

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: P931153

Luminaire Tested: DFN2DS-SQ4F0-100DS950-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931153
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-SQ4F0-100DS950-FLL
Description: 4 foot, Square Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

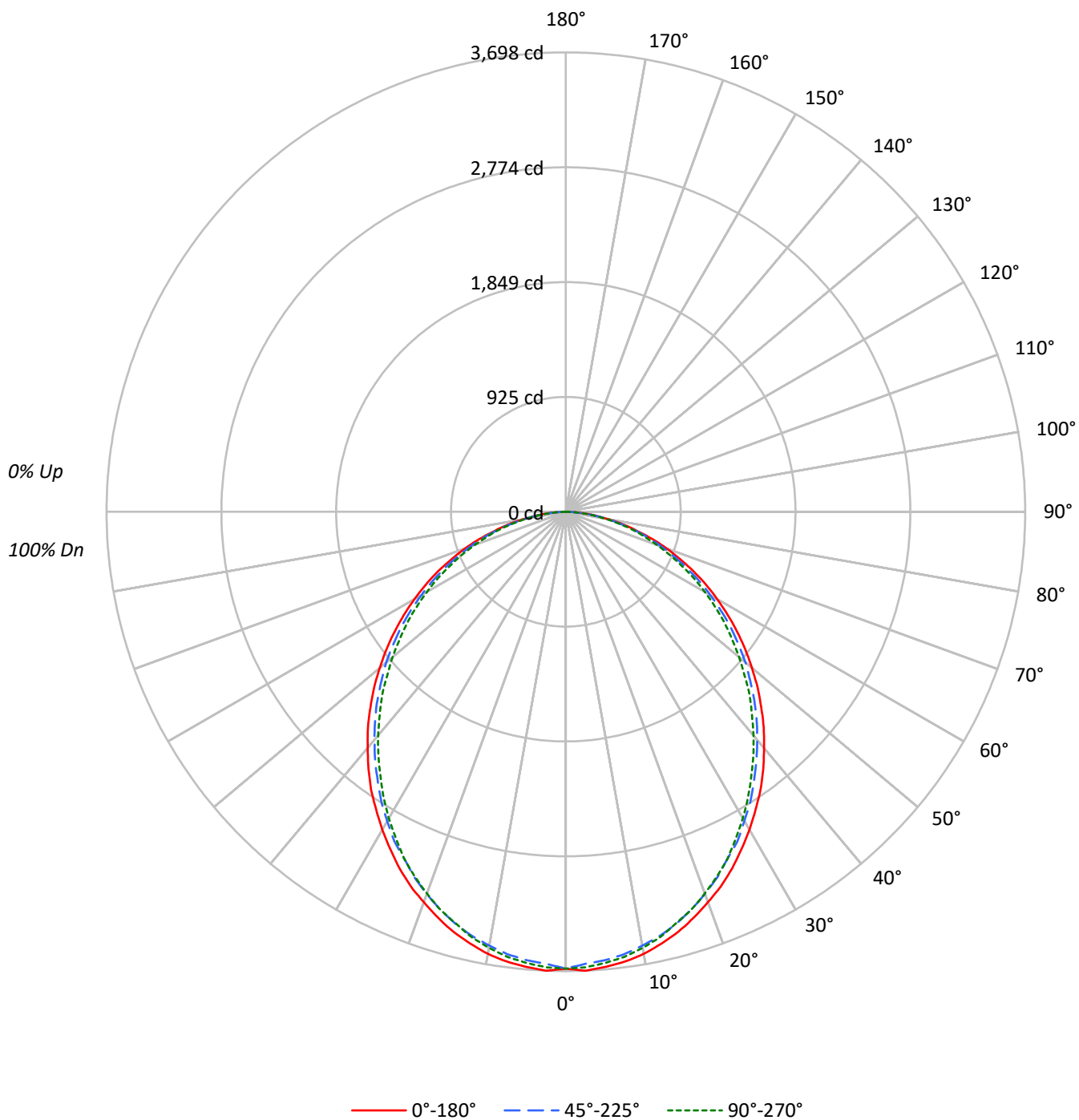
Lumens per Lamp: N/A
Luminaire Lumens: 9355.5 lumens
Efficiency: N/A
Efficacy: 93.0 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 3.92' x L: 3.92' x H: 0')
CIE Type: Direct

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°	2580	2580	2580
5°	2590	2553	2568
10°	2575	2527	2539
15°	2543	2494	2492
20°	2497	2445	2442
25°	2453	2384	2384
30°	2395	2329	2309
35°	2341	2263	2229
40°	2274	2196	2154
45°	2207	2130	2077
50°	2134	2061	1988
55°	2059	1981	1908
60°	1975	1886	1816
65°	1885	1791	1708
70°	1770	1676	1596
75°	1610	1543	1505
80°	1429	1385	1314
85°	1166	1112	997

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2207 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	346.1	3.7
10°-20°	973.8	10.4
20°-30°	1431.0	15.3
30°-40°	1662.0	17.8
40°-50°	1660.0	17.7
50°-60°	1447.4	15.5
60°-70°	1070.0	11.4
70°-80°	605.4	6.5
80°-90°	159.8	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°	2750.9	29.4
0°-40°	4412.9	47.2
0°-60°	7520.3	80.4
0°-90°	9355.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9355.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3677	3677	3677	3677	3677	
5°	3677	3663	3624	3652	3646	349
15°	3500	3479	3433	3448	3430	986
25°	3168	3140	3080	3087	3080	1458
35°	2733	2698	2641	2620	2602	1707
45°	2224	2199	2146	2107	2093	1717
55°	1683	1662	1619	1577	1559	1505
65°	1135	1114	1078	1047	1029	1122
75°	594	587	569	548	555	634
85°	145	142	138	127	124	170
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3677.1	3677.1	3677.1	3677.1	3677.1
2.5°	3698.4	3680.8	3641.7	3677.1	3670.3
5°	3677.1	3663.2	3624.2	3652.3	3645.5
7.5°	3652.3	3631.3	3592.2	3620.8	3613.7
10°	3613.7	3588.9	3546.5	3574.7	3564.2
12.5°	3560.4	3539.4	3497.0	3514.6	3507.5
15°	3500.4	3479.4	3433.2	3447.5	3429.9
17.5°	3426.1	3405.1	3358.9	3376.6	3358.9
20°	3344.6	3323.7	3274.1	3284.6	3270.7
22.5°	3263.7	3231.8	3185.6	3185.6	3178.5
25°	3168.0	3139.9	3079.8	3086.6	3079.8
27.5°	3061.8	3037.0	2991.3	2980.8	2963.1
30°	2956.1	2927.5	2874.6	2864.1	2849.8
32.5°	2842.7	2821.8	2765.1	2743.7	2729.4
35°	2733.2	2698.0	2641.3	2619.9	2602.2
37.5°	2609.4	2577.5	2520.9	2496.1	2478.5
40°	2482.2	2453.7	2397.1	2365.6	2351.3
42.5°	2358.4	2329.9	2273.7	2238.0	2217.1
45°	2224.2	2199.4	2146.1	2107.4	2093.3
47.5°	2093.3	2068.5	2011.8	1972.8	1951.8
50°	1955.2	1937.5	1888.0	1838.5	1820.9
52.5°	1820.9	1796.2	1750.3	1711.4	1686.6
55°	1683.2	1661.9	1619.4	1577.0	1559.4
57.5°	1545.2	1527.5	1481.4	1439.0	1424.8
60°	1407.1	1393.2	1343.7	1304.7	1294.2
62.5°	1272.8	1248.1	1212.8	1177.6	1163.3
65°	1135.1	1113.8	1078.5	1046.6	1029.0
67.5°	993.8	975.7	944.2	919.5	905.2
70°	862.8	848.5	816.7	791.9	778.0
72.5°	728.5	714.2	696.7	671.9	661.3
75°	593.8	587.1	569.1	548.1	555.2
77.5°	473.8	459.6	452.4	441.9	431.4
80°	353.7	350.0	342.8	332.4	325.3
82.5°	240.5	240.5	237.1	222.8	222.8
85°	144.8	141.5	138.1	127.2	123.8
87.5°	63.8	56.6	49.5	39.0	35.2
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	14.58	16.19	14.94	16.50	16.81	14.13	15.74	14.50	16.06	16.37
	3H	16.33	17.78	16.70	18.11	18.47	15.83	17.29	16.21	17.62	17.98
	4H	16.97	18.34	17.37	18.69	19.06	16.48	17.85	16.88	18.19	18.57
	6H	17.44	18.71	17.85	19.07	19.47	16.94	18.21	17.35	18.57	18.96
	8H	17.58	18.80	18.01	19.18	19.58	17.08	18.29	17.51	18.68	19.08
	12H	17.67	18.83	18.10	19.22	19.64	17.16	18.32	17.59	18.70	19.13
4H	2H	15.14	16.51	15.53	16.85	17.23	14.78	16.15	15.18	16.50	16.88
	3H	17.11	18.26	17.52	18.66	19.06	16.70	17.85	17.11	18.25	18.65
	4H	17.89	18.92	18.32	19.34	19.77	17.46	18.50	17.90	18.91	19.35
	6H	18.48	19.39	18.94	19.83	20.29	18.05	18.96	18.51	19.40	19.85
	8H	18.67	19.52	19.13	19.96	20.43	18.24	19.08	18.70	19.52	19.99
	12H	18.81	19.57	19.29	20.04	20.51	18.35	19.11	18.83	19.59	20.06
8H	4H	18.16	19.01	18.62	19.45	19.92	17.79	18.63	18.25	19.08	19.54
	6H	18.88	19.58	19.37	20.07	20.54	18.49	19.20	18.99	19.69	20.16
	8H	19.13	19.77	19.64	20.27	20.76	18.74	19.37	19.25	19.88	20.37
	12H	19.33	19.89	19.84	20.38	20.94	18.92	19.48	19.43	19.97	20.53
12H	4H	18.19	18.95	18.67	19.42	19.89	17.82	18.58	18.30	19.06	19.53
	6H	18.92	19.55	19.43	20.06	20.55	18.55	19.18	19.06	19.69	20.18
	8H	19.23	19.79	19.74	20.28	20.84	18.86	19.41	19.36	19.91	20.47