

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: P931121

Luminaire Tested: DFN2DS-SQ4F0-090DS835-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931121
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-SQ4F0-090DS835-FLL
Description: 4 foot, Square Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

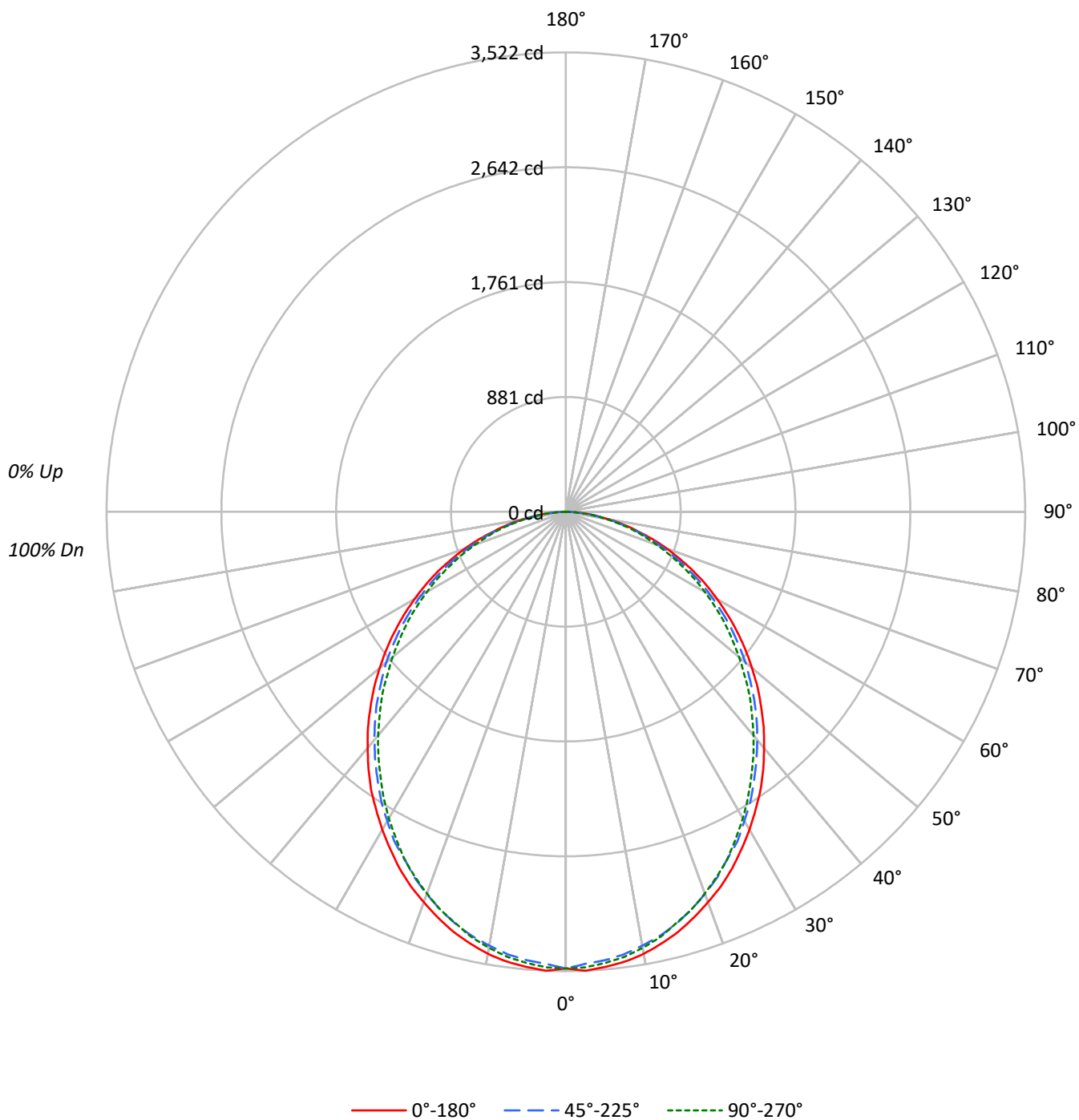
Lumens per Lamp: N/A
Luminaire Lumens: 8910.0 lumens
Efficiency: N/A
Efficacy: 98.3 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 3.92' x L: 3.92' x H: 0')
CIE Type: Direct

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

TEST NUMBER: P931121

CATALOG NUMBER: DFN2DS-SQ4F0-090DS835-FLL

Luminous Intensity Polar Plot



TEST NUMBER: P931121

CATALOG NUMBER: DFN2DS-SQ4F0-090DS835-FLL

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°	2457	2457	2457
5°	2467	2431	2445
10°	2452	2407	2419
15°	2422	2375	2373
20°	2379	2328	2326
25°	2336	2271	2271
30°	2281	2218	2199
35°	2230	2155	2123
40°	2165	2091	2051
45°	2102	2028	1978
50°	2033	1963	1893
55°	1961	1887	1817
60°	1881	1796	1730
65°	1795	1705	1627
70°	1686	1596	1520
75°	1533	1469	1434
80°	1361	1319	1252
85°	1110	1059	949

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 2102 cd/sqm

TEST NUMBER: P931121

CATALOG NUMBER: DFN2DS-SQ4F0-090DS835-FLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	329.6	3.7
10°-20°	927.4	10.4
20°-30°	1362.9	15.3
30°-40°	1582.9	17.8
40°-50°	1580.9	17.7
50°-60°	1378.5	15.5
60°-70°	1019.0	11.4
70°-80°	576.6	6.5
80°-90°	152.2	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°	2619.9	29.4
0°-40°	4202.8	47.2
0°-60°	7162.3	80.4
0°-90°	8910.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8910.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3502	3502	3502	3502	3502	
5°	3502	3489	3452	3478	3472	332
15°	3334	3314	3270	3283	3266	939
25°	3017	2990	2933	2940	2933	1388
35°	2603	2570	2516	2495	2478	1626
45°	2118	2095	2044	2007	1994	1635
55°	1603	1583	1542	1502	1485	1433
65°	1081	1061	1027	997	980	1069
75°	566	559	542	522	529	604
85°	138	135	132	121	118	162
90°	0	0	0	0	0	

TEST NUMBER: P931121

CATALOG NUMBER: DFN2DS-SQ4F0-090DS835-FLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3501.9	3501.9	3501.9	3501.9	3501.9
2.5°	3522.3	3505.5	3468.4	3501.9	3495.5
5°	3501.9	3488.7	3451.6	3478.4	3471.9
7.5°	3478.4	3458.4	3421.2	3448.4	3441.6
10°	3441.6	3418.0	3377.6	3404.4	3394.4
12.5°	3390.8	3370.8	3330.5	3347.2	3340.5
15°	3333.7	3313.7	3269.7	3283.3	3266.5
17.5°	3262.9	3242.9	3199.0	3215.8	3199.0
20°	3185.4	3165.4	3118.2	3128.2	3115.0
22.5°	3108.2	3077.9	3033.9	3033.9	3027.1
25°	3017.1	2990.3	2933.2	2939.6	2933.2
27.5°	2916.0	2892.4	2848.9	2838.9	2822.1
30°	2815.3	2788.1	2737.7	2727.7	2714.2
32.5°	2707.4	2687.4	2633.4	2613.1	2599.5
35°	2603.1	2569.5	2515.5	2495.2	2478.4
37.5°	2485.2	2454.8	2400.8	2377.3	2360.5
40°	2364.0	2336.9	2282.9	2252.9	2239.4
42.5°	2246.1	2219.0	2165.4	2131.5	2111.5
45°	2118.2	2094.7	2043.9	2007.1	1993.6
47.5°	1993.6	1970.0	1916.0	1878.9	1858.9
50°	1862.1	1845.3	1798.1	1751.0	1734.2
52.5°	1734.2	1710.6	1667.0	1629.9	1606.3
55°	1603.1	1582.7	1542.3	1502.0	1485.2
57.5°	1471.6	1454.8	1410.9	1370.5	1356.9
60°	1340.1	1326.9	1279.7	1242.6	1232.6
62.5°	1212.2	1188.6	1155.0	1121.5	1107.9
65°	1081.1	1060.7	1027.1	996.8	980.0
67.5°	946.4	929.3	899.2	875.7	862.1
70°	821.7	808.1	777.8	754.2	741.0
72.5°	693.8	680.2	663.4	639.9	629.9
75°	565.6	559.1	542.0	522.0	528.8
77.5°	451.2	437.7	430.9	420.9	410.9
80°	336.9	333.3	326.5	316.5	309.8
82.5°	229.0	229.0	225.8	212.2	212.2
85°	137.9	134.7	131.5	121.1	117.9
87.5°	60.7	53.9	47.2	37.2	33.6
90°	0.0	0.0	0.0	0.0	0.0

TEST NUMBER: P931121

CATALOG NUMBER: DFN2DS-SQ4F0-090DS835-FLL

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	14.41	16.02	14.77	16.33	16.65	13.96	15.57	14.33	15.89	16.20
	3H	16.16	17.61	16.53	17.94	18.30	15.67	17.12	16.04	17.45	17.81
	4H	16.80	18.17	17.20	18.52	18.90	16.31	17.68	16.71	18.02	18.40
	6H	17.27	18.54	17.68	18.90	19.30	16.77	18.04	17.18	18.40	18.79
	8H	17.41	18.63	17.84	19.01	19.41	16.91	18.12	17.34	18.51	18.91
	12H	17.50	18.67	17.93	19.05	19.48	16.99	18.15	17.42	18.53	18.96
4H	2H	14.97	16.34	15.36	16.68	17.06	14.61	15.98	15.01	16.33	16.71
	3H	16.94	18.09	17.35	18.49	18.89	16.53	17.68	16.94	18.08	18.48
	4H	17.72	18.75	18.15	19.17	19.60	17.29	18.33	17.73	18.74	19.18
	6H	18.31	19.22	18.77	19.66	20.12	17.88	18.79	18.34	19.23	19.68
	8H	18.50	19.35	18.96	19.79	20.26	18.07	18.91	18.53	19.36	19.82
	12H	18.64	19.40	19.12	19.87	20.34	18.18	18.94	18.66	19.42	19.89
8H	4H	17.99	18.84	18.45	19.28	19.75	17.62	18.46	18.08	18.91	19.37
	6H	18.71	19.41	19.20	19.90	20.37	18.32	19.03	18.82	19.52	19.99
	8H	18.96	19.60	19.47	20.10	20.59	18.57	19.20	19.08	19.71	20.20
	12H	19.16	19.72	19.67	20.21	20.77	18.75	19.31	19.26	19.80	20.36
12H	4H	18.02	18.78	18.50	19.25	19.72	17.65	18.41	18.13	18.89	19.36
	6H	18.75	19.38	19.26	19.89	20.38	18.38	19.01	18.89	19.52	20.01
	8H	19.07	19.62	19.57	20.11	20.67	18.69	19.25	19.19	19.74	20.30