

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: P931571

Luminaire Tested: DFN2DS-TR4F0-110DS835-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931571
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-TR4F0-110DS835-FLL
Description: 4 foot, Triangle Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

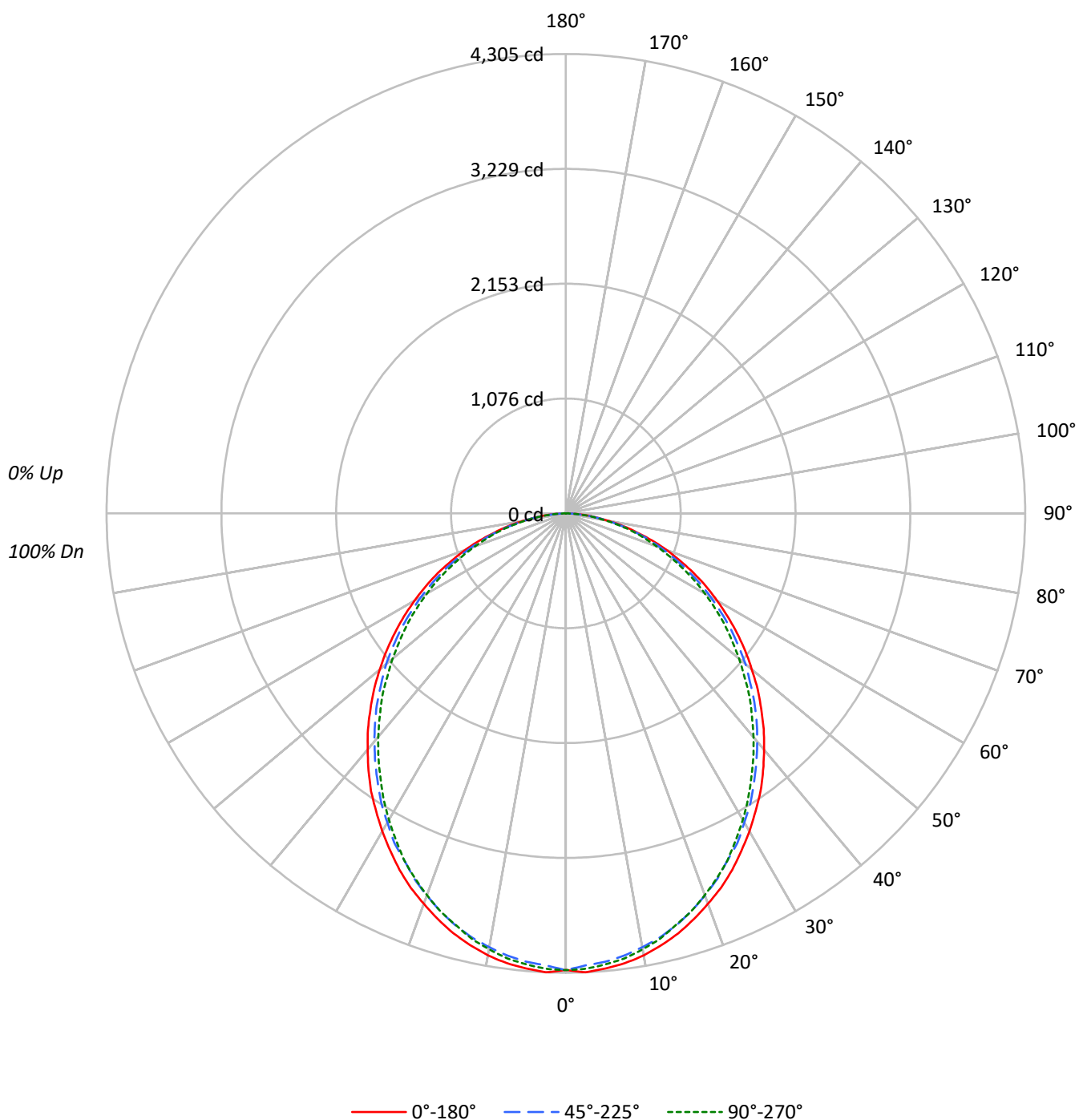
Lumens per Lamp: N/A
Luminaire Lumens: 10890.0 lumens
Efficiency: N/A
Efficacy: 91.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 3.96' x L: 3.43' x H: 0')
CIE Type: Direct

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°	3400	3400	3400
5°	3413	3364	3384
10°	3393	3330	3347
15°	3351	3287	3284
20°	3291	3222	3219
25°	3232	3142	3142
30°	3156	3069	3043
35°	3085	2982	2938
40°	2996	2894	2838
45°	2909	2807	2738
50°	2813	2716	2620
55°	2714	2611	2514
60°	2602	2485	2394
65°	2484	2360	2252
70°	2333	2208	2103
75°	2122	2033	1984
80°	1884	1826	1732
85°	1537	1465	1313

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 2909 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	402.8	3.7
10°-20°	1133.5	10.4
20°-30°	1665.7	15.3
30°-40°	1934.7	17.8
40°-50°	1932.3	17.7
50°-60°	1684.9	15.5
60°-70°	1245.5	11.4
70°-80°	704.7	6.5
80°-90°	186.0	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°	3202.1	29.4
0°-40°	5136.7	47.2
0°-60°	8753.8	80.4
0°-90°	10890.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	10890.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4280	4280	4280	4280	4280	
5°	4280	4264	4219	4251	4244	406
15°	4074	4050	3996	4013	3992	1148
25°	3688	3655	3585	3593	3585	1697
35°	3182	3140	3074	3050	3029	1987
45°	2589	2560	2498	2453	2437	1998
55°	1959	1934	1885	1836	1815	1752
65°	1321	1296	1255	1218	1198	1306
75°	691	683	662	638	646	738
85°	169	165	161	148	144	198
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4280.2	4280.2	4280.2	4280.2	4280.2
2.5°	4305.0	4284.5	4239.1	4280.2	4272.3
5°	4280.2	4264.0	4218.6	4251.3	4243.5
7.5°	4251.3	4226.9	4181.5	4214.7	4206.4
10°	4206.4	4177.5	4128.2	4160.9	4148.7
12.5°	4144.4	4119.9	4070.6	4091.1	4082.8
15°	4074.5	4050.0	3996.3	4012.9	3992.4
17.5°	3988.0	3963.6	3909.9	3930.4	3909.9
20°	3893.3	3868.8	3811.2	3823.4	3807.3
22.5°	3799.0	3761.8	3708.1	3708.1	3699.8
25°	3687.6	3654.9	3585.0	3592.9	3585.0
27.5°	3564.0	3535.2	3481.9	3469.7	3449.2
30°	3440.9	3407.7	3346.1	3333.9	3317.3
32.5°	3309.0	3284.6	3218.6	3193.7	3177.1
35°	3181.5	3140.5	3074.5	3049.6	3029.1
37.5°	3037.4	3000.3	2934.4	2905.5	2885.0
40°	2889.4	2856.2	2790.3	2753.6	2737.0
42.5°	2745.3	2712.1	2646.6	2605.1	2580.7
45°	2589.0	2560.1	2498.1	2453.2	2436.6
47.5°	2436.6	2407.8	2341.8	2296.4	2271.9
50°	2275.9	2255.4	2197.7	2140.1	2119.6
52.5°	2119.6	2090.7	2037.5	1992.0	1963.2
55°	1959.3	1934.4	1885.1	1835.7	1815.2
57.5°	1798.6	1778.1	1724.4	1675.0	1658.4
60°	1637.9	1621.8	1564.1	1518.7	1506.5
62.5°	1481.6	1452.8	1411.7	1370.7	1354.1
65°	1321.3	1296.4	1255.4	1218.3	1197.8
67.5°	1156.7	1135.8	1099.1	1070.3	1053.7
70°	1004.3	987.7	950.6	921.8	905.6
72.5°	848.0	831.4	810.9	782.1	769.8
75°	691.2	683.4	662.4	638.0	646.3
77.5°	551.5	534.9	526.6	514.4	502.2
80°	411.8	407.4	399.1	386.9	378.6
82.5°	279.9	279.9	276.0	259.4	259.4
85°	168.6	164.6	160.7	148.0	144.1
87.5°	74.2	65.9	57.6	45.4	41.0
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	15.53	17.15	15.90	17.46	17.77	15.09	16.70	15.46	17.01	17.33
	3H	17.28	18.74	17.66	19.07	19.43	16.79	18.25	17.17	18.57	18.94
	4H	17.93	19.30	18.33	19.65	20.02	17.44	18.81	17.83	19.15	19.53
	6H	18.40	19.67	18.81	20.03	20.42	17.90	19.17	18.31	19.53	19.92
	8H	18.54	19.75	18.97	20.14	20.54	18.04	19.25	18.47	19.64	20.04
	12H	18.63	19.79	19.06	20.18	20.60	18.12	19.28	18.55	19.66	20.09
4H	2H	16.10	17.46	16.49	17.81	18.19	15.74	17.11	16.14	17.46	17.84
	3H	18.07	19.22	18.48	19.61	20.01	17.66	18.81	18.07	19.21	19.61
	4H	18.85	19.88	19.28	20.30	20.73	18.42	19.46	18.85	19.87	20.31
	6H	19.44	20.35	19.90	20.79	21.24	19.01	19.92	19.47	20.36	20.81
	8H	19.63	20.48	20.09	20.92	21.39	19.19	20.04	19.66	20.48	20.95
	12H	19.76	20.52	20.24	21.00	21.47	19.31	20.07	19.79	20.55	21.02
8H	4H	19.12	19.97	19.58	20.41	20.87	18.75	19.59	19.21	20.03	20.50
	6H	19.83	20.54	20.33	21.03	21.50	19.45	20.16	19.95	20.64	21.12
	8H	20.09	20.72	20.60	21.23	21.72	19.70	20.33	20.21	20.84	21.33
	12H	20.29	20.85	20.80	21.34	21.90	19.88	20.44	20.39	20.93	21.49
12H	4H	19.15	19.91	19.63	20.38	20.85	18.78	19.54	19.26	20.02	20.49
	6H	19.88	20.51	20.39	21.02	21.50	19.51	20.14	20.02	20.65	21.14
	8H	20.19	20.75	20.70	21.24	21.80	19.82	20.37	20.32	20.86	21.43