

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: P931143

Luminaire Tested: DFN2DS-SQ4F0-100DS850-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931143
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-SQ4F0-100DS850-FLL
Description: 4 foot, Square Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

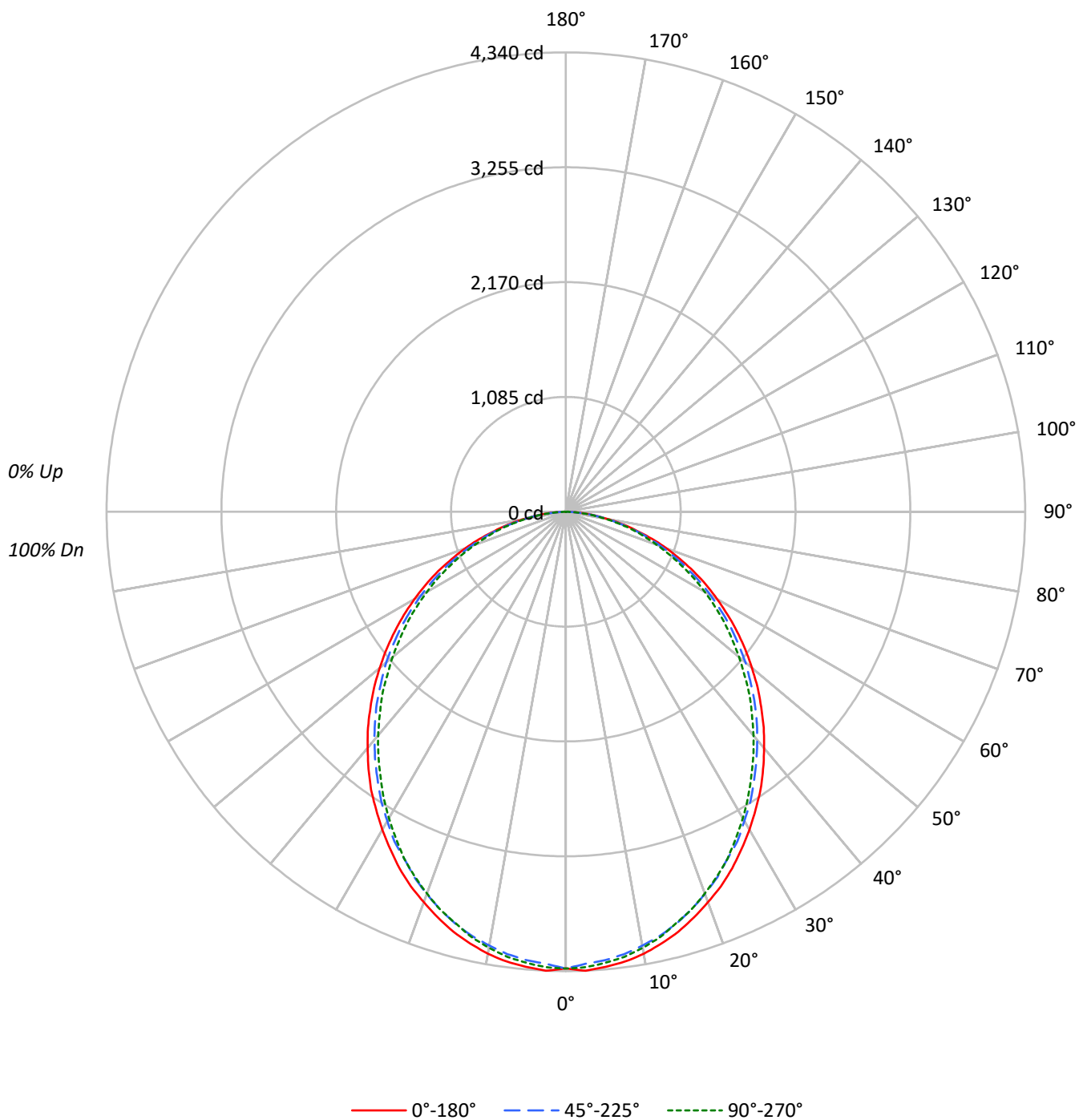
Lumens per Lamp: N/A
Luminaire Lumens: 10979.1 lumens
Efficiency: N/A
Efficacy: 109.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 3.92' x L: 3.92' x H: 0')
CIE Type: Direct

Input Watts (W): 100.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9968
Total Harmonic Distortion (THDi): 0.064
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°	3028	3028	3028
5°	3039	2996	3013
10°	3022	2965	2980
15°	2984	2927	2924
20°	2931	2869	2866
25°	2878	2798	2798
30°	2811	2733	2710
35°	2748	2655	2616
40°	2668	2577	2528
45°	2590	2499	2438
50°	2505	2419	2333
55°	2417	2325	2239
60°	2317	2213	2131
65°	2212	2101	2005
70°	2077	1966	1873
75°	1889	1810	1766
80°	1677	1626	1542
85°	1368	1304	1170

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 2590 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	406.1	3.7
10°-20°	1142.7	10.4
20°-30°	1679.4	15.3
30°-40°	1950.5	17.8
40°-50°	1948.1	17.7
50°-60°	1698.7	15.5
60°-70°	1255.7	11.4
70°-80°	710.4	6.5
80°-90°	187.5	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°	3228.3	29.4
0°-40°	5178.7	47.2
0°-60°	8825.5	80.4
0°-90°	10979.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	10979.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4315	4315	4315	4315	4315	
5°	4315	4299	4253	4286	4278	410
15°	4108	4083	4029	4046	4025	1157
25°	3718	3685	3614	3622	3614	1711
35°	3208	3166	3100	3075	3054	2003
45°	2610	2581	2518	2473	2456	2014
55°	1975	1950	1900	1851	1830	1766
65°	1332	1307	1266	1228	1208	1317
75°	697	689	668	643	652	744
85°	170	166	162	149	145	200
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4315.2	4315.2	4315.2	4315.2	4315.2
2.5°	4340.3	4319.6	4273.8	4315.2	4307.2
5°	4315.2	4298.9	4253.1	4286.2	4278.2
7.5°	4286.2	4261.4	4215.6	4249.1	4240.8
10°	4240.8	4211.8	4162.0	4195.0	4182.7
12.5°	4178.3	4153.6	4103.9	4124.6	4116.2
15°	4107.8	4083.2	4029.0	4045.7	4025.1
17.5°	4020.7	3996.1	3941.8	3962.6	3941.8
20°	3925.1	3900.5	3842.4	3854.7	3838.4
22.5°	3830.0	3792.7	3738.4	3738.4	3730.1
25°	3717.8	3684.8	3614.3	3622.2	3614.3
27.5°	3593.2	3564.1	3510.4	3498.1	3477.4
30°	3469.1	3435.6	3373.5	3361.2	3344.4
32.5°	3336.1	3311.5	3244.9	3219.9	3203.1
35°	3207.6	3166.2	3099.7	3074.6	3053.9
37.5°	3062.3	3024.8	2958.4	2929.3	2908.6
40°	2913.0	2879.5	2813.1	2776.2	2759.4
42.5°	2767.7	2734.2	2668.3	2626.4	2601.8
45°	2610.1	2581.1	2518.5	2473.2	2456.5
47.5°	2456.5	2427.5	2361.0	2315.1	2290.5
50°	2294.5	2273.8	2215.7	2157.6	2136.9
52.5°	2136.9	2107.9	2054.1	2008.4	1979.3
55°	1975.4	1950.3	1900.5	1850.7	1830.1
57.5°	1813.3	1792.6	1738.5	1688.8	1672.0
60°	1651.3	1635.0	1576.9	1531.1	1518.8
62.5°	1493.7	1464.7	1423.3	1381.9	1365.2
65°	1332.1	1307.1	1265.7	1228.2	1207.6
67.5°	1166.2	1145.0	1108.1	1079.1	1062.3
70°	1012.5	995.8	958.4	929.3	913.0
72.5°	854.9	838.2	817.6	788.5	776.1
75°	696.9	689.0	667.8	643.2	651.5
77.5°	556.1	539.3	530.9	518.6	506.3
80°	415.1	410.8	402.3	390.0	381.7
82.5°	282.2	282.2	278.2	261.5	261.5
85°	169.9	166.0	162.0	149.3	145.3
87.5°	74.9	66.4	58.1	45.8	41.4
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	15.13	16.74	15.50	17.06	17.37	14.69	16.30	15.05	16.61	16.93
	3H	16.88	18.34	17.26	18.66	19.02	16.39	17.85	16.77	18.17	18.53
	4H	17.53	18.90	17.93	19.24	19.62	17.03	18.40	17.43	18.75	19.13
	6H	18.00	19.27	18.41	19.63	20.02	17.50	18.76	17.91	19.13	19.52
	8H	18.14	19.35	18.56	19.74	20.14	17.64	18.85	18.06	19.24	19.64
	12H	18.23	19.39	18.66	19.77	20.20	17.72	18.88	18.15	19.26	19.69
4H	2H	15.69	17.06	16.09	17.41	17.79	15.34	16.71	15.74	17.06	17.43
	3H	17.67	18.81	18.08	19.21	19.61	17.26	18.41	17.67	18.80	19.20
	4H	18.44	19.48	18.87	19.89	20.33	18.02	19.06	18.45	19.47	19.91
	6H	19.04	19.95	19.49	20.39	20.84	18.61	19.51	19.06	19.95	20.41
	8H	19.23	20.08	19.69	20.52	20.98	18.79	19.64	19.25	20.08	20.55
	12H	19.36	20.12	19.84	20.60	21.07	18.91	19.67	19.39	20.15	20.61
8H	4H	18.72	19.56	19.18	20.01	20.47	18.34	19.19	18.80	19.63	20.10
	6H	19.43	20.13	19.93	20.62	21.10	19.05	19.75	19.54	20.24	20.72
	8H	19.69	20.32	20.20	20.83	21.31	19.30	19.93	19.81	20.44	20.92
	12H	19.89	20.45	20.40	20.94	21.50	19.48	20.04	19.98	20.53	21.09
12H	4H	18.74	19.50	19.22	19.98	20.45	18.38	19.14	18.86	19.61	20.08
	6H	19.48	20.11	19.99	20.62	21.10	19.11	19.74	19.62	20.25	20.73
	8H	19.79	20.35	20.30	20.84	21.40	19.41	19.97	19.92	20.46	21.02