

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: P931601

Luminaire Tested: DFN2DS-TR4F0-120DS940-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931601
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-TR4F0-120DS940-FLL
Description: 4 foot, Triangle Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

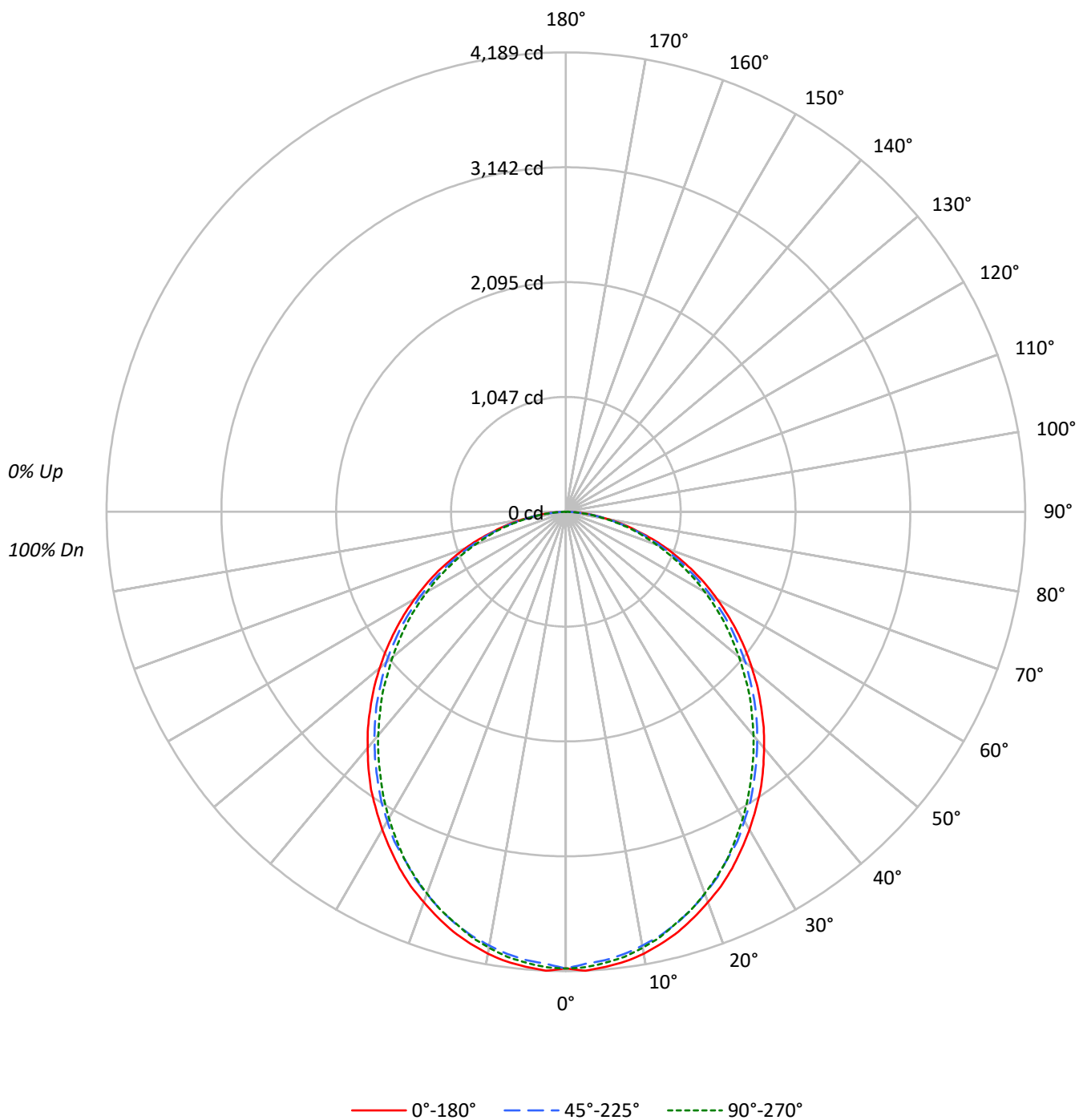
Lumens per Lamp: N/A
Luminaire Lumens: 10597.0 lumens
Efficiency: N/A
Efficacy: 80.3 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 3.96' x L: 3.43' x H: 0')
CIE Type: Direct

Input Watts (W): 131.9
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9821
Total Harmonic Distortion (THDi): 0.08
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				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°	3309	3309	3309
5°	3321	3274	3293
10°	3302	3241	3257
15°	3261	3198	3195
20°	3203	3135	3132
25°	3145	3058	3058
30°	3072	2987	2961
35°	3002	2902	2859
40°	2916	2816	2762
45°	2830	2731	2664
50°	2737	2643	2549
55°	2641	2541	2446
60°	2532	2418	2329
65°	2417	2296	2191
70°	2270	2149	2047
75°	2065	1979	1930
80°	1833	1777	1685
85°	1495	1426	1278

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2830 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	15.44	17.05	15.80	17.36	17.68	15.00	16.61	15.36	16.92	17.23
	3H	17.19	18.64	17.57	18.97	19.33	16.70	18.15	17.08	18.48	18.84
	4H	17.84	19.21	18.23	19.55	19.93	17.34	18.71	17.74	19.06	19.43
	6H	18.31	19.57	18.72	19.94	20.33	17.80	19.07	18.22	19.44	19.83
	8H	18.45	19.66	18.87	20.05	20.45	17.95	19.16	18.37	19.55	19.94
	12H	18.54	19.70	18.97	20.08	20.51	18.03	19.19	18.46	19.57	20.00
4H	2H	16.00	17.37	16.40	17.72	18.09	15.65	17.02	16.05	17.36	17.74
	3H	17.98	19.12	18.39	19.52	19.92	17.57	18.72	17.98	19.11	19.51
	4H	18.75	19.79	19.18	20.20	20.64	18.33	19.36	18.76	19.78	20.21
	6H	19.35	20.25	19.80	20.69	21.15	18.92	19.82	19.37	20.26	20.72
	8H	19.54	20.38	20.00	20.83	21.29	19.10	19.95	19.56	20.39	20.85
	12H	19.67	20.43	20.15	20.91	21.37	19.22	19.98	19.70	20.45	20.92
8H	4H	19.03	19.87	19.49	20.31	20.78	18.65	19.50	19.11	19.94	20.41
	6H	19.74	20.44	20.23	20.93	21.41	19.36	20.06	19.85	20.55	21.02
	8H	20.00	20.63	20.51	21.14	21.62	19.61	20.24	20.12	20.74	21.23
	12H	20.20	20.76	20.71	21.25	21.81	19.79	20.34	20.29	20.83	21.40
12H	4H	19.05	19.81	19.53	20.29	20.76	18.69	19.45	19.17	19.92	20.39
	6H	19.78	20.42	20.29	20.92	21.41	19.42	20.05	19.93	20.56	21.04
	8H	20.10	20.66	20.61	21.15	21.71	19.72	20.28	20.23	20.77	21.33