

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: P930741

Luminaire Tested: DFN2DS-PN4F0-100DS830-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930741
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-PN4F0-100DS830-FLL
Description: 4 foot, Pentagon Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

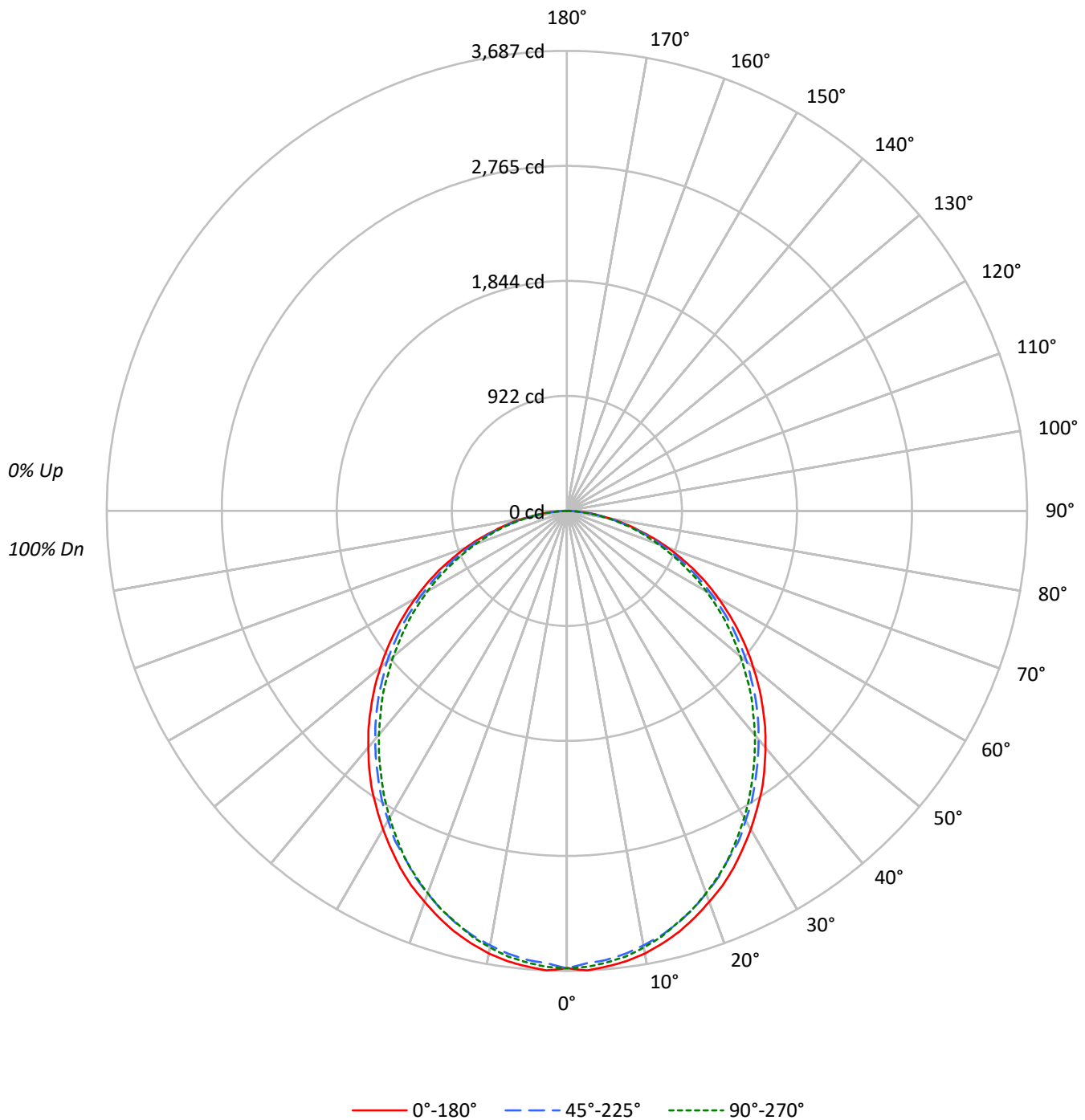
Lumens per Lamp: N/A
Luminaire Lumens: 9325.8 lumens
Efficiency: N/A
Efficacy: 88.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 3.94' x L: 3.74' x H: 0')
CIE Type: Direct

Input Watts (W): 105.7
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9952
Total Harmonic Distortion (THDi): 0.069
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°	2676	2676	2676
5°	2686	2647	2663
10°	2670	2620	2633
15°	2637	2586	2584
20°	2590	2535	2533
25°	2544	2473	2473
30°	2484	2415	2394
35°	2428	2346	2312
40°	2358	2277	2233
45°	2289	2208	2154
50°	2213	2137	2061
55°	2135	2054	1978
60°	2048	1955	1883
65°	1954	1857	1772
70°	1835	1737	1655
75°	1670	1600	1561
80°	1482	1437	1363
85°	1209	1152	1034

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2289 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	345.0	3.7
10°-20°	970.7	10.4
20°-30°	1426.5	15.3
30°-40°	1656.8	17.8
40°-50°	1654.7	17.7
50°-60°	1442.9	15.5
60°-70°	1066.6	11.4
70°-80°	603.5	6.5
80°-90°	159.3	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°	2742.1	29.4
0°-40°	4398.9	47.2
0°-60°	7496.5	80.4
0°-90°	9325.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9325.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3665	3665	3665	3665	3665	
5°	3665	3652	3613	3641	3634	348
15°	3489	3468	3422	3436	3419	983
25°	3158	3130	3070	3077	3070	1453
35°	2724	2689	2633	2612	2594	1701
45°	2217	2192	2139	2101	2087	1711
55°	1678	1657	1614	1572	1554	1500
65°	1132	1110	1075	1043	1026	1119
75°	592	585	567	546	553	632
85°	144	141	138	127	123	170
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3665.4	3665.4	3665.4	3665.4	3665.4
2.5°	3686.7	3669.1	3630.2	3665.4	3658.6
5°	3665.4	3651.6	3612.7	3640.7	3634.0
7.5°	3640.7	3619.7	3580.8	3609.3	3602.2
10°	3602.2	3577.5	3535.2	3563.3	3552.8
12.5°	3549.1	3528.2	3485.9	3503.5	3496.3
15°	3489.3	3468.3	3422.3	3436.5	3419.0
17.5°	3415.2	3394.3	3348.2	3365.9	3348.2
20°	3334.0	3313.1	3263.7	3274.2	3260.4
22.5°	3253.3	3221.5	3175.5	3175.5	3168.4
25°	3158.0	3129.9	3070.1	3076.8	3070.1
27.5°	3052.1	3027.4	2981.8	2971.4	2953.7
30°	2946.7	2918.2	2865.5	2855.0	2840.8
32.5°	2833.7	2812.8	2756.3	2735.0	2720.8
35°	2724.5	2689.4	2632.9	2611.6	2594.0
37.5°	2601.1	2569.3	2512.9	2488.2	2470.6
40°	2474.4	2445.9	2389.5	2358.1	2343.9
42.5°	2350.9	2322.5	2266.5	2230.9	2210.0
45°	2217.1	2192.4	2139.3	2100.8	2086.6
47.5°	2086.6	2061.9	2005.4	1966.5	1945.6
50°	1949.0	1931.4	1882.0	1832.7	1815.1
52.5°	1815.1	1790.5	1744.8	1706.0	1681.3
55°	1677.9	1656.6	1614.3	1572.0	1554.5
57.5°	1540.3	1522.6	1476.7	1434.5	1420.3
60°	1402.6	1388.8	1339.4	1300.5	1290.1
62.5°	1268.8	1244.1	1209.0	1173.8	1159.6
65°	1131.5	1110.2	1075.1	1043.3	1025.7
67.5°	990.6	972.6	941.2	916.6	902.3
70°	860.0	845.8	814.1	789.4	775.5
72.5°	726.2	712.0	694.4	669.8	659.2
75°	592.0	585.3	567.3	546.4	553.4
77.5°	472.3	458.1	450.9	440.5	430.0
80°	352.6	348.9	341.8	331.3	324.2
82.5°	239.7	239.7	236.3	222.1	222.1
85°	144.3	141.0	137.6	126.8	123.4
87.5°	63.6	56.4	49.4	38.9	35.1
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	14.70	16.31	15.07	16.63	16.94	14.26	15.87	14.62	16.18	16.50
	3H	16.45	17.91	16.83	18.23	18.59	15.96	17.42	16.34	17.74	18.10
	4H	17.10	18.47	17.50	18.82	19.19	16.60	17.97	17.00	18.32	18.70
	6H	17.57	18.84	17.98	19.20	19.59	17.07	18.33	17.48	18.70	19.09
	8H	17.71	18.92	18.14	19.31	19.71	17.21	18.42	17.63	18.81	19.21
	12H	17.80	18.96	18.23	19.34	19.77	17.29	18.45	17.72	18.83	19.26
4H	2H	15.26	16.63	15.66	16.98	17.36	14.91	16.28	15.31	16.63	17.00
	3H	17.24	18.38	17.65	18.78	19.18	16.83	17.98	17.24	18.37	18.77
	4H	18.01	19.05	18.45	19.46	19.90	17.59	18.63	18.02	19.04	19.48
	6H	18.61	19.52	19.06	19.96	20.41	18.18	19.08	18.63	19.52	19.98
	8H	18.80	19.65	19.26	20.09	20.55	18.36	19.21	18.82	19.65	20.12
	12H	18.93	19.69	19.41	20.17	20.64	18.48	19.24	18.96	19.72	20.18
8H	4H	18.29	19.13	18.75	19.58	20.04	17.91	18.76	18.37	19.20	19.67
	6H	19.00	19.70	19.50	20.19	20.67	18.62	19.32	19.11	19.81	20.29
	8H	19.26	19.89	19.77	20.40	20.88	18.87	19.50	19.38	20.01	20.49
	12H	19.46	20.02	19.97	20.51	21.07	19.05	19.61	19.55	20.10	20.66
12H	4H	18.31	19.07	18.79	19.55	20.02	17.95	18.71	18.43	19.18	19.65
	6H	19.05	19.68	19.56	20.19	20.67	18.68	19.31	19.19	19.82	20.30
	8H	19.36	19.92	19.87	20.41	20.97	18.98	19.54	19.49	20.03	20.59