

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: P931135

Luminaire Tested: DFN2DS-SQ4F0-090DS950-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931135
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-SQ4F0-090DS950-FLL
Description: 4 foot, Square Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

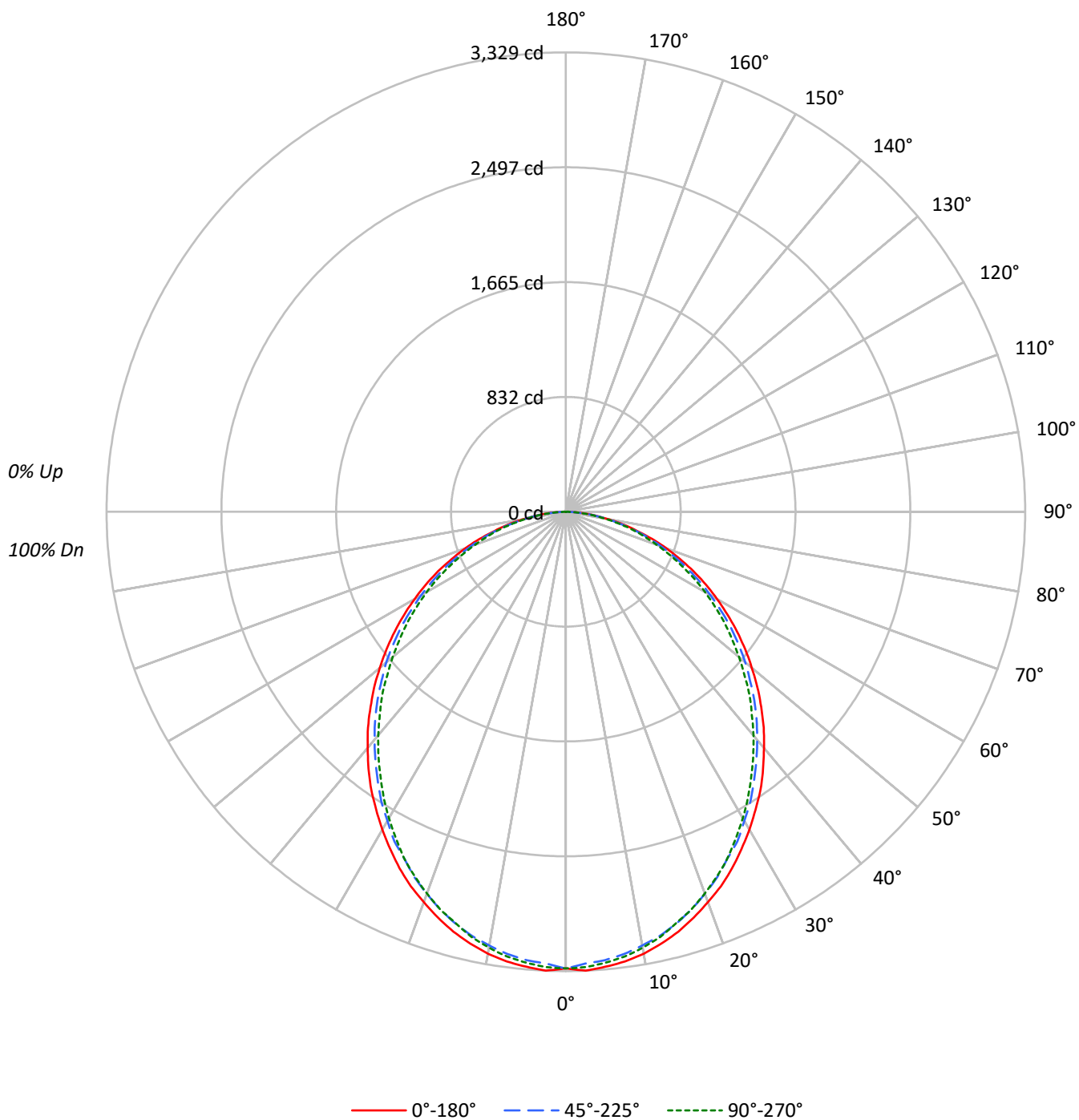
Lumens per Lamp: N/A
Luminaire Lumens: 8420.0 lumens
Efficiency: N/A
Efficacy: 92.9 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 3.92' x L: 3.92' x H: 0')
CIE Type: Direct

Input Watts (W): 90.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.983
Total Harmonic Distortion (THDi): 0.073
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°	2322	2322	2322
5°	2331	2297	2311
10°	2317	2274	2285
15°	2288	2245	2242
20°	2248	2200	2198
25°	2207	2146	2146
30°	2156	2096	2078
35°	2107	2036	2006
40°	2046	1976	1938
45°	1986	1917	1870
50°	1921	1855	1789
55°	1853	1783	1717
60°	1777	1697	1635
65°	1696	1611	1538
70°	1593	1508	1437
75°	1449	1389	1355
80°	1287	1247	1183
85°	1049	1001	897

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 1986 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	311.5	3.7
10°-20°	876.4	10.4
20°-30°	1287.9	15.3
30°-40°	1495.9	17.8
40°-50°	1494.0	17.7
50°-60°	1302.7	15.5
60°-70°	963.0	11.4
70°-80°	544.8	6.5
80°-90°	143.8	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°	2475.8	29.4
0°-40°	3971.6	47.2
0°-60°	6768.3	80.4
0°-90°	8420.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8420.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3309	3309	3309	3309	3309	
5°	3309	3297	3262	3287	3281	314
15°	3150	3131	3090	3103	3087	887
25°	2851	2826	2772	2778	2772	1312
35°	2460	2428	2377	2358	2342	1536
45°	2002	1980	1932	1897	1884	1545
55°	1515	1496	1458	1419	1404	1354
65°	1022	1002	971	942	926	1010
75°	534	528	512	493	500	571
85°	130	127	124	114	111	153
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3309.3	3309.3	3309.3	3309.3	3309.3
2.5°	3328.6	3312.7	3277.6	3309.3	3303.2
5°	3309.3	3296.8	3261.8	3287.1	3280.9
7.5°	3287.1	3268.2	3233.0	3258.7	3252.3
10°	3252.3	3230.0	3191.8	3217.2	3207.7
12.5°	3204.3	3185.4	3147.3	3163.1	3156.8
15°	3150.3	3131.4	3089.9	3102.7	3086.8
17.5°	3083.4	3064.5	3023.1	3038.9	3023.1
20°	3010.2	2991.3	2946.7	2956.1	2943.7
22.5°	2937.2	2908.6	2867.0	2867.0	2860.6
25°	2851.2	2825.8	2771.9	2777.9	2771.9
27.5°	2755.6	2733.3	2692.2	2682.8	2666.9
30°	2660.5	2634.8	2587.1	2577.7	2564.9
32.5°	2558.5	2539.6	2488.6	2469.4	2456.5
35°	2459.9	2428.2	2377.1	2358.0	2342.1
37.5°	2348.5	2319.8	2268.8	2246.5	2230.7
40°	2234.0	2208.4	2157.3	2129.0	2116.2
42.5°	2122.6	2097.0	2046.3	2014.3	1995.4
45°	2001.7	1979.5	1931.5	1896.7	1884.0
47.5°	1884.0	1861.6	1810.6	1775.6	1756.7
50°	1759.7	1743.8	1699.2	1654.7	1638.8
52.5°	1638.8	1616.5	1575.3	1540.3	1518.0
55°	1514.9	1495.7	1457.5	1419.4	1403.5
57.5°	1390.7	1374.8	1333.3	1295.1	1282.3
60°	1266.4	1253.9	1209.3	1174.3	1164.8
62.5°	1145.5	1123.2	1091.5	1059.8	1047.0
65°	1021.6	1002.4	970.6	942.0	926.1
67.5°	894.3	878.2	849.7	827.5	814.7
70°	776.5	763.7	735.0	712.7	700.2
72.5°	655.6	642.8	626.9	604.7	595.3
75°	534.5	528.3	512.2	493.3	499.7
77.5°	426.4	413.6	407.2	397.8	388.3
80°	318.4	315.0	308.5	299.1	292.8
82.5°	216.4	216.4	213.4	200.5	200.5
85°	130.3	127.3	124.3	114.4	111.4
87.5°	57.4	50.9	44.6	35.2	31.8
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	14.21	15.82	14.57	16.13	16.45	13.77	15.38	14.13	15.69	16.00
	3H	15.96	17.41	16.34	17.74	18.10	15.47	16.92	15.85	17.25	17.61
	4H	16.61	17.98	17.00	18.32	18.70	16.11	17.48	16.51	17.83	18.20
	6H	17.08	18.34	17.49	18.71	19.10	16.57	17.84	16.99	18.21	18.60
	8H	17.22	18.43	17.64	18.82	19.22	16.72	17.93	17.14	18.32	18.71
	12H	17.31	18.47	17.74	18.85	19.28	16.80	17.96	17.23	18.34	18.77
4H	2H	14.77	16.14	15.17	16.49	16.86	14.42	15.79	14.82	16.13	16.51
	3H	16.75	17.89	17.15	18.29	18.69	16.34	17.48	16.75	17.88	18.28
	4H	17.52	18.56	17.95	18.97	19.41	17.10	18.13	17.53	18.55	18.98
	6H	18.12	19.02	18.57	19.46	19.92	17.69	18.59	18.14	19.03	19.49
	8H	18.31	19.15	18.77	19.60	20.06	17.87	18.72	18.33	19.16	19.62
	12H	18.44	19.20	18.92	19.68	20.14	17.99	18.75	18.47	19.22	19.69
8H	4H	17.79	18.64	18.26	19.08	19.55	17.42	18.27	17.88	18.71	19.18
	6H	18.51	19.21	19.00	19.70	20.18	18.13	18.83	18.62	19.32	19.79
	8H	18.77	19.40	19.28	19.91	20.39	18.38	19.01	18.89	19.51	20.00
	12H	18.97	19.53	19.48	20.02	20.58	18.56	19.11	19.06	19.60	20.16
12H	4H	17.82	18.58	18.30	19.06	19.53	17.46	18.22	17.94	18.69	19.16
	6H	18.55	19.19	19.06	19.69	20.18	18.19	18.82	18.70	19.32	19.81
	8H	18.87	19.43	19.38	19.92	20.48	18.49	19.05	19.00	19.54	20.10