

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: P929815

Luminaire Tested: DFN2DS-4P2F0-030DS930-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P929815
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-4P2F0-030DS930-FLL
Description: 2 foot, 90deg - 4way Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

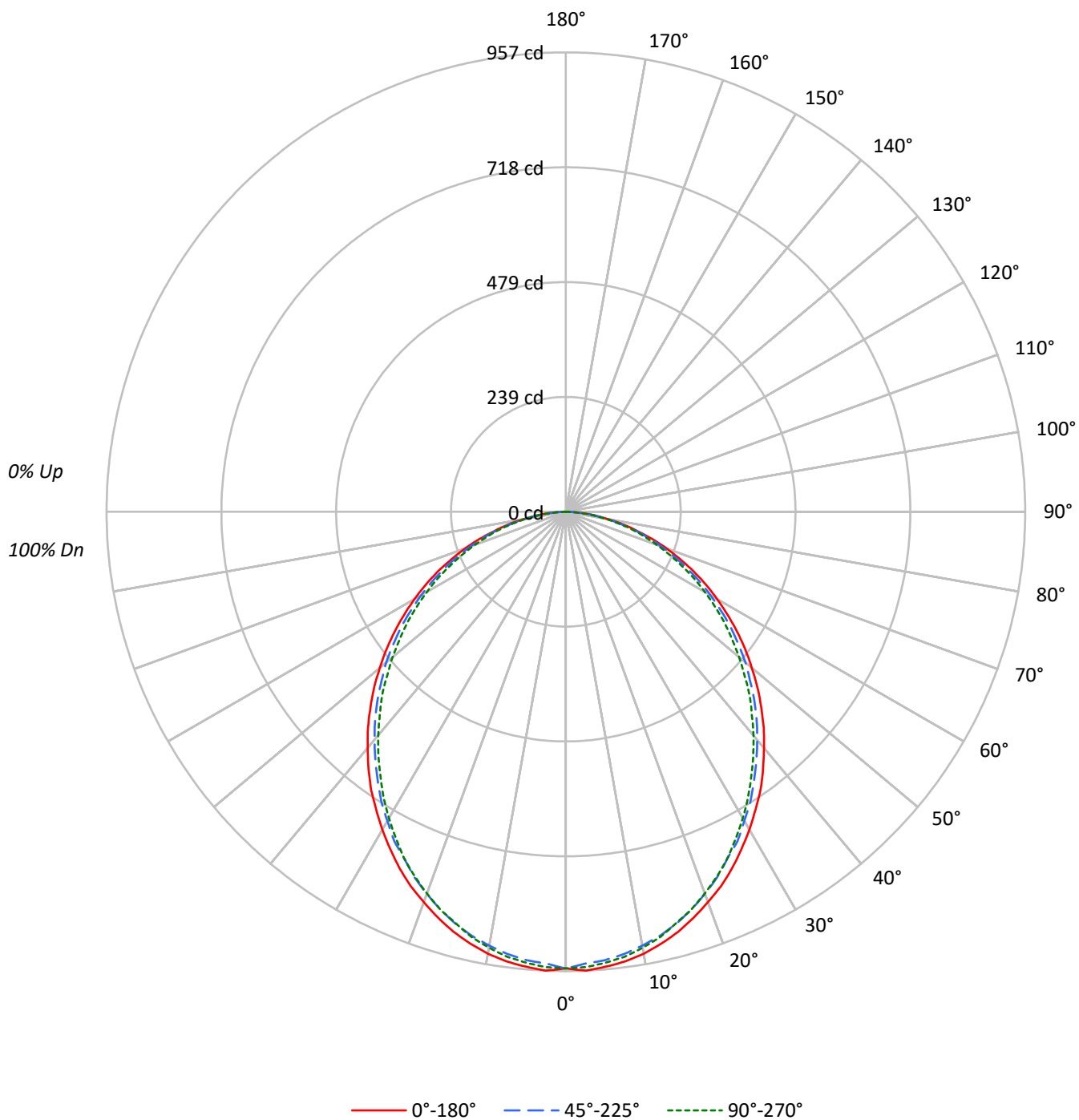
Lumens per Lamp: N/A
Luminaire Lumens: 2420.6 lumens
Efficiency: N/A
Efficacy: 79.9 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 2.07' x L: 2.07' x H: 0')
CIE Type: Direct

Input Watts (W): 30.3
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9954
Total Harmonic Distortion (THDi): 0.076
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°	2382	2382	2382
5°	2391	2357	2371
10°	2377	2333	2345
15°	2348	2303	2300
20°	2306	2257	2255
25°	2264	2201	2201
30°	2211	2151	2132
35°	2162	2089	2058
40°	2099	2027	1989
45°	2038	1966	1918
50°	1971	1903	1836
55°	1901	1829	1762
60°	1823	1741	1677
65°	1740	1654	1578
70°	1634	1547	1474
75°	1486	1425	1390
80°	1319	1279	1214
85°	1077	1026	919

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2038 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	89.5	3.7
10°-20°	251.9	10.4
20°-30°	370.2	15.3
30°-40°	430.0	17.8
40°-50°	429.5	17.7
50°-60°	374.5	15.5
60°-70°	276.9	11.4
70°-80°	156.6	6.5
80°-90°	41.3	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°	711.7	29.4
0°-40°	1141.7	47.2
0°-60°	1945.8	80.4
0°-90°	2420.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2420.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	951	951	951	951	951	
5°	951	948	938	945	943	90
15°	906	900	888	892	887	255
25°	820	812	797	799	797	377
35°	707	698	683	678	673	442
45°	576	569	555	545	542	444
55°	436	430	419	408	404	389
65°	294	288	279	271	266	290
75°	154	152	147	142	144	164
85°	38	37	36	33	32	44
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	951.3	951.3	951.3	951.3	951.3
2.5°	956.9	952.3	942.2	951.3	949.6
5°	951.3	947.8	937.7	945.0	943.2
7.5°	945.0	939.5	929.4	936.8	935.0
10°	935.0	928.5	917.6	924.9	922.2
12.5°	921.2	915.7	904.8	909.3	907.5
15°	905.6	900.2	888.3	891.9	887.4
17.5°	886.4	881.0	869.0	873.6	869.0
20°	865.4	859.9	847.1	849.8	846.2
22.5°	844.4	836.2	824.2	824.2	822.3
25°	819.6	812.4	796.8	798.6	796.8
27.5°	792.2	785.7	773.9	771.2	766.7
30°	764.8	757.5	743.8	741.0	737.3
32.5°	735.5	730.1	715.4	709.9	706.2
35°	707.2	698.0	683.4	677.8	673.3
37.5°	675.1	666.9	652.2	645.8	641.2
40°	642.2	634.9	620.2	612.1	608.4
42.5°	610.2	602.9	588.3	579.1	573.6
45°	575.5	569.0	555.3	545.2	541.6
47.5°	541.6	535.2	520.5	510.4	505.0
50°	505.9	501.3	488.5	475.7	471.2
52.5°	471.2	464.7	452.9	442.8	436.4
55°	435.5	430.0	419.0	408.1	403.5
57.5°	399.8	395.2	383.3	372.3	368.6
60°	364.1	360.5	347.7	337.6	334.9
62.5°	329.3	322.9	313.8	304.6	301.0
65°	293.7	288.2	279.1	270.8	266.3
67.5°	257.1	252.5	244.3	237.9	234.2
70°	223.2	219.6	211.3	204.9	201.3
72.5°	188.5	184.8	180.2	173.8	171.1
75°	153.6	151.9	147.3	141.8	143.7
77.5°	122.6	118.9	117.0	114.3	111.7
80°	91.5	90.5	88.7	86.0	84.2
82.5°	62.2	62.2	61.4	57.6	57.6
85°	37.5	36.6	35.7	32.9	32.0
87.5°	16.5	14.7	12.8	10.1	9.1
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	14.30	15.91	14.66	16.22	16.54	13.85	15.46	14.22	15.78	16.09
	3H	16.05	17.50	16.43	17.83	18.19	15.56	17.01	15.93	17.34	17.70
	4H	16.69	18.06	17.09	18.41	18.79	16.20	17.57	16.60	17.92	18.29
	6H	17.16	18.43	17.57	18.80	19.19	16.66	17.93	17.07	18.30	18.69
	8H	17.31	18.52	17.73	18.91	19.31	16.80	18.02	17.23	18.40	18.80
	12H	17.40	18.56	17.83	18.94	19.37	16.89	18.05	17.31	18.43	18.86
4H	2H	14.86	16.23	15.26	16.58	16.95	14.51	15.88	14.90	16.22	16.60
	3H	16.83	17.98	17.24	18.38	18.78	16.43	17.57	16.84	17.97	18.37
	4H	17.61	18.65	18.04	19.06	19.50	17.19	18.22	17.62	18.64	19.07
	6H	18.21	19.11	18.66	19.55	20.01	17.78	18.68	18.23	19.12	19.58
	8H	18.40	19.24	18.86	19.69	20.15	17.96	18.81	18.42	19.25	19.71
	12H	18.53	19.29	19.01	19.76	20.23	18.08	18.84	18.56	19.31	19.78
8H	4H	17.88	18.73	18.34	19.17	19.64	17.51	18.36	17.97	18.80	19.26
	6H	18.60	19.30	19.09	19.79	20.26	18.22	18.92	18.71	19.41	19.88
	8H	18.86	19.49	19.37	19.99	20.48	18.47	19.10	18.98	19.60	20.09
	12H	19.06	19.61	19.56	20.11	20.67	18.64	19.20	19.15	19.69	20.25
12H	4H	17.91	18.67	18.39	19.15	19.62	17.55	18.31	18.03	18.78	19.25
	6H	18.64	19.28	19.15	19.78	20.27	18.27	18.91	18.78	19.41	19.90
	8H	18.96	19.51	19.46	20.01	20.57	18.58	19.14	19.09	19.63	20.19