

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: P931585

Luminaire Tested: DFN2DS-TR4F0-110DS950-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931585
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-TR4F0-110DS950-FLL
Description: 4 foot, Triangle Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

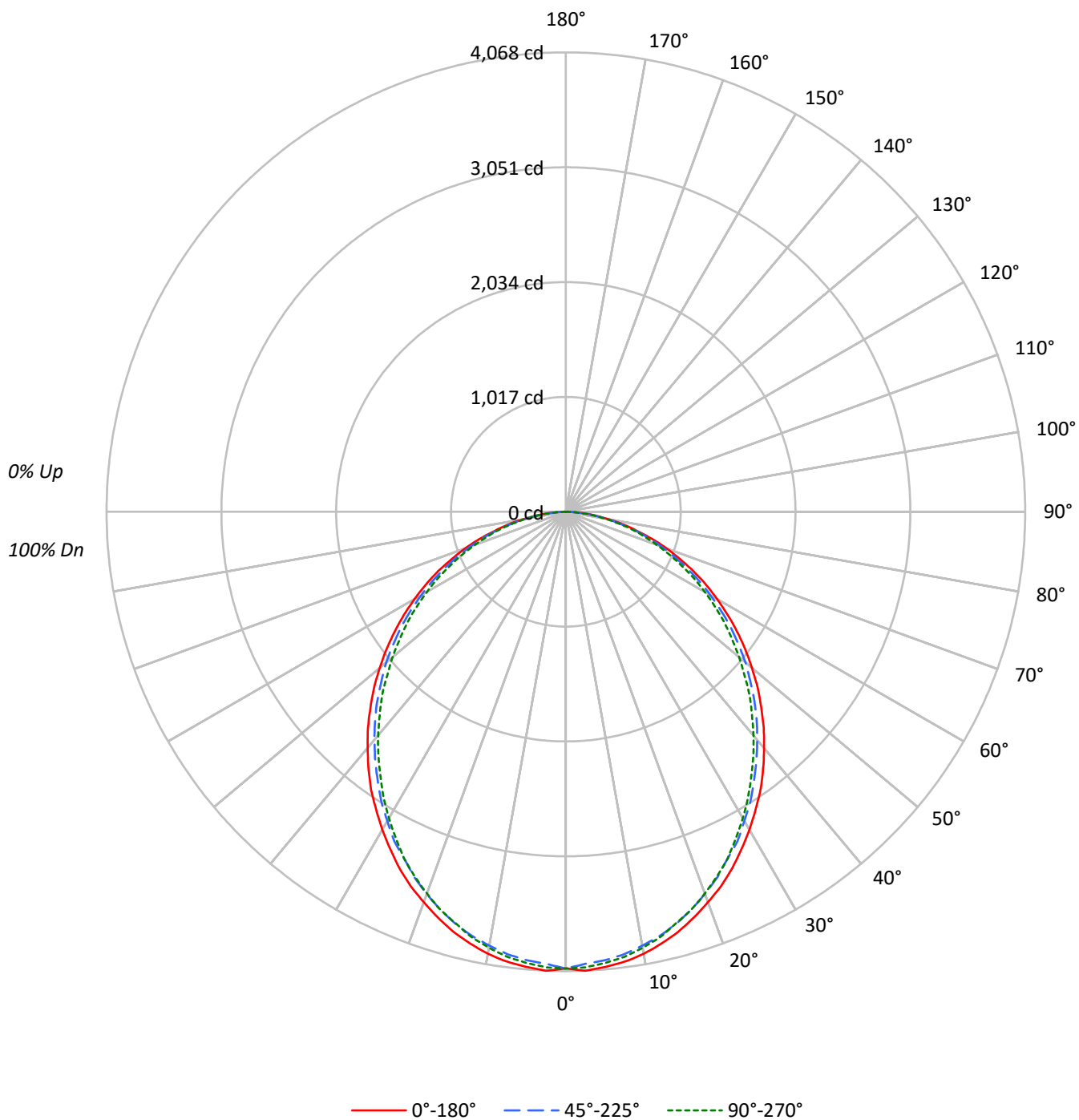
Lumens per Lamp: N/A
Luminaire Lumens: 10291.0 lumens
Efficiency: N/A
Efficacy: 86.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 3.96' x L: 3.43' x H: 0')
CIE Type: Direct

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°	3213	3213	3213
5°	3226	3179	3198
10°	3207	3147	3163
15°	3167	3106	3103
20°	3110	3045	3042
25°	3055	2970	2970
30°	2983	2901	2876
35°	2916	2818	2776
40°	2832	2735	2682
45°	2749	2652	2587
50°	2658	2567	2476
55°	2564	2467	2376
60°	2459	2349	2262
65°	2347	2230	2128
70°	2205	2087	1988
75°	2005	1921	1875
80°	1781	1725	1637
85°	1452	1385	1241

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2749 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	380.7	3.7
10°-20°	1071.1	10.4
20°-30°	1574.1	15.3
30°-40°	1828.2	17.8
40°-50°	1826.0	17.7
50°-60°	1592.2	15.5
60°-70°	1177.0	11.4
70°-80°	665.9	6.5
80°-90°	175.8	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°	3025.9	29.4
0°-40°	4854.2	47.2
0°-60°	8272.4	80.4
0°-90°	10291.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	10291.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4045	4045	4045	4045	4045	
5°	4045	4030	3987	4018	4010	384
15°	3850	3827	3776	3792	3773	1084
25°	3485	3454	3388	3395	3388	1604
35°	3006	2968	2905	2882	2862	1877
45°	2447	2419	2361	2318	2303	1888
55°	1852	1828	1781	1735	1715	1655
65°	1249	1225	1186	1151	1132	1235
75°	653	646	626	603	611	697
85°	159	156	152	140	136	187
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4044.8	4044.8	4044.8	4044.8	4044.8
2.5°	4068.2	4048.9	4005.9	4044.8	4037.3
5°	4044.8	4029.5	3986.6	4017.5	4010.1
7.5°	4017.5	3994.4	3951.5	3982.9	3975.0
10°	3975.0	3947.7	3901.1	3932.1	3920.5
12.5°	3916.5	3893.3	3846.7	3866.1	3858.2
15°	3850.4	3827.2	3776.5	3792.2	3772.8
17.5°	3768.7	3745.6	3694.9	3714.2	3694.9
20°	3679.2	3656.0	3601.6	3613.1	3597.9
22.5°	3590.1	3554.9	3504.2	3504.2	3496.3
25°	3484.8	3453.9	3387.8	3395.3	3387.8
27.5°	3368.0	3340.8	3290.4	3278.9	3259.5
30°	3251.7	3220.3	3162.1	3150.5	3134.8
32.5°	3127.0	3103.9	3041.6	3018.0	3002.4
35°	3006.5	2967.8	2905.4	2881.9	2862.5
37.5°	2870.3	2835.3	2773.0	2745.7	2726.3
40°	2730.5	2699.1	2636.8	2602.2	2586.5
42.5°	2594.3	2562.9	2501.0	2461.8	2438.8
45°	2446.6	2419.3	2360.7	2318.3	2302.6
47.5°	2302.6	2275.4	2213.0	2170.1	2146.9
50°	2150.7	2131.4	2076.8	2022.4	2003.0
52.5°	2003.0	1975.7	1925.4	1882.4	1855.2
55°	1851.5	1828.0	1781.4	1734.7	1715.4
57.5°	1699.7	1680.3	1629.6	1582.9	1567.2
60°	1547.8	1532.6	1478.1	1435.2	1423.6
62.5°	1400.1	1372.9	1334.1	1295.3	1279.6
65°	1248.6	1225.1	1186.4	1151.3	1131.9
67.5°	1093.1	1073.3	1038.6	1011.4	995.7
70°	949.1	933.4	898.3	871.1	855.8
72.5°	801.4	785.7	766.3	739.1	727.5
75°	653.2	645.8	626.0	602.9	610.8
77.5°	521.2	505.5	497.6	486.1	474.6
80°	389.2	385.0	377.1	365.6	357.8
82.5°	264.5	264.5	260.8	245.1	245.1
85°	159.3	155.5	151.9	139.9	136.2
87.5°	70.1	62.3	54.4	42.9	38.7
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	15.34	16.95	15.70	17.26	17.58	14.89	16.50	15.26	16.82	17.13
	3H	17.09	18.54	17.47	18.87	19.23	16.60	18.05	16.97	18.38	18.74
	4H	17.73	19.10	18.13	19.45	19.83	17.24	18.61	17.64	18.96	19.33
	6H	18.20	19.47	18.61	19.84	20.23	17.70	18.97	18.11	19.34	19.73
	8H	18.35	19.56	18.77	19.95	20.35	17.84	19.05	18.27	19.44	19.84
	12H	18.44	19.60	18.87	19.98	20.41	17.93	19.09	18.35	19.47	19.90
4H	2H	15.90	17.27	16.30	17.62	17.99	15.55	16.91	15.94	17.26	17.64
	3H	17.87	19.02	18.28	19.42	19.82	17.47	18.61	17.88	19.01	19.41
	4H	18.65	19.69	19.08	20.10	20.54	18.23	19.26	18.66	19.68	20.11
	6H	19.25	20.15	19.70	20.59	21.05	18.81	19.72	19.27	20.16	20.62
	8H	19.44	20.28	19.90	20.73	21.19	19.00	19.84	19.46	20.29	20.75
	12H	19.57	20.33	20.05	20.80	21.27	19.12	19.88	19.60	20.35	20.82
8H	4H	18.92	19.77	19.38	20.21	20.68	18.55	19.40	19.01	19.84	20.30
	6H	19.64	20.34	20.13	20.83	21.30	19.26	19.96	19.75	20.45	20.92
	8H	19.90	20.53	20.41	21.03	21.52	19.51	20.14	20.02	20.64	21.13
	12H	20.10	20.65	20.60	21.15	21.71	19.68	20.24	20.19	20.73	21.29
12H	4H	18.95	19.71	19.43	20.19	20.65	18.58	19.34	19.07	19.82	20.29
	6H	19.68	20.32	20.19	20.82	21.31	19.31	19.95	19.82	20.45	20.94
	8H	20.00	20.55	20.50	21.05	21.61	19.62	20.18	20.13	20.67	21.23