

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: P930791

Luminaire Tested: DFN2DS-PN4F0-120DS940-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930791
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-PN4F0-120DS940-FLL
Description: 4 foot, Pentagon Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

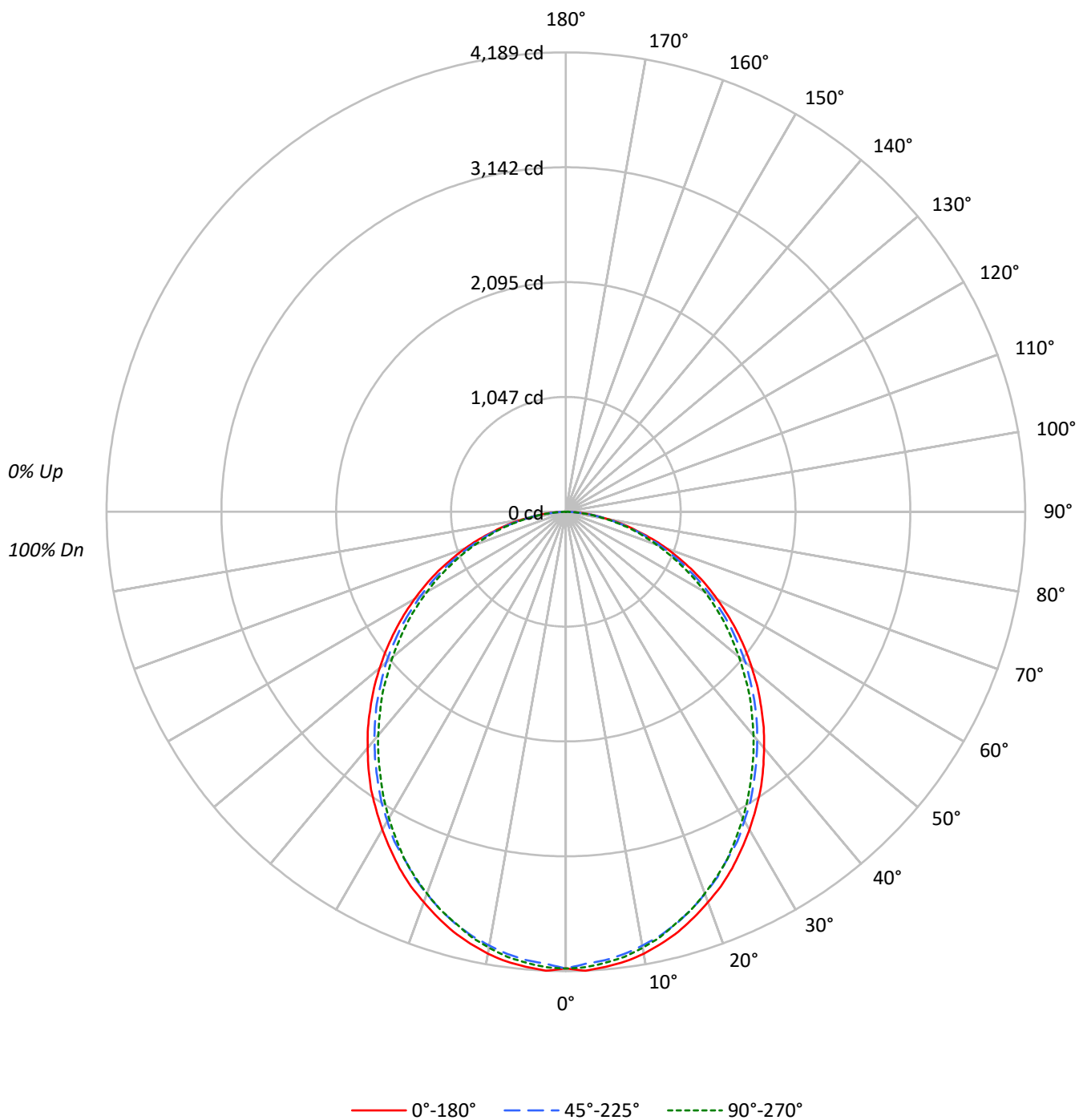
Lumens per Lamp: N/A
Luminaire Lumens: 10597.0 lumens
Efficiency: N/A
Efficacy: 80.9 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 3.94' x L: 3.74' x H: 0')
CIE Type: Direct

Input Watts (W): 131
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9781
Total Harmonic Distortion (THDi): 0.075
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°	3040	3040	3040
5°	3052	3008	3026
10°	3034	2978	2992
15°	2996	2939	2936
20°	2943	2881	2878
25°	2890	2810	2810
30°	2822	2745	2721
35°	2759	2666	2627
40°	2679	2587	2538
45°	2601	2509	2448
50°	2515	2429	2342
55°	2426	2334	2248
60°	2327	2222	2140
65°	2221	2110	2013
70°	2086	1974	1881
75°	1897	1818	1774
80°	1684	1633	1549
85°	1374	1310	1174

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2601 cd/sqm

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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	

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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

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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	15.15	16.76	15.51	17.07	17.38	14.70	16.31	15.07	16.63	16.94
	3H	16.90	18.35	17.27	18.68	19.04	16.41	17.86	16.78	18.19	18.55
	4H	17.54	18.91	17.94	19.26	19.64	17.05	18.42	17.45	18.76	19.14
	6H	18.01	19.28	18.42	19.64	20.04	17.51	18.78	17.92	19.14	19.53
	8H	18.15	19.37	18.58	19.75	20.15	17.65	18.86	18.08	19.25	19.65
	12H	18.24	19.40	18.67	19.79	20.21	17.73	18.89	18.16	19.27	19.70
4H	2H	15.71	17.08	16.10	17.42	17.80	15.35	16.72	15.75	17.07	17.45
	3H	17.68	18.83	18.09	19.23	19.63	17.27	18.42	17.68	18.82	19.22
	4H	18.46	19.49	18.89	19.91	20.34	18.03	19.07	18.47	19.48	19.92
	6H	19.05	19.96	19.51	20.40	20.86	18.62	19.53	19.08	19.97	20.42
	8H	19.24	20.09	19.70	20.53	21.00	18.81	19.65	19.27	20.09	20.56
	12H	19.38	20.14	19.86	20.61	21.08	18.92	19.68	19.40	20.16	20.63
8H	4H	18.73	19.58	19.19	20.02	20.49	18.36	19.20	18.82	19.65	20.11
	6H	19.45	20.15	19.94	20.64	21.11	19.06	19.77	19.56	20.26	20.73
	8H	19.70	20.34	20.21	20.84	21.33	19.31	19.94	19.82	20.45	20.94
	12H	19.90	20.46	20.41	20.95	21.51	19.49	20.05	20.00	20.54	21.10
12H	4H	18.76	19.52	19.24	19.99	20.46	18.39	19.15	18.87	19.63	20.10
	6H	19.49	20.12	20.00	20.63	21.12	19.12	19.75	19.63	20.26	20.75
	8H	19.80	20.36	20.31	20.85	21.41	19.43	19.98	19.93	20.48	21.04