

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: P930370

Luminaire Tested: DFN2DS-HX4F0-100DS850-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930370
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P333882)
Test Lab: INNOVATION CENTER
Issue Date: 11/20/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DS-HX4F0-100DS850-RLL
Description: 4 foot, Hexagon Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

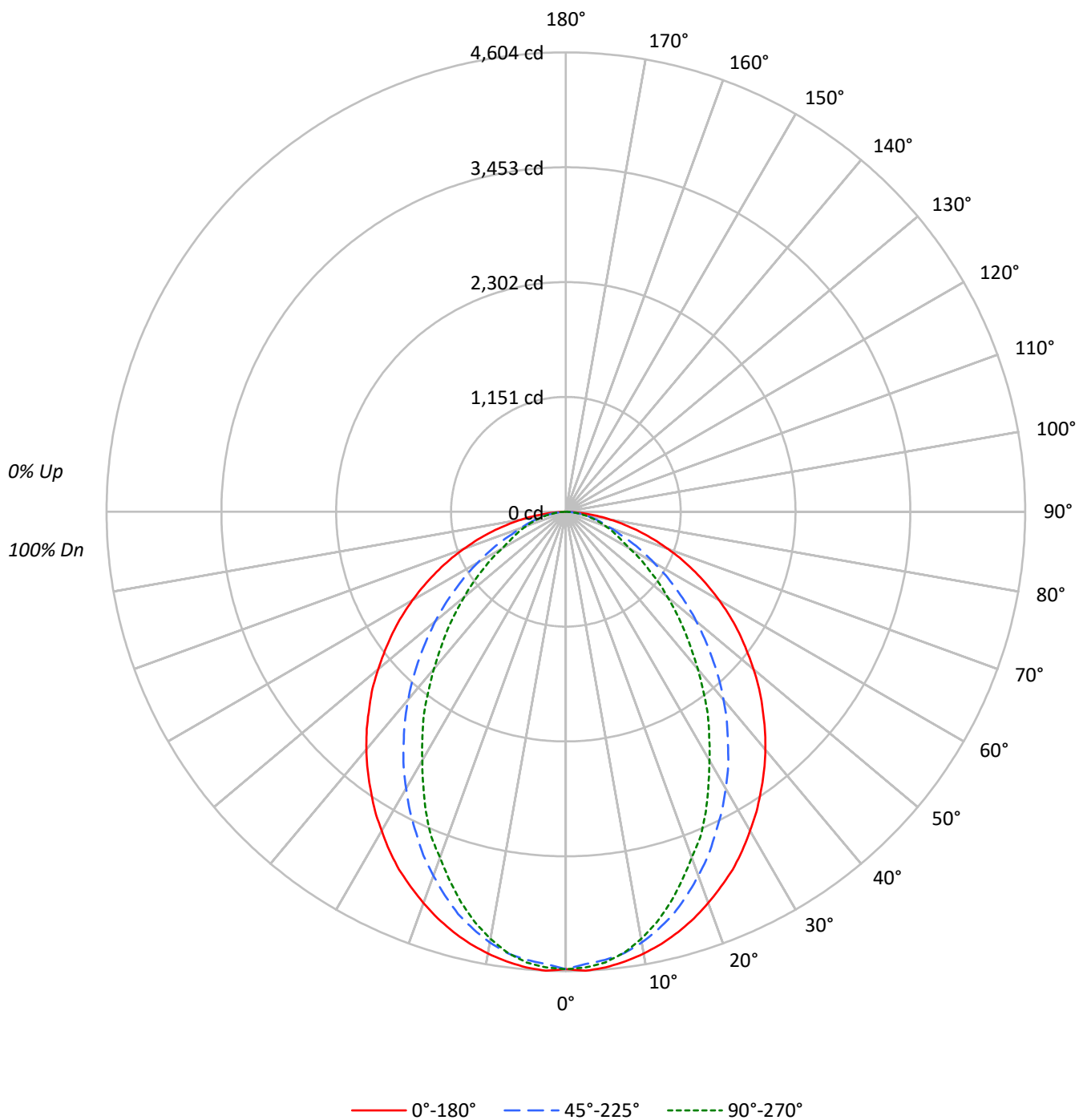
Lumens per Lamp: N/A
Luminaire Lumens: 9426.5 lumens
Efficiency: N/A
Efficacy: 90.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 4.09' x L: 3.54' x H: 0')
CIE Type: Direct

Input Watts (W): 104.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.946
Total Harmonic Distortion (THDi): 0.132
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	110	106	102	98	107	103	100	97	99	96	94		95	93	91		92
2	101	94	87	82	98	92	86	81	88	83	79		85	81	78		82
3	93	83	76	70	90	82	75	69	79	73	68		76	71	67		74
4	86	75	66	60	83	73	66	60	71	64	59		69	63	58		66
5	79	67	59	53	77	66	58	52	64	57	52		62	56	51		60
6	74	61	53	47	72	60	52	46	58	51	46		57	50	46		55
7	68	56	47	42	67	55	47	42	53	46	41		52	46	41		51
8	64	51	43	38	62	51	43	37	49	42	37		48	42	37		47
9	60	47	39	34	59	47	39	34	46	39	34		44	38	34		44
10	56	44	36	31	55	43	36	31	42	36	31		41	35	31		41

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3408	3408	3408
5°	3421	3365	3384
10°	3395	3310	3282
15°	3356	3212	3120
20°	3302	3072	2918
25°	3247	2913	2722
30°	3170	2749	2472
35°	3095	2572	2251
40°	3020	2388	1997
45°	2931	2181	1766
50°	2841	1972	1540
55°	2748	1747	1323
60°	2640	1511	1098
65°	2518	1270	1000
70°	2372	1046	920
75°	2192	953	858
80°	1935	852	782
85°	1520	671	671

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2931 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	429.6	4.6
10°-20°	1179.3	12.5
20°-30°	1655.6	17.6
30°-40°	1804.7	19.1
40°-50°	1658.8	17.6
50°-60°	1302.7	13.8
60°-70°	847.9	9.0
70°-80°	436.5	4.6
80°-90°	111.4	1.2
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°	3264.5	34.6
0°-40°	5069.2	53.8
0°-60°	8030.6	85.2
0°-90°	9426.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9426.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4584	4584	4584	4584	4584	
5°	4584	4563	4509	4546	4534	435
15°	4360	4314	4173	4094	4053	1228
25°	3957	3824	3551	3381	3318	1820
35°	3410	3198	2833	2572	2480	2134
45°	2788	2509	2074	1779	1680	2153
55°	2119	1796	1348	1099	1020	1894
65°	1431	1095	722	581	568	1419
75°	763	473	332	303	299	807
85°	178	91	79	79	79	214
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4583.5	4583.5	4583.5	4583.5	4583.5
2.5°	4604.1	4583.5	4537.7	4579.5	4571.2
5°	4583.5	4562.8	4508.6	4546.1	4533.7
7.5°	4546.1	4521.4	4463.3	4479.6	4459.0
10°	4496.3	4467.3	4384.5	4371.8	4347.2
12.5°	4434.3	4396.9	4284.6	4260.0	4214.2
15°	4359.5	4313.7	4172.8	4094.1	4052.7
17.5°	4272.3	4205.9	4031.7	3940.5	3874.1
20°	4172.8	4089.7	3882.4	3779.0	3687.4
22.5°	4065.0	3969.6	3728.8	3588.1	3526.0
25°	3957.2	3824.4	3550.6	3380.7	3318.2
27.5°	3828.7	3687.4	3384.7	3189.7	3094.2
30°	3691.9	3533.8	3202.0	2990.9	2878.6
32.5°	3559.0	3367.9	3028.2	2779.2	2675.2
35°	3409.7	3198.1	2833.3	2571.9	2480.3
37.5°	3264.6	3036.1	2650.6	2364.2	2260.7
40°	3111.0	2862.3	2459.7	2165.2	2057.4
42.5°	2953.4	2688.0	2269.1	1961.9	1858.5
45°	2787.5	2509.3	2074.2	1779.3	1679.8
47.5°	2630.0	2335.6	1887.5	1592.6	1501.6
50°	2455.7	2161.2	1704.9	1418.4	1331.7
52.5°	2285.3	1974.2	1530.6	1256.8	1178.1
55°	2119.4	1796.0	1348.0	1099.4	1020.5
57.5°	1949.6	1617.7	1186.5	954.1	887.6
60°	1775.3	1443.5	1016.2	804.9	738.5
62.5°	1605.4	1273.6	870.9	672.1	639.0
65°	1431.2	1094.9	721.7	580.9	568.1
67.5°	1265.3	929.0	580.9	510.0	497.7
70°	1090.9	767.5	481.0	439.6	423.0
72.5°	925.0	617.8	402.2	369.2	360.9
75°	763.1	472.7	331.8	302.8	298.8
77.5°	601.6	335.8	261.4	244.6	236.3
80°	451.9	240.8	199.0	182.7	182.7
82.5°	315.1	161.9	136.9	128.5	128.5
85°	178.2	91.0	78.7	78.7	78.7
87.5°	66.4	33.0	33.0	29.1	29.1
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	15.49	17.02	15.86	17.33	17.64	11.46	12.98	11.82	13.29	13.61
	3H	17.26	18.63	17.64	18.95	19.31	12.72	14.09	13.10	14.41	14.78
	4H	17.93	19.21	18.33	19.56	19.93	13.22	14.50	13.62	14.85	15.23
	6H	18.42	19.60	18.83	19.96	20.36	13.60	14.79	14.02	15.15	15.54
	8H	18.58	19.71	19.01	20.10	20.50	13.73	14.85	14.15	15.24	15.64
	12H	18.68	19.76	19.11	20.14	20.57	13.81	14.89	14.24	15.27	15.70
4H	2H	15.60	16.88	16.00	17.23	17.61	12.15	13.43	12.55	13.78	14.16
	3H	17.53	18.59	17.94	18.99	19.40	13.59	14.66	14.00	15.06	15.46
	4H	18.28	19.24	18.71	19.65	20.09	14.19	15.15	14.63	15.57	16.00
	6H	18.87	19.71	19.33	20.15	20.61	14.68	15.51	15.14	15.96	16.42
	8H	19.09	19.87	19.55	20.31	20.78	14.84	15.62	15.31	16.06	16.53
	12H	19.24	19.94	19.72	20.41	20.89	14.96	15.66	15.44	16.13	16.60
8H	4H	18.31	19.08	18.77	19.53	19.99	14.55	15.32	15.01	15.77	16.24
	6H	18.94	19.59	19.44	20.08	20.55	15.13	15.78	15.63	16.27	16.74
	8H	19.19	19.77	19.71	20.28	20.77	15.35	15.93	15.87	16.44	16.93
	12H	19.40	19.91	19.91	20.40	20.96	15.53	16.04	16.04	16.54	17.10
12H	4H	18.29	18.98	18.77	19.46	19.93	14.59	15.28	15.07	15.76	16.23
	6H	18.92	19.50	19.44	20.01	20.50	15.20	15.77	15.71	16.28	16.77
	8H	19.21	19.72	19.72	20.21	20.77	15.47	15.98	15.98	16.47	17.04