

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: P931061

Luminaire Tested: DFN2DS-SQ3F0-120DS940-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931061
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-SQ3F0-120DS940-FLL
Description: 3 foot, Square Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

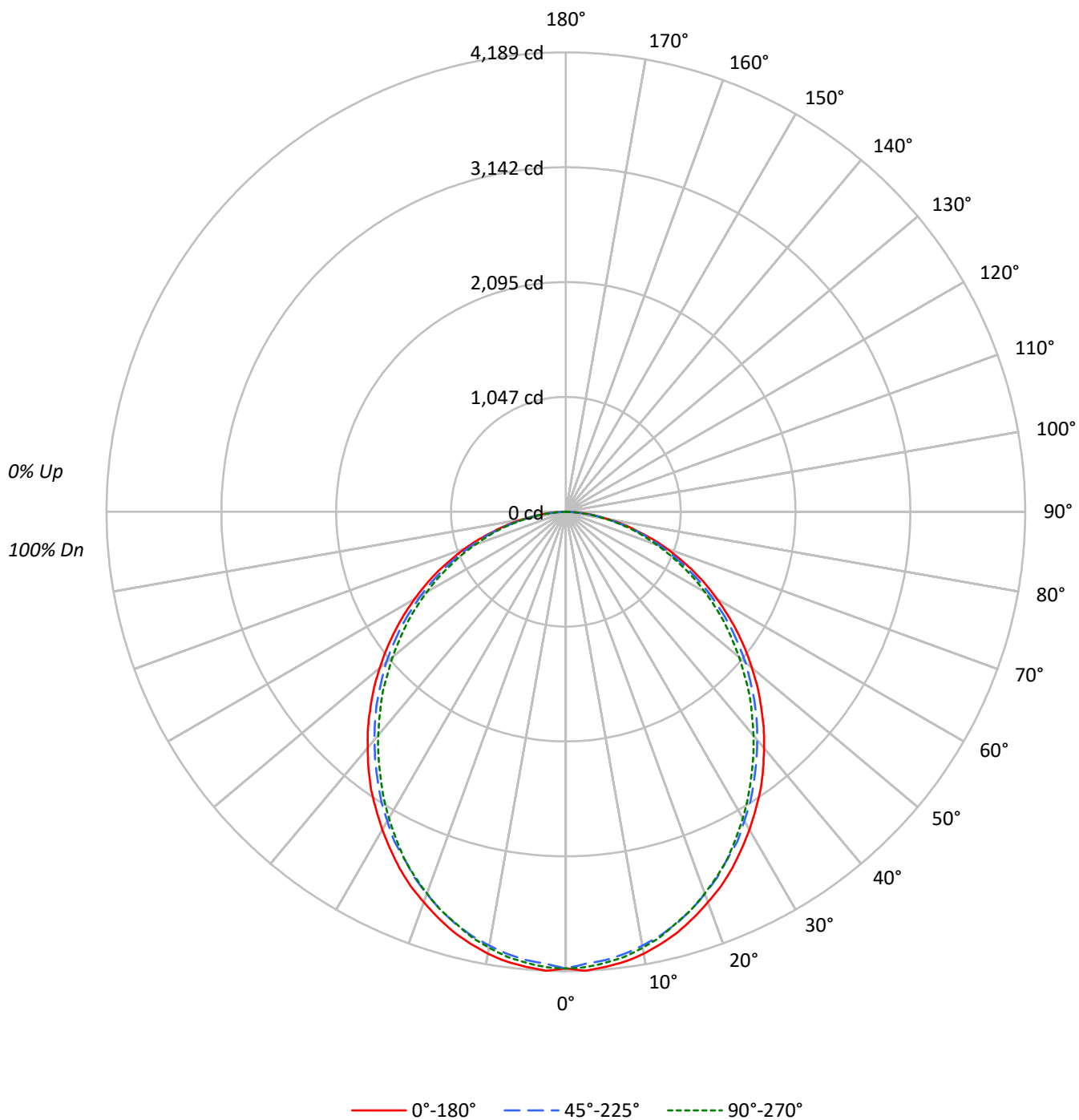
Lumens per Lamp: N/A
Luminaire Lumens: 10597.0 lumens
Efficiency: N/A
Efficacy: 80.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 3.06' x L: 3.06' x H: 0')
CIE Type: Direct

Input Watts (W): 131.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9957
Total Harmonic Distortion (THDi): 0.049
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P931061

CATALOG NUMBER: DFN2DS-SQ3F0-120DS940-FLL

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			0
RW	70	50	30	10	70	50	30	10	50	30	10		50	30	10		50	30	10	0
RCR																				
0	119	119	119	119	116	116	116	116	111	111	111		106	106	106		102	102	102	100
1	109	104	100	96	106	102	98	95	98	95	92		94	91	89		90	88	86	84
2	99	91	85	79	97	89	83	78	86	81	76		83	78	74		80	76	73	71
3	91	80	72	66	88	79	71	65	76	69	64		73	68	63		71	66	62	60
4	83	71	63	56	81	70	62	56	68	61	55		65	59	54		63	58	54	51
5	77	64	55	49	75	63	55	48	61	53	48		59	52	47		57	51	47	45
6	71	58	49	43	69	57	48	42	55	48	42		53	47	42		52	46	41	39
7	66	52	44	38	64	52	43	38	50	43	37		49	42	37		47	41	37	35
8	61	48	40	34	60	47	39	34	46	39	33		45	38	33		44	38	33	31
9	57	44	36	30	56	43	36	30	42	35	30		41	35	30		40	34	30	28
10	54	41	33	28	53	40	33	28	39	32	27		38	32	27		37	32	27	26

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4772	4772	4772
5°	4790	4722	4749
10°	4762	4674	4697
15°	4703	4613	4608
20°	4619	4522	4517
25°	4537	4410	4410
30°	4430	4308	4271
35°	4330	4185	4123
40°	4206	4061	3984
45°	4082	3939	3842
50°	3948	3812	3677
55°	3809	3664	3528
60°	3652	3488	3359
65°	3486	3312	3160
70°	3274	3099	2952
75°	2978	2854	2784
80°	2644	2563	2431
85°	2156	2056	1843

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 4082 cd/sqm

TEST NUMBER: P931061

CATALOG NUMBER: DFN2DS-SQ3F0-120DS940-FLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	392.0	3.7
10°-20°	1103.0	10.4
20°-30°	1620.9	15.3
30°-40°	1882.6	17.8
40°-50°	1880.3	17.7
50°-60°	1639.5	15.5
60°-70°	1212.0	11.4
70°-80°	685.7	6.5
80°-90°	181.0	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°	3115.9	29.4
0°-40°	4998.5	47.2
0°-60°	8518.3	80.4
0°-90°	10597.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	10597.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4165	4165	4165	4165	4165	
5°	4165	4149	4105	4137	4129	395
15°	3965	3941	3889	3905	3885	1117
25°	3588	3556	3488	3496	3488	1651
35°	3096	3056	2992	2968	2948	1933
45°	2519	2491	2431	2387	2371	1944
55°	1907	1882	1834	1786	1766	1705
65°	1286	1262	1222	1186	1166	1271
75°	673	665	645	621	629	718
85°	164	160	156	144	140	193
90°	0	0	0	0	0	

TEST NUMBER: P931061

CATALOG NUMBER: DFN2DS-SQ3F0-120DS940-FLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4165.0	4165.0	4165.0	4165.0	4165.0
2.5°	4189.2	4169.2	4125.1	4165.0	4157.3
5°	4165.0	4149.2	4105.1	4136.9	4129.2
7.5°	4136.9	4113.1	4068.9	4101.2	4093.2
10°	4093.2	4065.1	4017.1	4049.0	4037.1
12.5°	4032.8	4009.0	3961.0	3981.0	3972.9
15°	3964.9	3941.0	3888.8	3904.9	3884.9
17.5°	3880.7	3856.9	3804.6	3824.6	3804.6
20°	3788.5	3764.7	3708.7	3720.5	3704.8
22.5°	3696.7	3660.6	3608.3	3608.3	3600.3
25°	3588.3	3556.5	3488.5	3496.2	3488.5
27.5°	3468.1	3440.1	3388.3	3376.3	3356.4
30°	3348.3	3316.0	3256.1	3244.2	3228.1
32.5°	3219.9	3196.2	3132.0	3107.8	3091.7
35°	3095.9	3056.0	2991.8	2967.6	2947.6
37.5°	2955.6	2919.6	2855.4	2827.4	2807.4
40°	2811.7	2779.4	2715.2	2679.5	2663.3
42.5°	2671.5	2639.2	2575.4	2535.1	2511.2
45°	2519.3	2491.3	2430.9	2387.2	2371.0
47.5°	2371.0	2342.9	2278.8	2234.6	2210.8
50°	2214.7	2194.7	2138.6	2082.5	2062.5
52.5°	2062.5	2034.5	1982.6	1938.4	1910.4
55°	1906.6	1882.4	1834.3	1786.3	1766.3
57.5°	1750.2	1730.2	1677.9	1630.0	1613.8
60°	1593.8	1578.1	1522.0	1477.9	1465.9
62.5°	1441.7	1413.6	1373.8	1333.8	1317.7
65°	1285.8	1261.6	1221.6	1185.5	1165.6
67.5°	1125.6	1105.2	1069.5	1041.5	1025.4
70°	977.3	961.1	925.0	897.0	881.3
72.5°	825.2	809.0	789.1	761.1	749.1
75°	672.7	665.0	644.6	620.8	628.9
77.5°	536.6	520.5	512.5	500.5	488.6
80°	400.7	396.4	388.4	376.5	368.4
82.5°	272.3	272.3	268.6	252.4	252.4
85°	164.0	160.2	156.4	144.1	140.2
87.5°	72.3	64.1	56.1	44.2	40.0
90°	0.0	0.0	0.0	0.0	0.0

TEST NUMBER: P931061

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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	16.71	18.32	17.08	18.64	18.95	16.27	17.88	16.63	18.19	18.51
	3H	18.46	19.92	18.84	20.24	20.60	17.97	19.43	18.35	19.75	20.11
	4H	19.11	20.48	19.51	20.83	21.20	18.61	19.98	19.01	20.33	20.71
	6H	19.58	20.85	19.99	21.21	21.60	19.08	20.35	19.49	20.71	21.10
	8H	19.72	20.93	20.15	21.32	21.72	19.22	20.43	19.64	20.82	21.22
	12H	19.81	20.97	20.24	21.35	21.78	19.30	20.46	19.73	20.84	21.27
4H	2H	17.27	18.64	17.67	18.99	19.37	16.92	18.29	17.32	18.64	19.01
	3H	19.25	20.39	19.66	20.79	21.19	18.84	19.99	19.25	20.39	20.79
	4H	20.02	21.06	20.46	21.47	21.91	19.60	20.64	20.03	21.05	21.49
	6H	20.62	21.53	21.08	21.97	22.42	20.19	21.09	20.64	21.53	21.99
	8H	20.81	21.66	21.27	22.10	22.56	20.37	21.22	20.83	21.66	22.13
	12H	20.94	21.70	21.42	22.18	22.65	20.49	21.25	20.97	21.73	22.20
8H	4H	20.30	21.14	20.76	21.59	22.05	19.92	20.77	20.38	21.21	21.68
	6H	21.01	21.72	21.51	22.20	22.68	20.63	21.33	21.12	21.82	22.30
	8H	21.27	21.90	21.78	22.41	22.89	20.88	21.51	21.39	22.02	22.50
	12H	21.47	22.03	21.98	22.52	23.08	21.06	21.62	21.57	22.11	22.67
12H	4H	20.32	21.08	20.80	21.56	22.03	19.96	20.72	20.44	21.19	21.66
	6H	21.06	21.69	21.57	22.20	22.68	20.69	21.32	21.20	21.83	22.31
	8H	21.37	21.93	21.88	22.42	22.98	20.99	21.55	21.50	22.04	22.60