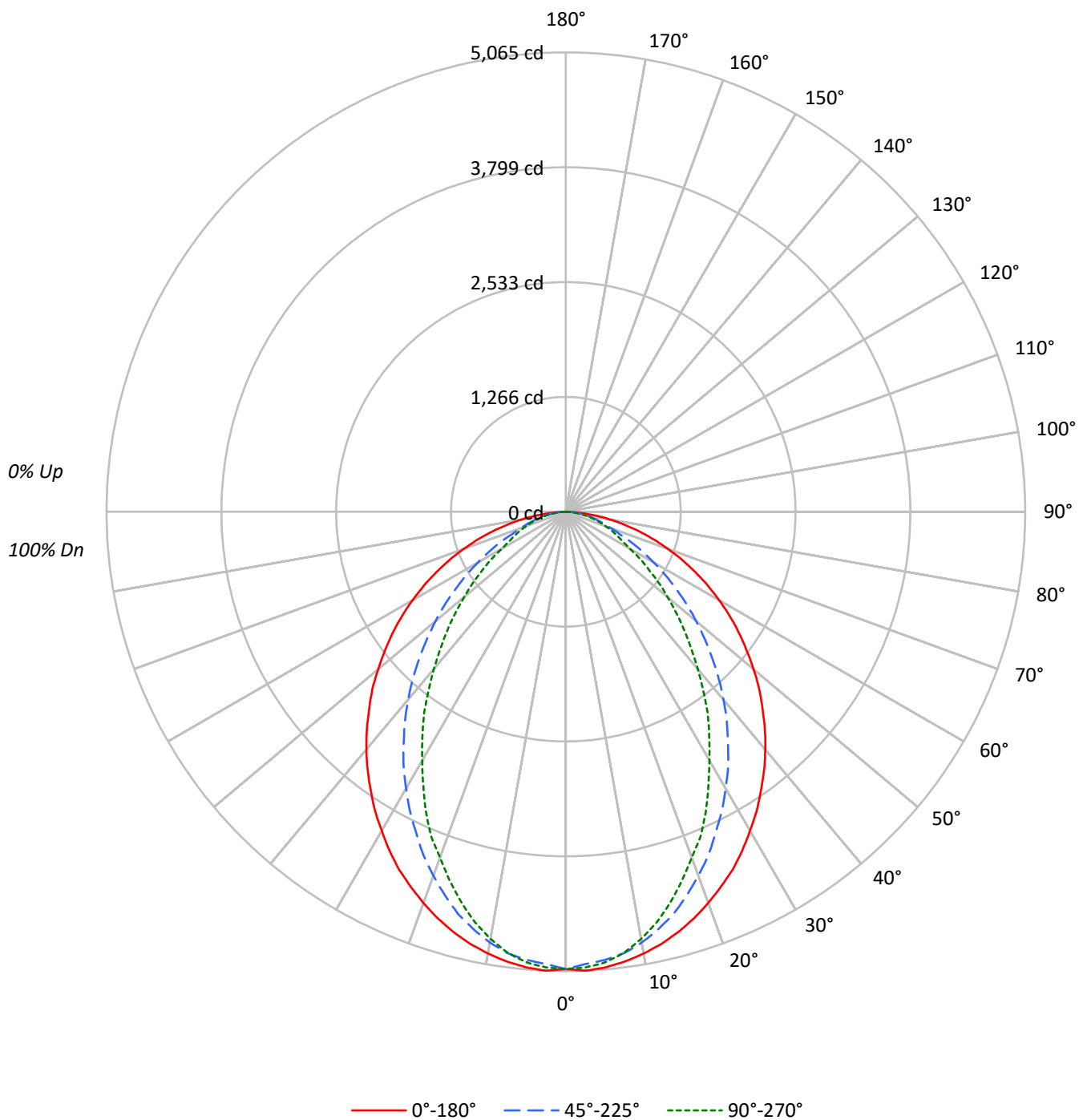
Lumens per Lamp: N/A
Luminaire Lumens: 10369.2 lumens
Efficiency: N/A
Efficacy: 87.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 3.96' x L: 3.43' x H: 0')
CIE Type: Direct

Input Watts (W): 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	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°	4005	4005	4005
5°	4021	3955	3977
10°	3990	3891	3858
15°	3944	3775	3667
20°	3881	3610	3429
25°	3816	3424	3200
30°	3725	3231	2905
35°	3638	3023	2646
40°	3549	2806	2347
45°	3445	2563	2076
50°	3338	2318	1810
55°	3229	2054	1555
60°	3103	1776	1291
65°	2959	1492	1175
70°	2787	1229	1081
75°	2577	1120	1009
80°	2275	1001	920
85°	1787	789	789

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 3445 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	472.5	4.6
10°-20°	1297.2	12.5
20°-30°	1821.2	17.6
30°-40°	1985.2	19.1
40°-50°	1824.6	17.6
50°-60°	1433.0	13.8
60°-70°	932.7	9.0
70°-80°	480.1	4.6
80°-90°	122.6	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°	3590.9	34.6
0°-40°	5576.1	53.8
0°-60°	8833.7	85.2
0°-90°	10369.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	10369.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5042	5042	5042	5042	5042	
5°	5042	5019	4960	5001	4987	478
15°	4795	4745	4590	4504	4458	1351
25°	4353	4207	3906	3719	3650	2002
35°	3751	3518	3117	2829	2728	2348
45°	3066	2760	2282	1957	1848	2368
55°	2331	1976	1483	1209	1123	2083
65°	1574	1204	794	639	625	1561
75°	839	520	365	333	329	888
85°	196	100	87	87	87	235
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5041.8	5041.8	5041.8	5041.8	5041.8
2.5°	5064.6	5041.8	4991.5	5037.5	5028.3
5°	5041.8	5019.1	4959.6	5000.7	4987.2
7.5°	5000.7	4973.5	4909.7	4927.6	4904.8
10°	4946.0	4914.0	4823.0	4809.0	4781.9
12.5°	4877.7	4836.6	4713.1	4686.0	4635.6
15°	4795.4	4745.1	4590.2	4503.5	4458.0
17.5°	4699.6	4626.5	4434.8	4334.5	4261.4
20°	4590.2	4498.7	4270.6	4156.9	4056.2
22.5°	4471.6	4366.5	4101.7	3946.8	3878.5
25°	4352.9	4206.8	3905.7	3718.8	3650.1
27.5°	4211.6	4056.2	3723.1	3508.7	3403.6
30°	4061.0	3887.3	3522.3	3289.8	3166.4
32.5°	3914.9	3704.7	3331.0	3057.1	2942.8
35°	3750.7	3517.9	3116.6	2829.1	2728.4
37.5°	3591.1	3339.8	2915.7	2600.5	2486.8
40°	3422.0	3148.6	2705.6	2381.7	2263.1
42.5°	3248.7	2956.8	2496.0	2158.1	2044.3
45°	3066.3	2760.3	2281.5	1957.2	1847.8
47.5°	2892.9	2569.1	2076.3	1751.9	1651.7
50°	2701.2	2377.4	1875.4	1560.3	1464.9
52.5°	2513.9	2171.6	1683.7	1382.6	1295.9
55°	2331.3	1975.6	1482.7	1209.3	1122.6
57.5°	2144.6	1779.5	1305.1	1049.6	976.4
60°	1952.8	1587.9	1117.8	885.4	812.3
62.5°	1766.0	1401.0	958.1	739.3	702.9
65°	1574.2	1204.4	793.9	639.0	624.9
67.5°	1391.8	1021.9	639.0	561.0	547.5
70°	1200.0	844.3	529.1	483.6	465.2
72.5°	1017.5	679.7	442.5	406.1	396.9
75°	839.4	519.9	365.0	333.0	328.7
77.5°	661.7	369.4	287.6	269.2	259.9
80°	497.2	264.8	218.8	201.0	201.0
82.5°	346.6	178.1	150.6	141.4	141.4
85°	196.1	100.3	86.6	86.6	86.6
87.5°	73.1	36.3	36.3	31.9	31.9
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	16.06	17.58	16.42	17.89	18.21	12.02	13.54	12.38	13.85	14.17
	3H	17.82	19.19	18.20	19.51	19.88	13.28	14.65	13.66	14.97	15.34
	4H	18.49	19.77	18.89	20.12	20.50	13.78	15.06	14.18	15.41	15.79
	6H	18.98	20.16	19.39	20.53	20.92	14.16	15.35	14.58	15.71	16.11
	8H	19.14	20.27	19.57	20.66	21.06	14.29	15.42	14.72	15.81	16.21
	12H	19.24	20.32	19.68	20.71	21.13	14.37	15.45	14.80	15.83	16.26
4H	2H	16.16	17.44	16.56	17.79	18.17	12.71	13.99	13.11	14.34	14.72
	3H	18.09	19.16	18.50	19.56	19.96	14.16	15.22	14.57	15.62	16.02
	4H	18.84	19.80	19.28	20.21	20.65	14.75	15.71	15.19	16.13	16.57
	6H	19.43	20.27	19.89	20.71	21.17	15.24	16.07	15.70	16.52	16.98
	8H	19.65	20.43	20.11	20.87	21.34	15.40	16.18	15.87	16.63	17.09
	12H	19.80	20.50	20.28	20.98	21.45	15.52	16.22	16.00	16.69	17.17
8H	4H	18.87	19.64	19.33	20.09	20.56	15.11	15.89	15.57	16.33	16.80
	6H	19.50	20.15	20.00	20.64	21.12	15.70	16.34	16.19	16.83	17.31
	8H	19.75	20.33	20.27	20.84	21.33	15.92	16.49	16.43	17.00	17.49
	12H	19.96	20.47	20.47	20.96	21.53	16.10	16.61	16.61	17.10	17.66
12H	4H	18.85	19.55	19.33	20.02	20.50	15.15	15.85	15.63	16.32	16.80
	6H	19.49	20.06	20.00	20.57	21.06	15.76	16.34	16.27	16.85	17.33
	8H	19.77	20.28	20.28	20.77	21.34	16.03	16.54	16.54	17.03	17.60