

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: P916535

Luminaire Tested: DFN2DIP-PN2F0-040D030US930-RLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P916535
REPORT IS A COMBINATION OF REPORTS P900996 AND P897905
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-PN2F0-040D030US930-RLLONL
Description: 2 foot, Pentagon Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

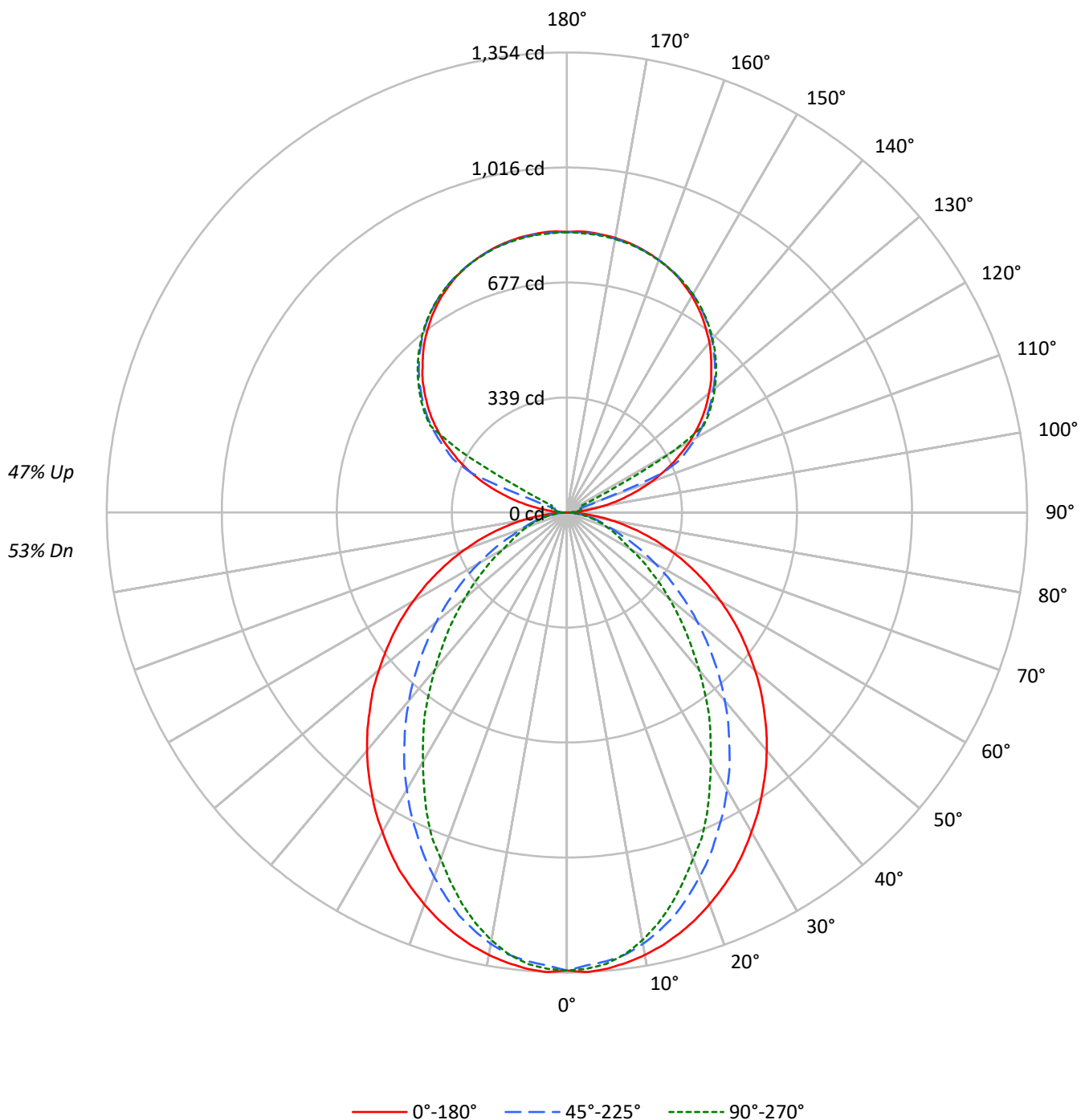
Lumens per Lamp: N/A
Luminaire Lumens: 5193.5 lumens
Efficiency: N/A
Efficacy: 89.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.17' x L: 2.29' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 58.1
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9613
Total Harmonic Distortion (THDi): 0.083
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	30	10
RCR																					
0	108	108	108	108		100	100	100	100		85	85	85		72	72	72		59	59	59
1	99	95	91	88		92	88	85	82		76	73	71		64	62	61		53	52	51
2	91	83	78	73		84	78	73	68		67	63	60		57	54	52		47	45	44
3	83	74	67	61		77	69	63	58		59	55	51		51	47	44		42	40	38
4	76	66	58	52		70	61	55	49		53	48	44		45	42	38		38	35	33
5	70	59	51	45		65	55	48	43		48	42	38		41	37	34		35	32	29
6	65	53	45	39		60	50	43	37		43	38	34		37	33	30		32	28	26
7	60	48	40	35		56	45	38	33		39	34	30		34	30	26		29	26	23
8	56	44	36	31		52	41	34	29		36	31	27		31	27	24		27	24	21
9	52	40	33	28		48	38	31	26		33	28	24		29	25	22		25	22	19
10	49	37	30	25		45	35	28	24		31	25	22		27	23	20		23	20	17

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2919	2919	2919
5°	2919	2867	2887
10°	2886	2804	2789
15°	2841	2705	2640
20°	2784	2572	2458
25°	2725	2423	2283
30°	2648	2272	2062
35°	2572	2109	1868
40°	2495	1942	1647
45°	2406	1757	1447
50°	2313	1570	1251
55°	2215	1372	1063
60°	2102	1166	871
65°	1972	957	779
70°	1814	763	699
75°	1614	660	628
80°	1328	537	531
85°	868	334	378

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2406 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	126.3	2.4
10°-20°	346.8	6.7
20°-30°	486.9	9.4
30°-40°	530.7	10.2
40°-50°	487.8	9.4
50°-60°	383.1	7.4
60°-70°	249.3	4.8
70°-80°	128.4	2.5
80°-90°	34.2	0.7
90°-100°	27.2	0.5
100°-110°	101.5	2.0
110°-120°	269.1	5.2
120°-130°	446.3	8.6
130°-140°	474.1	9.1
140°-150°	440.6	8.5
150°-160°	354.3	6.8
160°-170°	228.3	4.4
170°-180°	78.6	1.5
0°-30°	960.0	18.5
0°-40°	1490.7	28.7
0°-60°	2361.5	45.5
0°-90°	2773.5	53.4
90°-120°	397.8	7.7
90°-150°	1758.9	33.9
90°-180°	2420.0	46.6
0°-180°	5193.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1348	1348	1348	1348	1348	
5°	1348	1342	1326	1337	1333	128
15°	1282	1268	1227	1204	1192	361
25°	1164	1125	1044	994	976	535
35°	1003	940	833	756	729	628
45°	820	738	610	523	494	633
55°	623	528	396	323	300	557
65°	421	322	212	171	167	417
75°	224	139	98	89	88	237
85°	52	27	23	23	23	60
90°	1	7	12	15	16	5
95°	39	19	23	26	26	46
105°	182	200	36	43	45	194
115°	343	354	368	92	49	338
125°	486	493	505	509	511	433
135°	601	610	616	622	621	464
145°	697	696	707	711	708	436
155°	768	762	769	773	768	354
165°	809	805	807	811	807	228
175°	827	823	824	828	822	79
180°	826	826	826	826	826	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1347.9	1347.9	1347.9	1347.9	1347.9
2.5°	1354.0	1347.9	1334.4	1346.7	1344.2
5°	1347.9	1341.7	1325.8	1336.8	1333.3
7.5°	1336.8	1329.6	1312.5	1317.3	1311.2
10°	1322.3	1313.7	1289.3	1285.6	1278.4
12.5°	1304.0	1293.0	1260.0	1252.7	1239.3
15°	1282.0	1268.5	1227.1	1204.0	1191.8
17.5°	1256.4	1236.8	1185.5	1158.8	1139.2
20°	1227.1	1202.6	1141.7	1111.3	1084.3
22.5°	1195.4	1167.3	1096.5	1055.1	1036.9
25°	1163.7	1124.6	1044.1	994.2	975.7
27.5°	1125.9	1084.3	995.3	938.0	909.9
30°	1085.7	1039.2	941.6	879.5	846.5
32.5°	1046.6	990.4	890.5	817.3	786.7
35°	1002.7	940.4	833.2	756.3	729.4
37.5°	960.0	892.8	779.4	695.2	664.8
40°	914.8	841.7	723.3	636.7	605.0
42.5°	868.5	790.4	667.2	576.9	546.5
45°	819.7	737.9	609.9	523.3	494.0
47.5°	773.4	686.8	555.1	468.4	441.6
50°	722.1	635.5	501.3	417.1	391.6
52.5°	672.1	580.6	450.1	369.6	346.4
55°	623.3	528.2	396.4	323.3	300.1
57.5°	573.3	475.7	348.9	280.5	261.1
60°	522.0	424.4	298.8	236.7	217.2
62.5°	472.1	374.5	256.1	197.6	187.9
65°	420.9	322.0	212.2	170.8	167.1
67.5°	372.1	273.2	170.8	150.0	146.3
70°	320.8	225.7	141.5	129.3	124.3
72.5°	272.1	181.7	118.3	108.6	106.2
75°	224.4	139.0	97.6	89.0	87.9
77.5°	176.9	98.7	76.9	72.0	69.5
80°	132.9	70.8	58.5	53.7	53.7
82.5°	92.7	47.6	40.3	37.7	37.7
85°	52.4	26.8	23.2	23.2	23.2
87.5°	19.6	9.7	9.7	8.6	8.6
90°	0.6	7.2	11.9	15.0	16.1
92.5°	15.0	12.6	14.3	15.6	16.1
95°	38.8	19.1	23.2	26.3	25.7
97.5°	69.9	21.0	30.4	32.3	32.9
100°	105.7	23.9	34.1	38.8	40.0
102.5°	145.1	144.0	35.2	41.7	43.6
105°	181.6	199.5	36.4	43.0	45.4
107.5°	224.0	238.9	37.7	44.2	46.6
110°	264.6	277.1	104.5	44.8	47.2

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	302.9	313.6	303.5	46.0	47.8
115°	343.4	353.6	368.5	92.0	49.0
117.5°	378.7	390.6	400.8	315.4	158.9
120°	418.1	427.1	437.8	445.0	364.4
122.5°	451.5	461.1	473.1	476.6	477.3
125°	485.6	493.3	504.8	508.9	510.7
127.5°	516.7	525.0	534.0	540.0	540.5
130°	545.9	555.5	562.1	568.6	568.1
132.5°	575.8	583.6	590.1	595.5	594.9
135°	600.9	610.5	615.8	621.8	620.6
137.5°	627.1	634.3	640.3	646.3	644.5
140°	652.8	657.6	664.1	669.5	666.6
142.5°	674.4	678.6	686.3	691.0	688.1
145°	697.1	696.4	706.6	710.8	707.8
147.5°	716.7	714.9	725.1	728.1	725.7
150°	735.9	731.7	741.3	744.8	741.8
152.5°	751.9	747.2	756.2	759.8	755.6
155°	767.5	762.2	769.3	772.9	768.2
157.5°	780.1	775.3	780.7	784.9	780.1
160°	790.8	787.3	790.8	794.4	790.2
162.5°	800.4	796.8	799.8	804.0	798.6
165°	808.7	805.2	807.0	811.1	807.0
167.5°	815.3	811.7	813.5	817.7	812.4
170°	820.7	817.1	818.3	822.5	817.1
172.5°	824.3	820.7	821.9	826.1	820.7
175°	827.2	823.0	824.3	828.4	822.5
177.5°	828.4	824.3	824.9	829.1	823.7
180°	825.5	825.5	825.5	825.5	825.5

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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	11.06	11.92	12.00	12.87	14.10	7.03	7.89	7.97	8.84	10.06
	3H	12.72	13.49	13.67	14.45	15.70	8.21	8.97	9.15	9.93	11.18
	4H	13.32	14.05	14.28	15.01	16.26	8.65	9.37	9.61	10.33	11.59
	6H	13.73	14.39	14.70	15.36	16.63	8.95	9.62	9.93	10.59	11.86
	8H	13.85	14.48	14.82	15.46	16.73	9.04	9.67	10.01	10.65	11.92
	12H	13.90	14.50	14.88	15.48	16.77	9.07	9.68	10.06	10.65	11.95
4H	2H	11.08	11.81	12.05	12.77	14.03	7.62	8.35	8.59	9.31	10.56
	3H	12.89	13.49	13.87	14.48	15.76	8.95	9.56	9.93	10.55	11.82
	4H	13.57	14.12	14.55	15.10	16.40	9.49	10.04	10.47	11.02	12.32
	6H	14.07	14.54	15.06	15.55	16.84	9.89	10.36	10.89	11.37	12.67
	8H	14.23	14.67	15.23	15.67	16.98	10.01	10.45	11.01	11.45	12.76
	12H	14.31	14.71	15.33	15.73	17.04	10.07	10.46	11.08	11.48	12.79
8H	4H	13.53	13.98	14.53	14.98	16.28	9.76	10.20	10.76	11.20	12.51
	6H	14.08	14.44	15.10	15.49	16.79	10.25	10.62	11.28	11.66	12.97
	8H	14.28	14.60	15.31	15.63	16.96	10.43	10.75	11.46	11.78	13.11
	12H	14.41	14.69	15.44	15.71	17.08	10.54	10.82	11.57	11.84	13.21
12H	4H	13.49	13.88	14.50	14.90	16.21	9.76	10.16	10.78	11.18	12.49
	6H	14.05	14.37	15.08	15.40	16.73	10.30	10.62	11.33	11.65	12.97
	8H	14.26	14.54	15.29	15.57	16.94	10.49	10.78	11.53	11.80	13.17